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Annexure 1

EC, PENTA CTO - AIR & WATER, CPP - AIR & WATER -
CONSENT ORDER AND COMPLIANCE



Government of India
Ministry of Environment, Forest and Climate Change
(Impact Assessment Division)

To,

The ASSOCIATE GENERAL MANAGER
ASIAN PAINTS LIMITED
ASIAN PAINTS LIMITED, PENTA DIVISION, B5 TO B10, SIPCOT
INDUSTRIAL COMPLEX, KUDIKADU VILLAGE, CUDDALORE, TAMIL
NADU,,Cuddalore,Tamil Nadu-607005

Subject: Grant of Environmental Clearance (EC) to the proposed Project Activity
under the provision of EIA Notification 2006-regarding

Sir/Madam,

This is in reference to your application for Environmental Clearance (EC)
in respect of project submitted to the Ministry vide proposal number
IATN/IND3/288480/2017 dated 23 Sep 2022. The particulars of the environmental
clearance granted to the project are as below.

- | | |
|---|--|
| 1. EC Identification No. | EC22A021TN152664 |
| 2. File No. | IA-J-11011/283/2021-IA-II(I) |
| 3. Project Type | Expansion |
| 4. Category | A |
| 5. Project/Activity including
Schedule No. | 5(f) Synthetic organic chemicals industry
(dyes & dye intermediates; bulk |
| 6. Name of Project | Expansion of Pentaerythritol from 730
MTM to 1500 MTM, Sodium Formate from
480 MTM to 1050 MTM and
Formaldehyde from 675 MTM to 1800
MTM and Captive Power Plant from 1.5
MW to 3.5 MW in Manufacturing |
| 7. Name of Company/Organization | ASIAN PAINTS LIMITED |
| 8. Location of Project | Tamil Nadu |
| 9. TOR Date | 21 Dec 2017 |

The project details along with terms and conditions are appended herewith from page
no 2 onwards.

Date: 29/11/2022

(e-signed)
Mr. Motipalli Ramesh
Scientist E
IA - (Industrial Projects - 3 sector)

*Note: A valid environmental clearance shall be one that has EC identification
number & E-Sign generated from PARIVESH. Please quote identification
number in all future correspondence.*

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File No. IA-J-11011/283/2021-IA II(I)
Government of India
Ministry of Environment, Forest and Climate Change
Impact Assessment Division
(Industry-3)

Indira Paryavaran Bhawan,
Jorbagh Road,
New Delhi – 110003.

Dated: 28th November, 2022

To

The Associate General Manager,
Asian Paints Limited, Penta Division,
B5 To B10, Sipcot Industrial Complex,
Kudikadu Village, Cuddalore District, Tamil Nadu-607005.
Email: s.senthilkumaran@asianpaints.com
Tel. No: 04142- 239423

SUB.: Expansion of Pentaerythritol from 730 MTM to 1500 MTM, Sodium Formate from 480 MTM to 1050 MTM and Formaldehyde from 675 MTM to 1800 MTM and Captive Power Plant from 1.5 MW to 3.5 MW in Manufacturing Units located at Penta Division at Plot No. B5–B10, SIPCOT Industrial Complex, Kudikadu Village, Cuddalore Taluk, Cuddalore District, Tamil Nadu by M/s Asian Paints Limited - Environmental Clearance.

REF.: Your proposal No. IA/TN/IND3/288480/2017, Dated: 23rd Sep. 2022, on the above subject matter.

Sir/Madam,

1. The project-bearing proposal no. IA/TN/IND3/288480/2017 is for the environmental clearance for Expansion of Pentaerythritol from 730 MTM to 1500 MTM, Sodium Formate from 480 MTM to 1050 MTM and Formaldehyde from 675 MTM to 1800 MTM and Captive Power Plant from 1.5 MW to 3.5 MW in Manufacturing Units located at Penta Division at Plot No. B5–B10, SIPCOT Industrial Complex, Kudikadu Village, Cuddalore Taluk, Cuddalore District, Tamil Nadu by M/s Asian Paints Limited.
2. The project/activity is covered under Category 'B' of item 5(f) (Synthetic organic chemicals industry (dyes & dye intermediates; bulk drugs and intermediates excluding drug formulations synthetic rubbers; basic organic chemicals, other synthetic organic chemicals and chemical intermediates) of Schedule of Environment Impact Assessment (EIA) Notification, 2006 (as amended). However, since the project site is located in a severely polluted area, as per the O.M. dated 31st October 2019, the project is considered as Category 'A' at Centre.
3. The PP applied for the ToR vide proposal number IA/TN/IND3/219681/2021 dated 10.1.2022 and the ToR was issued by the Ministry, vide letter No. IA-J-11011/283/2021-IA-II(I) dated 10.1.2022. The PP reported that Public Hearing was exempted as it is located in the notified industrial area designated by SIPCOT. The PP applied for Environment Clearance on 12.8.2022 in Form-2 and submitted the EIA/EMP Report and other documents. The PP reported in Form-2 that it is an **Expansion EC**. Due to some shortcomings, the project was referred back to PP on 23.8.2022, 22.9.2022, 22.9.2022 and

reply to the same was submitted on 10.9.2022, 22.9.2022, 23.9.2022. The proposal was placed in 39th EAC Meeting held on 29-30th September, 2022, wherein the Project Proponent and an accredited Consultant, ABC Techno Labs India Pvt. Ltd. [Accreditation number NABET/EIA/1922/RA0155 valid up to 7.11.2022] made a detailed presentation on the salient features of the project and informed the following:

4. The PP reported that the proposed land area is 11.82 Ha and no R&R is involved in the Project. The details of products are as follows:

S. No.	Product Details (complete name)	CAS NO.	Existing Quantity (Metric Tonnes per month)	Proposed Quantity (Metric Tonnes per month)	Total Quantity (Metric Tonnes per month)
1	Pentaerythritol (Powder & Solution)	115-77-5	730	770	1500
2	Sodium Formate (Powder & solution)	141-53-7	480	570	1050
3	Formaldehyde (100% concentration)	50-00-0	675	1125	1800

5. The PP reported that there is no violation case as per the Notification No. S.O.804(E) dated 14.03.2017 and no direction is issued under E(P) Act/Air Act/Water Act.
6. The PP reported that certified compliance report has been issued by the IRO, Chennai vide F.No.EP/12.1/2021-22/SEIAA/11/TN dated 12.10.2021. Most of the conditions are complied and a few generic conditions are agreed to comply.
7. The PP reported that National Green Tribunal (South Zone) in the judgement dated 4th May 2022, has dismissed the appeal citing that there is no merit in the appeal and cleared that the EC is considered valid and the appeal fails.
8. The PP reported that there are no National Parks, Biosphere Reserves, Tiger/Elephant Reserves, Wildlife Corridors etc. within 10 km distance from site. Gadilam River – 0.5 Km (E) Bay of Bengal – 1.9 Km (E), Capper Hills Lake – 4.5 Km (NE) Perumal Lake – 8.8 Km (SE) and no Schedule-I species exist within 10 km study area of the project.
9. The PP reported that the ambient air quality monitoring was carried out at 8 locations during 5th April 2021 to 26th June 2021 and the baseline data indicates the ranges of concentrations as: PM₁₀ (41.0 -70.0 µg/m³), PM_{2.5} (19.0-34.0 µg/m³), SO₂ (5.8-14.2 µg/m³) and NO₂ (12.9-23.6 µg/m³). The AAQ modeling study for point source emissions indicates that the maximum incremental GLCs after the proposed project would be 71.29 µg/m³, 19.06 µg/m³ and 24.03 µg/m³ with respect to PM₁₀, SO_x and NO_x. The resultant concentrations are within the National Ambient Air Quality Standards (NAAQS). The ambient noise level monitoring was carried out at 8 locations and the baseline data indicates the ranges of daytime noise levels as 47.5 – 63.2 dB(A) and Night time noise levels as 42.7 – 53.6 dB(A). The ground water quality monitoring was carried out at 8 locations during 27th May 2021 to 28th May 2021 and the baseline data indicates the ranges of pH varied from 7.58 to 8.04. TDS varied between 266 to 2648 mg/l. Total Hardness varied from 117 mg/l to 820 mg/l. Chloride varied from 68 mg/l to 1253 mg/l and Nitrate varied from 2 to

17 mg/l. Heavy metals like Arsenic, Manganese, Chromium, Lead, Mercury, and Cadmium were found to be below detection limit at all locations. Total coliform found to be <2 to 4 MPN/100ml. The **surface water** quality monitoring was carried out at 8 locations during 27th May 2021 to 28th May 2021 and the baseline data indicates the ranges of pH varied from 7.76 to 8.22. Turbidity varied between 1.8 to 14 NTU. TDS varied from 231 to 32278 mg/l. BOD found between <2 mg/l to 5.4 mg/l. Dissolved Oxygen varied from 4.5 mg/l to 5.9 mg/l. Heavy metals like Chromium, Mercury and Lead were found to be below detection limit at all locations. Total Coliform count varies between 80 to >1600 MPN/100ml. **Soil** quality monitoring was carried out at 8 locations during 25th May 2021 to 28th May 2021 and the baseline data indicates the ranges of pH varied from 7.51 to 8.41. Electrical conductivity found within a range from 0.17 to 1.02 mS/cm. The texture of soil is predominantly clay in most of the places with loamy sand in some locations. Available Nitrogen ranged from 159 kg/ha to 264 kg/ha, Potassium ranged from 272 ha to 560 kg/ha, Available Phosphorus ranged from 18.8 kg/ha to 42.4 kg/ha. Soil organic content varied from 0.5% to 0.87%, which indicates moderate fertility.

10. The PP reported that the total water requirement is 1694 KLD of which fresh water requirement is 1500 KLD and will be met from SIPCOT water supply. The total effluent generated would be 295 KLD (Process & Utility – 250; Domestic – 45). The treated effluent (Process & Utility) of 194 KLD from ETP, RO and MEE will be reused in the process and the treated effluent from the STP (41 KLD) will be used for green belt etc. The plant will be based on Zero Liquid Discharge.
11. The PP reported that the power requirement will be met using the proposed in-house 3.5 MW Captive Power Plant. Additional power requirement will be met from TNEB & Diesel generator in case of emergency. Existing unit has DG sets of 1 no. of 500 kVA & 1 no. of 600 kVA capacity, additionally DG sets are used as standby during power failure. Stack (12m) will be provided as per CPCB norms to the proposed DG sets.
12. **Details of process emissions generation and its management:** Point sources emission of pollutant into air from the proposed project after expansion will be through the dryers, DG sets which run on HSD and the boilers (34 TPH), which operate on coal/lignite/biomass and through process vents. Adequate stack height of DG set will be maintained and Multi cyclone with wet scrubber will be installed at dryers, Multi cyclone separators and bag filters to boilers to control pollutant emission under norms. Solvent recovery system will be related to VOC control system and finally to activated carbon adsorption system to avoid release any solvent vapours/fumes in the atmosphere. There may be possible VOC emissions from the process and the control measures adopted is tank vents are connected to blower suction. The proposed air emissions generated from the above process will be treated in the existing Air Pollution Control (APC) Systems. The adequacy of the existing APCs will be sufficient for the proposed activities as they will be APC facilities will be part of new facilities.
13. **Details of Solid and Hazardous Waste Generation and its Management:** The hazardous waste generated from the site/process units consist of used/spent oil from maintenance activities. The wastes will be classified as per the Hazardous and Other Wastes (Management and Trans boundary Movement) Rules, 2016 and Solid Waste Management Rules 2016 and be collected, stored, treated and disposed as per rules.

S. No.	Hazardous Waste Type	Category	Quantity		Mode of disposal
			Existing	Expected Quantity (after expansion)	
1	ETP Sludge (TPA)	35.3	172	355	TSDF Gummidipoondi/ any Cement industry
2	Waste from Lime (TPA)	20.4	0	850	TSDF / any cement industry
3	Used or spent oil (TPA)	5.1	0.9	2.6	To authorized recyclers
4	Wastes or residues containing oil (TPA)	5.2	0.3	2.2	To authorized recyclers
5	Spent Carbon (TPA)	36.2	7.78	16	To authorized waste processing agency / cement industry
6	Distillation residue (TPA)	20.3	2640	6000	Authorized agency for co fuel manufacture
7	Spent Ion exchange resin (TPA)	35.2	9.6	19.75	TSDF
8	Spent solvent - Motherliquor (TPA)	20.2	0	1000	Co fuel in Boiler/ authorized agency
9	Spent solvent- Recovered Methanol from off gas (TPA)	20.2	0	100	Co fuel in Boiler
10	Asbestos-containing residues (TPA)	15.2	0	20	TSDF

Details of Solid Waste Generation Details and Disposal Methods

S. No.	Waste type	Quantity (Tons/Annum)		Mode of disposal	Physical status
		Existing	After Expansion		
1	Used HDPE bags	5.2	15.0	Registered recycler	Solid
2	Used filter clothes	3.0	7.0	Registered recycler	Solid
3	Canteen Waste/biodegradable	1.0	5.0	Onsite composting for green belt	Solid
4	Wooden scrap / broken pallet	4.2	10.0	Domestic usage	Solid
5	Paper Waste	0.5	5.0	Municipal agency	Solid
6	Plastic bag / Plastic	0.5	10.0	Registered recycler	Solid
7	Waste				
8	Used insulation material	4.1	20	TSDF	Solid
9	Miscellaneous Garbage, Broken packaging	1.0	10.0	Registered recycler	Solid

14. The **Budget** earmarked towards Environmental Management Plan (EMP) is ₹432 lakhs (capital) and the Recurring cost (operation and maintenance) will be about ₹681.97 lakhs per annum. Industry proposes to allocate ₹17 lakhs towards CER.
15. The PP reported that Public Hearing is exempted since the project site is located in the notified Industrial area.
16. The PP reported that APL-Penta Division will continue to maintain existing green belt in the plant premises which is about 37% (43722.2 sq.m) with survival rate of 75-80%. Also developed 0.85 Acres (3540 sq.m) of area as Garden and lawn which accounts for about 2.92%. Total 12894 no.s of trees are present within the plant premises as green belt with a spacing of 2.0 x 2.0 m. APL-Penta Division also planted about 1405 trees outside plant premises from 2018 under Corporate Environmental Responsibility (CER).
17. The PP proposed to set up an Environment Management Cell (EMC) by engaging Senior Manager – Environment & Quality Assurance, Senior Executive Environment, Manager safety, safety engineer, Environment Lab Officer for the functioning of EMC.
18. The PP submitted that the total GHG emissions estimated for Existing operations under Scope 1, Scope 2 and Scope 3 are 44572.1 tCO₂ eq./Annum and for additional expansion the total GHG emissions estimated are 47666 tCO₂ eq./Annum. Thus, Total GHG Emissions from both existing operations and additional expansion will be: **92238.1 tCO₂ eq/ Annum**. APL-Penta Division implemented several activities which lead to reduction in thermal and power consumption for manufacturing process and utilities. For existing operations, Net GHG emission Reduction is estimated to be 2704.63 tCO₂ eq./Annum and for additional expansion will be 5786.4 tCO₂ eq./Annum. Thus, Total GHG emission reduction will be 8491.03 tCO₂ eq./Annum. Reduction in CO₂ emission due to process schemes and Carbon sequestration will be 8777.03 tCO₂ eq./Annum. Total Carbon Footprint of the Penta plant activities after expansion has been estimated as 92238.1 tCO₂ eq./Annum. Total Carbon Footprint with mitigations (Process emission reduction and Carbon Sequestration) will be 83461.07 tCO₂ eq./Annum. Thus, GHG reduction will be about 9.52% after expansion.
19. The PP submitted the disaster and Onsite and Offsite Emergency Plans in the EIA report.
20. The cost for the proposed expansion is estimated at INR **16.43 Crores** The existing manpower is 123 Nos. However, additional manpower is anticipated up to 17 Nos.
21. **Deliberations by the EAC**

The EAC constituted under the provisions of the EIA Notification, 2006 comprising Expert Members/domain experts in various fields, examined the proposal submitted by the PP in desired format along with the EIA/EMP reports prepared and submitted by the Consultant accredited by the QCI/ NABET on behalf of the PP.

The EAC noted that the PP has given an undertaking that the data and information given in the application and enclosures are true to the best of his knowledge and belief and no information has been suppressed in the EIA/EMP reports. If any part of data/information submitted is found to be false/ misleading at any stage, the project will be rejected and Environmental Clearance given, if any, will be revoked at the risk and cost of the PP.

The EAC noted that the EIA reports are in compliance of the ToR issued for the project, reflecting the present environmental status and the projected scenario for all the environmental components. The EAC deliberated on the proposed mitigation measure towards Air, Water, Noise and Soil pollutions. The EAC suggested that the storage of toxic/explosive raw

materials/products shall be undertaken with utmost precautions and following the safety norms and best practices.

The EAC inter-alia, deliberated on and sought the following:

- Compliance of Ministry's O.M. dated 31.10.2019 regarding mitigation measures for projects located in CPAs and SPAs
- Methodology adopted for estimation of Carbon Sequestration.
- Justification for inclusion of captive power plant in the proposal since it was not mentioned in the ToR.
- Justification for reduction in fresh water requirement.

The PP submitted the same and EAC found it to be satisfactory.

The EAC also deliberated on the Onsite and Offsite Emergency plans and also the various mitigation measures proposed during implementation of the project and advised the PP to implement the provisions of the Rules and guidelines issued under the Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) Rules, 1989, and the Chemical Accidents (Emergency Planning, Preparedness and Response) Rules, 1996, as amended from time to time.

The EAC deliberated on the proposal with due diligence in the process as notified under the provisions of the EIA Notification, 2006, as amended from time to time and accordingly made the recommendations to the proposal. The Experts Members of the EAC found the proposal in order and recommended for grant of environmental clearance. The MoM of 39th EAC were confirmed (with correction) in the 40th EAC meeting held on 18th – 19th October, 2022. The MoM are available on PARIVESH.

The EAC is of the view that its recommendation and grant of environmental clearance by regulatory authority to the project/activity is strictly under the provisions of the EIA Notification 2006 and its subsequent amendments. It does not tantamount / construe to approvals / consent / permissions etc. required to be obtained or standards / conditions to be followed under any other Acts / Rules / Subordinate legislations, etc., as may be applicable to the project. The PP shall obtain necessary permission as mandated under the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981, as applicable from time to time, from the State Pollution Control Board, prior to construction & operation of the project.

22. Based on the proposal submitted by the PP and recommendations of the EAC (Industry-3 Sector), the Ministry of Environment, Forest and Climate Change hereby accords Environmental Clearance for ***“Expansion of Pentaerythritol from 730 MTM to 1500 MTM, Sodium Formate from 480 MTM to 1050 MTM and Formaldehyde from 675 MTM to 1800 MTM and Captive Power Plant from 1.5 MW to 3.5 MW in Manufacturing Units located at Penta Division at Plot No. B5–B10, SIPCOT Industrial Complex, Kudikadu Village, Cuddalore Taluk, Cuddalore District, Tamil Nadu by M/s Asian Paints Limited”*** under the provisions of the EIA Notification, 2006, subject to the compliance of terms and conditions as under:-

A. Specific Conditions:

- (i) The operating parameters shall be maintained so that the stack emissions comply with the prescribed norms i.e. PM < 50 ppm; SO_x < 600 mg/Nm³; NO_x < 300 mg/Nm³. Boiler stack emissions shall be maintained as per TPP guidelines for units installed after 1st Jan. 2003 to 31st Dec. 2016.

- (ii) Continuous online (24x7) monitoring system for stack emissions shall be provided for measurement of flue gas discharge and the pollutants concentration, and the data to be transmitted to the CPCB and SPCB servers.
- (iii) Cyclone separators and Bag filters shall be provided for effective fugitive emission control. Covered pneumatic system and Silo shall be provided for transport and storage of ash.
- (iv) The transportation of materials shall be by rail/belt conveyor, to the extent feasible.
- (v) Industry shall use biomass as Primary Fuel for Boiler and only in case of shortage of Briquettes, coal/lignite may be used as secondary fuel. Further, efforts shall be made for the usage of natural gas.
- (vi) The PP shall ensure that best available technology is used.
- (vii) The PP shall increase the existing greenbelt of 37% to at least 40 % of total area by planting 570 number of trees within a period of one year from grant of EC. The saplings selected for the plantation should be of sufficient height, preferably 6-ft (about 2m). The budget earmarked for the plantation shall be ₹2 Lakh and shall be kept in separate account and should be audited annually. The PP should annually submit the audited statement along with proof of activities viz. photographs (before & after with geo-location date & time), details of the expert agency engaged, details of species planted, number of species planted, survival rate, density of plantation etc. to the Regional Office of MoEF&CC before 1st July of every year for the activities carried out during the previous year.
- (viii) In addition to the above, 1200 number of saplings shall be planted in the next 2 years such as avenue plantation, plantation in vacant areas, social forestry, etc.
- (ix) The transportation load on roads shall be within their carrying capacity and adequate width of the roads shall be maintained inside the industrial premises.
- (x) The treated effluent (Process & Utility) from ETP, RO and MEE shall be reused in the process and the treated effluent from the STP shall be used for green belt etc. Zero Liquid Discharge shall be maintained.
- (xi) Continuous monitoring of effluent quality/quantity shall be provided along with installation of web camera with night vision capability and flow meters in the channel/drain carrying effluent within the premises.
- (xii) The storm water from the roof top shall be channelized through pipes to the storage tank constructed for harvesting of rain water in the premises and harvested water shall be used for various industrial processes in the unit. No recharge shall be permitted within the premises. Process effluent/ any wastewater shall not be allowed to mix with storm water.
- (xiii) Fly ash shall be utilized as per the fly ash utilization notification from time to time.
- (xiv) Distillation residue/ spent carbon shall be sent for co-processing as per Hazardous waste authorisation. Used or spent oil / waste or residue containing oil shall be sent to authorised recyclers as per Hazardous waste authorisation.
- (xv) Monitoring of compliance of EC conditions shall be submitted with third party audit every year.
- (xvi) Provision of Safe drinking water supply, sanitation & medical facilities, promoting eco-friendly behaviour through use of Green Energy in schools etc. shall be done within the study area under the CER.

- (xvii) A separate Environmental Management Cell (having qualified persons with Environmental Science/Environmental Engineering/specialization in the project area) equipped with full-fledged laboratory facilities shall be set up to carry out the Environmental Management and Monitoring functions. PP shall engage Senior Manager – Environment & Quality Assurance, Senior Executive Environment, Manager safety, safety engineer, Environment Lab Officer. In addition to this one safety & health officer as per the qualification given in Factories Act 1948 shall be engaged within a month of grant of EC. The PP should annually submit the audited statement of amount spent towards the engagement of qualified persons in EMC along with details of person engaged to the Regional Office of MoEF&CC before 1st July of every year for the activities carried out during the previous year.
- (xviii) The company shall comply with all the environmental protection measures and safeguards proposed in the documents submitted to the Ministry. All the recommendations made in the EIA/EMP in respect of environmental management, and risk mitigation measures relating to the project shall be implemented. The budget proposed under EMP is ₹432 lakhs (Capital cost) and ₹681.97 lakhs (Recurring cost) shall be kept in separate account and should be audited annually. The PP should submit the annual audited statement along with proof of implementation of activities proposed under EMP duly supported by photographs (before & after with geo-location date & time) and other document as applicable to the Regional Office of MoEF&CC before 1st July of every year for the activities carried out during the previous year.
- (xix) The total water requirement of 1694 KLD, of which fresh water requirement is 1500 KLD shall be met from SIPCOT water supply. The PP should ensure that water supply should not be above the permissible limit as mentioned in the letter and fresh water shall be withdrawn only after obtaining valid agreement from Concerned Authority. The PP should submit the details of utilization to the Integrated Regional Office (IRO), MoEF&CC before 1st July of every year for the activities carried out during the previous year.
- (xx) No banned chemicals shall be manufactured by the PP. No banned raw materials shall be used in the unit. The PP shall adhere to the notifications/guidelines of the Government in this regard.
- (xxi) The PP shall utilize modern technologies for capturing of carbon emitted and shall also develop carbon sink/carbon sequestration resources capable of capturing more than emitted. The implementation report shall be submitted to the IRO, MoEF&CC in this regard.
- (xxii) The project proponent shall comply with the environment norms for Organic Chemical Industry as notified by the Ministry of Environment, Forest and Climate Change, *vide* GSR 1241(E), dated 28.12.2018 under the provisions of the Environment (Protection) Rules, 1986.
- (xxiii) All necessary precautions shall be taken to avoid accidents and action plan shall be implemented for avoiding accidents. The PP shall implement the onsite/offsite emergency plan/mock drill etc. and mitigation measures as prescribed under the rules and guidelines issued in the Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) Rules, 1989, as amended time to time, and the Chemical Accidents (Emergency Planning, Preparedness and Response) Rules, 1996.

- (xxiv) The volatile organic compounds (VOCs)/Fugitive emissions shall be controlled at 99.97 % with effective chillers/modern technology. Regular monitoring of VOCs shall be carried out.
- (xxv) The storage of toxic/hazardous raw material shall be bare minimum with respect to quantity and inventory. Quantity and days of storage shall be submitted to the Regional Office of Ministry and SPCB along with the compliance report.
- (xxvi) The occupational health centre for surveillance of the worker's health shall be set up. The health data shall be used in deploying the duties of the workers. All workers & employees shall be provided with required safety kits/mask for personal protection.
- (xxvii) Training shall be imparted to all employees on safety and health aspects for handling chemicals. Safety and visual reality training shall be provided to employees. Action plan for mitigation measures shall be properly implemented based on the safety and risk assessment studies.
- (xxviii) The unit shall make the arrangement for the protection of possible fire hazards during manufacturing process in material handling. Fire-fighting system shall be as per the norms.
- (xxix) The solvent management shall be carried out as follows: (a) Reactor shall be connected to chilled brine condenser system. (b) Reactor and solvent handling pump shall have mechanical seals to prevent leakages. (c) Solvents shall be stored in a separate space specified with all safety measures. (d) Proper earthing shall be provided in all the electrical equipment wherever solvent handling is done. (e) Entire plant shall be flame proof. The solvent storage tanks shall be provided with breather valve to prevent losses. (f) All the solvent storage tanks shall be connected with vent condensers with chilled brine circulation.
- (xxx) The volatile organic compounds (VOCs)/Fugitive emissions shall be controlled at 99.97 % with effective chillers/modern technology. Regular monitoring of VOCs shall be carried out.
- (xxxi) The PP shall undertake waste minimization measures as below (a) Metering and control of quantities of active ingredients to minimize waste; (b) Reuse of by-products from the process as raw materials or as raw material substitutes in other processes. (c) Use of automated filling to minimize spillage. (d) Use of Close Feed system into batch reactors. (e) Venting equipment through vapour recovery system. (f) Use of high pressure-hoses for equipment cleaning to reduce wastewater generation.
- (xxxii) The activities and the action plan proposed by the project proponent to address the issues raised during the public hearing as well as the related socio-economic issues in the study area shall be completed as per the schedule presented before the Committee and as described in the EIA report in letter and spirit.

B. General Conditions:

- (i) No further expansion or modifications in the plant, other than mentioned in the EIA Notification, 2006 and its amendments, shall be carried out without prior approval of the Ministry of Environment, Forest and Climate Change/SEIAA, as applicable. In case of deviations or alterations in the project proposal from those submitted to this Ministry for clearance, a fresh reference shall be made to the Ministry/SEIAA, as applicable, to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any.

- (ii) The Project proponent shall strictly comply with the rules and guidelines issued under the Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) Rules, 1989, as amended time to time, the Chemical Accidents (Emergency Planning, Preparedness and Response) Rules, 1996, and Hazardous and Other Wastes (Management and Trans-Boundary Movement) Rules, 2016 and other rules notified under various Acts.
- (iii) The energy source for lighting purpose shall be preferably LED based, or advanced having preference in energy conservation and environment betterment.
- (iv) The overall noise levels in and around the plant area shall be kept well within the standards by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels shall conform to the standards prescribed under the Environment (Protection) Act, 1986 Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time).
- (v) The company shall undertake all relevant measures for improving the socio-economic conditions of the surrounding area. The activities shall be undertaken by involving local villages and administration. The company shall undertake eco-developmental measures including community welfare measures in the project area for the overall improvement of the environment.
- (vi) The company shall earmark sufficient funds towards capital cost and recurring cost per annum to implement the conditions stipulated by the Ministry of Environment, Forest and Climate Change as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds so earmarked for environment management/ pollution control measures shall not be diverted for any other purpose.
- (vii) A copy of the clearance letter shall be sent by the project proponent to concerned Panchayat, Zilla Parishad/Municipal Corporation, Urban local Body and the local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal.
- (viii) The project proponent shall also upload/submit six monthly reports on PARIVESH Portal on the status of compliance of the stipulated Environmental Clearance conditions including results of monitored data to the respective Integrated Regional Office of MoEF&CC, the respective Zonal Office of CPCB and SPCB. A copy of Environmental Clearance and six monthly compliance status report shall be posted on the website of the company.
- (ix) The environmental statement for each financial year ending 31st March in Form-V as is mandated shall be submitted to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental clearance conditions and shall also be sent to the respective Integrated Regional Office of MoEF&CC by e-mail.
- (x) The project proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB/Committee and may also be seen at Website of the Ministry and at <https://parivesh.nic.in/>. This shall be advertised within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same shall be forwarded to the concerned Regional Office of the Ministry.
- (xi) The project authorities shall inform the Regional Office as well as the Ministry, the date

of financial closure and final approval of the project by the concerned authorities and the date of start of the project.

- (xii) This Environmental clearance is granted subject to final outcome of Hon'ble Supreme Court of India, Hon'ble High Court, Hon'ble NGT and any other Court of Law, if any, as may be applicable to this project.
23. The Ministry reserves the right to stipulate additional conditions, if found necessary at subsequent stages and the project proponent shall implement all the said conditions in a time bound manner. The Ministry may revoke or suspend the environmental clearance, if implementation of any of the above conditions is not found satisfactory.
24. Concealing factual data or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of the Environment (Protection) Act, 1986.
25. Any appeal against this environmental clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.
26. The above conditions shall be enforced, *inter-alia* under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.

This issues with approval of the competent authority.

(Dr. Motipalli Ramesh)
Scientist 'E'

Copy to: -

1. The Deputy Director General of Forests (C), Ministry of Environment, Forest and Climate Change, Regional Office (SEZ), 1st and 2nd Floor, Handloom Export Promotion Council, 34, Cathedral Garden Road, Nungambakkam, Chennai-34.
2. The Principal Secretary to Government, Department of Environment, Climate Change and Forests, Government of Tamil Nadu, No. 1, Jeenis Road, Panagal Building, Ground Floor, Saidapet, Chennai-600 015.
3. The Member Secretary, Central Pollution Control Board, Parivesh Bhawan, East Arjun Nagar, Delhi - 32
4. The Member Secretary, Tamil Nadu Pollution Control Board, 76, Mount Salai, Guindy, Chennai - 600 032.
5. The Member Secretary, Central Ground Water Authority, Jamnagar House, 18/11, Man Singh Road Area, New Delhi, Delhi 110001
6. The District Collector, Cuddalore District, Tamil Nadu.
7. Guard File/Monitoring File/PARIVESH.

(Dr. Motipalli Ramesh)
Scientist 'E'
Tel. 011-20819249
Email: ramesh.motipalli@nic.in



Signature Not Verified

Digitally signed by Mr. Motipalli
Ramesh
Scientist E

Date: 11/29/2022 4:41:13 PM

COMPLIANCE REPORT FOR ENVIRONMENTAL CLEARANCE

Compliance to the Conditions stipulated in the Environmental Clearance for Asian Paints Limited issued by MOEF&CC on 29.11.2022 for the period (October 2024 to March 2025)

Reference Letter No. File No. IA-J-11011/283/2021-IA-II(I) Date: 29/11/2022

Specific Conditions:

S. No	Condition	Compliance
1.	The operating parameters shall be maintained so that the stack emissions comply with the prescribed norms i.e. PM < 50 ppm; SOx < 600 mg/Nm ³ ; NOx < 300 mg/Nm ³ . Boiler stack emissions shall be maintained as per TPP guidelines for units installed after 1st Jan. 2003 to 31st Dec. 2016	Complied We are monitoring Stack Emissions parameters through TNPCB laboratory or a MoEF&CC laboratory. All the emission parameters are within the prescribed limits, and the ROA report is submitted to TNPCB periodically. Boiler stack emissions are maintained as per TPP guidelines. (ROA Report enclosed as Annexure 2)
2.	Continuous online (24x7) monitoring system for stack emissions shall be provided for measurement of flue gas discharge and the pollutants concentration, and the data to be transmitted to the CPCB and SPCB servers.	Complied. We have Continuous online monitoring system for stack emission and Continuous Ambient Air Quality Monitoring Station (CAAQMS) to measure the flue gas discharge and the pollutants concentration. We ensure uninterrupted data connectivity with the Care Air Centre, TNPCB, Chennai, in accordance with the Board's requirements. (Photo enclosed as Annexure 3)
3.	Cyclone separators and Bag filters shall be provided for effective fugitive emission control. Covered pneumatic system and Silo shall be provided for transport and storage of ash.	Complied. We have provided multi-cyclone separator with Bag Filters for fugitive emission control in Boiler. Also, we have installed a covered pneumatic system and silo for transport storage of ash (Photo enclosed as Annexure 4)
4.	The transportation of materials shall be by rail/belt conveyor, to the extent feasible	Complied. Raw material and finished goods are transported by Road. Inside the factory premises, Materials are transported either by pipelines or by belt conveyor.
5.	Industry shall use biomass as Primary Fuel for Boiler and only in case of shortage of Briquettes, coal/lignite may be used as secondary fuel. Further, efforts shall be made for the usage of natural gas.	Complied We are using Low ash and Low Sulphur content coal for boilers. Solid biofuel is used whenever it is feasible. We used 28.28 MT of biofuels is used for the FY 24-25.
6.	The PP shall ensure that best available technology is used.	Complied Fluidized bed combustion boiler is used to

		<p>maximize the fuel combustion.</p> <p>Spent steam from turbine is used for processing plant.</p> <p>After giving heat duty, saturated steam as condensate is returned to Boiler as feed water.</p> <p>State-of-the-art technology centrifuges are used for best technology separation process.</p> <p>Recycle and reuse of process materials are effectively carried out.</p> <p>Vapour absorption machine is used for effective refrigeration of heat transfer is implemented.</p> <p>RO permeate water recovered from effluent treatment plant is reused for cooling tower makeup purpose.</p>
7.	<p>The PP shall increase the existing greenbelt of 37% to at least 40 % of total area by planting 570 number of trees within a period of one year from grant of EC. The saplings selected for the plantation should be of sufficient height, preferably 6-ft (about 2m). The budget earmarked for the plantation shall be ₹2 Lakh and shall be kept in separate account and should be audited annually. The PP should annually submit the audited statement along with proof of activities viz. photographs (before & after with geo-location date & time), details of the expert agency engaged, details of species planted, number of species planted, survival rate, density of plantation etc. to the Regional Office of MoEF&CC before 1st July of every year for the activities carried out during the previous year.</p>	<p>Complied.</p> <p>Greenbelt is developed in and around the premises with native species, which are planted and maintained at specific intervals as per the prescribed requirements.</p> <p>Out of the total plot area of 10.807 hectares, approximately 6.156 hectares (about 40% of the total area) is designated as a greenbelt. 6 ft height sapling are selected and planted. We are maintaining separate account and internal auditors is auditing annually. Enclosed as annexure 12.</p>
8.	<p>In addition to the above, 1200 number of saplings shall be planted in the next 2 years such as avenue plantation, plantation in vacant areas, social forestry, etc.</p>	<p>Complied.</p> <p>We have planted an adequate number of saplings in and around the premises, including avenue plantations, vacant area plantations. Additional trees will be planted to further enhance green cover. 2063 no's of Tree saplings are planted in Apr-Mar 2025 Period. Enclosed as annexure 12.</p>
9.	<p>The transportation load on roads shall be within their carrying capacity and adequate width of the roads shall be maintained inside the industrial premises.</p>	<p>Complied.</p> <p>Proper and adequate width of roads maintained for transportation.</p> <p>Separate entry and exit gates are provided. Speed limits are implemented and controlled within the site. Enclosed as annexure 54.</p>

10.	The treated effluent (Process & Utility) from ETP, RO and MEE shall be reused in the process and the treated effluent from the STP shall be used for green belt etc. Zero Liquid Discharge shall be maintained.	Complied The treated effluent is reused for boiler and cooling tower makeup, ensuring that our unit is maintaining zero liquid discharge system (ZLD) (Enclosed as Annexure 5). The Effluent Treatment Plant operates efficiently and continuously to achieve ZLD. Appx. 45 KLD of sewage generated from the premises is treated in the Sewage Treatment Plant and the treated sewage is utilized for greenbelt development (Enclosed as Annexure 6).
11.	Continuous monitoring of effluent quality/quantity shall be provided along with installation of web camera with night vision capability and flow meters in the channel/drain carrying effluent within the premises.	Complied We continuously monitor and calibrate the online sensors for effluent parameters. We installed web cameras with night vision capability and flow meters in the channel/drain carrying effluent within the premises. (Annexure 7)
12.	The storm water from the roof top shall be channelized through pipes to the storage tank constructed for harvesting of rain water in the premises and harvested water shall be used for various industrial processes in the unit. No recharge shall be permitted within the premises. Process effluent/ any wastewater shall not be allowed to mix with storm water.	Complied We have provided two stormwater drains for rainwater harvesting within the premises (Annexure 8). Additionally, we continuously monitor and maintain the online pH and TDS meters in these drains to ensure no chemical contamination occurs during rainfall beyond the premises (Annexure 9)
13.	Fly ash shall be utilized as per the fly ash utilization notification from time to time.	Complied Fly ash generated from the boiler is stored in the separate closed area and it is disposed through brick manufactures for further beneficial use.
14.	Distillation residue/ spent carbon shall be sent for co-processing as per Hazardous waste authorisation. Used or spent oil / waste or residue containing oil shall be sent to authorised recyclers as per Hazardous waste authorisation.	Complied. We have obtained HW Authorization vide Authorization No. 25HFC63824221 dated 27/02/2025 with valid up to 31.03.2029. Hazardous waste generated from the unit premises is properly collected, segregated and disposed to authorized TSDF/Recycler as per HW authorization obtained.
15.	Monitoring of compliance of EC conditions shall be submitted with third party audit every year.	Complied. The compliance report of EC conditions will be regularly submitted to the Regional Office of MoEF, Chennai/TNPCB along with Environment monitoring data.
16.	Provision of Safe drinking water supply, sanitation & medical facilities, promoting eco-friendly behaviour through use of Green	Complied. We have complied with the requirements and provided safe drinking water, sanitation, and medical facilities to nearby

	Energy in schools etc. shall be done within the study area under the CER.	government schools, including those located in Rasapettai, Poondiyankuppam, and Sellankuppam. The details of expenditures incurred for Corporate Environmental Responsibility (CER) have been submitted periodically to the Tamil Nadu Pollution Control Board (TNPCB) and the State Environmental Impact Assessment Authority (SEIAA) (Annexure 10)
17.	A separate Environmental Management Cell (having qualified persons with Environmental Science/Environmental Engineering/specialization in the project area) equipped with full-fledged laboratory facilities shall be set up to carry out the Environmental Management and Monitoring functions. PP shall engage Senior Manager – Environment & Quality Assurance, Senior Executive Environment, Manager safety, safety engineer, Environment Lab Officer. In addition to this one safety & health officer as per the qualification given in Factories Act 1948 shall be engaged within a month of grant of EC. The PP should annually submit the audited statement of amount spent towards the engagement of qualified persons in EMC along with details of person engaged to the Regional Office of MoEF&CC before 1st July of every year for the activities carried out during the previous year.	Complied A dedicated Environmental Management Cell, staffed with suitably qualified personnel, has been established under the supervision of a Senior Executive, who will report directly to the Head of the Organization. Enclosed as annexure 55.
18.	The company shall comply with all the environmental protection measures and safeguards proposed in the documents submitted to the Ministry. All the recommendations made in the EIA/EMP in respect of environmental management, and risk mitigation measures relating to the project shall be implemented. The budget proposed under EMP is ₹432 lakhs (Capital cost) and ₹681.97 lakhs (Recurring cost) shall be kept in separate account and should be audited annually. The PP should submit the annual audited statement along with proof of implementation of activities proposed under EMP duly supported by photographs (before & after with geo-location date & time) and other document as applicable to the Regional Office of MoEF&CC before 1st July of every year for the activities carried out during the previous year.	Complied. The environmental protection measures and safeguards proposed in the documents submitted to the ministry are being complied with. An annual audited statement, along with proof of the implementation of activities carried out during the previous year, is being maintained. The Environmental Management Plan (EMP) budget will be kept in a separate account (Account statement enclosed as annexure 11).

19.	The total water requirement of 1694 KLD, of which fresh water requirement is 1500 KLD shall be met from SIPCOT water supply. The PP should ensure that water supply should not be above the permissible limit as mentioned in the letter and fresh water shall be withdrawn only after obtaining valid agreement from Concerned Authority. The PP should submit the details of utilization to the Integrated Regional Office (IRO), MoEF&CC before 1st July of every year for the activities carried out during the previous year.	Complied. The total water requirement of 1,694 KLD will not be exceeded at any point. The fresh water requirement is being met through SIPCOT, and it will not surpass the approved quantity.
20.	No banned chemicals shall be manufactured by the PP. No banned raw materials shall be used in the unit. The PP shall adhere to the notifications/guidelines of the Government in this regard.	Complied. No banned chemicals or raw materials are used or manufactured within the premises.
21.	The PP shall utilize modern technologies for capturing of carbon emitted and shall also develop carbon sink/carbon sequestration resources capable of capturing more than emitted. The implementation report shall be submitted to the IRO, MoEF&CC in this regard.	Complied. A greenbelt is being developed in and around the premises with native species, planted and maintained at specific intervals in accordance with prescribed requirements to aid in the capture of carbon emissions (Enclosed as Annexure 12)
22.	The project proponent shall comply with the environment norms for Organic Chemical Industry as notified by the Ministry of Environment, Forest and Climate Change, <i>vide</i> GSR 1241(E), dated 28.12.2018 under the provisions of the Environment (Protection) Rules, 1986.	Complied. We are complying with Organic Chemical Industry as notified by the Ministry of Environment, Forest and Climate Change, <i>vide</i> GSR 1241(E), dated 28.12.2018 under the provisions of the Environment (Protection) Rules, 1986.
23.	All necessary precautions shall be taken to avoid accidents and action plan shall be implemented for avoiding accidents. The PP shall implement the onsite/offsite emergency plan/mock drill etc. and mitigation measures as prescribed under the rules and guidelines issued in the Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) Rules, 1989, as amended time to time, and the Chemical Accidents (Emergency Planning, Preparedness and Response) Rules, 1996.	Complied. We have implemented a comprehensive firefighting plan along with all required safety measures. Onsite emergency plans, including mock drills and mitigation measures, are being carried out every six months in accordance with the rules and guidelines issued by the Directorate of Industrial Safety and Health (DISH). Awareness training programs and periodic mock drills conducted regularly (Enclosed as Annexure 13)
24.	The volatile organic compounds (VOCs)/Fugitive emissions shall be controlled at 99.97 % with effective chillers/modern technology. Regular monitoring of VOCs shall be carried out.	Complied The inventories are maintained with bare minimum quantity to run the unit on continuous basis. All the precautions are complied as per toxic hazardous storage rules. With technology like dynamic wet

		scrubber, dust collector & bag filter VOCS / fugitive emissions are controlled. Regular monitoring of VOCs are carried out in regular basis and ROA of same is periodically submitted to TNPCB (Enclosed as Annexure 14)
25.	The storage of toxic/hazardous raw material shall be bare minimum with respect to quantity and inventory. Quantity and days of storage shall be submitted to the Regional Office of Ministry and SPCB along with the compliance report.	Complied. Toxic/ Hazardous chemical and raw material stored in separate tank with adequate capacity maintained within the storage limit (Enclosed as Annexure 15)
26.	The occupational health centre for surveillance of the worker's health shall be set up. The health data shall be used in deploying the duties of the workers. All workers & employees shall be provided with required safety kits/mask for personal protection.	Complied OHC is available at site. Periodical medical examination of the workers conducted and records are maintained. The workers were provided with personnel protective measures such as masks, gloves, boots etc. and usage is monitored through work permit system. (Enclosed as annexure 42)
27.	Training shall be imparted to all employees on safety and health aspects for handling chemicals. Safety and visual reality training shall be provided to employees. Action plan for mitigation measures shall be properly implemented based on the safety and risk assessment studies.	Complied Adequate training has been provided to all employees on safety and health aspects related to chemical handling. Hazardous areas are managed exclusively by trained personnel. The action plan for mitigation measures has been implemented and is being maintained to ensure safety and minimize risks.
28.	The unit shall make the arrangement for the protection of possible fire hazards during manufacturing process in material handling. Fire-fighting system shall be as per the norms.	Complied A firefighting plan and all required safety measures have been implemented in accordance with established norms. Additionally, an automatic water sprinkler system, foam pourer, and deluge valve-controlled sprinkler system have been installed (Enclosed as Annexure 16)
29.	The solvent management shall be carried out as follows: (a) Reactor shall be connected to chilled brine condenser system. (b) Reactor and solvent handling pump shall have mechanical seals to prevent leakages. (c) Solvents shall be stored in a separate space specified with all safety measures. (d) Proper earthing shall be provided in all the electrical equipment wherever solvent handling is done. (e) Entire plant shall be flame proof. The solvent storage tanks shall be provided with breather valve to prevent losses. (f) All the solvent storage tanks shall be connected	Complied <ul style="list-style-type: none"> a. Reactor vent is connected to the common vent collection system. b. Mechanical seal is available in all pumps. c. Chemicals like acetaldehyde and methanol stored in separate storage tanks with adequate safety measures such as dyke valve, SRV's, Rupture disk, Level indicators, LEL detectors, break away couplings. d. Proper earthing system is available. e. Flame proof electrical fittings

	with vent condensers with chilled brine circulation.	provided. Breather valve installed in the storage tank. f. Storage tank vent is connected the common vent collect system.
30.	The volatile organic compounds (VOCs)/Fugitive emissions shall be controlled at 99.97 % with effective chillers/modern technology. Regular monitoring of VOCs shall be carried out.	Complied. Latest technologies deployed to control VOC emissions in the process. We are periodically conducting Ambient TVOC/THC surveys through a TNPCB laboratory or a NABL-accredited laboratory. The Results of Analysis have been regularly submitted to the Tamil Nadu Pollution Control Board (Enclosed as Annexure 14)
31.	The PP shall undertake waste minimization measures as below (a) Metering and control of quantities of active ingredients to minimize waste; (b) Reuse of by-products from the process as raw materials or as raw material substitutes in other processes. (c) Use of automated filling to minimize spillage. (d) Use of Close Feed system into batch reactors. (e) Venting equipment through vapour recovery system. (f) Use of high pressure-hoses for equipment cleaning to reduce wastewater generation.	Complied. a. All ingredients to process are added through measurement devices like magnetic flow meter and load cell. b. Unreacted raw materials recovered and reused in the process to avoid wastages. c. All ingredients to process are added through a measurement devices like magnetic flow meter load cell and only required quantity of the material taken for consumption. Control valves with inter locks installed to automatically stop the inputs to avoid spillages. d. All inputs to the process are closed loop system compressing of pumps, valves, flow measurement devices and pipelines. e. Common vent collection system available to collect and to reuse the vent. f. High pressure hose is used for cleaning operations and the water is reused in the process and by this waste water generation is eliminated.
32.	The activities and the action plan proposed by the project proponent to address the issues raised during the public hearing as well as the related socio-economic issues in the study area shall be completed as per the schedule presented before the Committee and as described in the EIA report in letter and spirit.	Complied. PH is exempted as the industry falls in notified industrial area however, activities and action plants as proposed in EIA report being complied.

GENERAL CONDITIONS:

S. No	Condition	Compliance
1.	No further expansion or modifications in the plant, other than mentioned in the EIA Notification, 2006 and its amendments, shall be carried out without prior approval of the Ministry of Environment, Forest and Climate Change/SEIAA, as applicable. In case of deviations or alterations in the project proposal from those submitted to this Ministry for clearance, a fresh reference shall be made to the Ministry/SEIAA, as applicable, to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any.	Complied. In case any changes in the project we will apply for fresh appraisal. Environmental protection measures all are implemented and maintained continuously.
2.	The Project proponent shall strictly comply with the rules and guidelines issued under the Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) Rules, 1989, as amended time to time, the Chemical Accidents (Emergency Planning, Preparedness and Response) Rules, 1996, and Hazardous and Other Wastes (Management and Trans - Boundary Movement) Rules, 2016 and other rules notified under various Acts.	Complied. On site emergency plan available. Mock drill conducted once in six month. Safety audit conducted annually. Hazardous waste stored and disposed as per Hazardous Waste Management Rules 2016.
3.	The energy source for lighting purpose shall be preferably LED based, or advanced having preference in energy conservation and environment betterment.	Complied. We are using CFL/LED lamps for lighting inside our campus. (Annexure 17)
4.	The overall noise levels in and around the plant area shall be kept well within the standards by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels shall conform to the standards prescribed under the Environment (Protection) Act, 1986 Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time).	Complied Noise level within the project site around the plant area being maintained as per the CPCB guidelines during Day/Night time. Greenbelts developed to attenuate the noise. The acoustic enclosures are installed for reducing the noise levels (Annexure 18).
5.	The company shall undertake all relevant	Complied.

	measures for improving the socio-economic conditions of the surrounding area. The activities shall be undertaken by involving local villages and administration. The company shall undertake eco-developmental measures including community welfare measures in the project area for the overall improvement of the environment.	We have been actively working to improve the socio-economic conditions of the surrounding area. Renovations of four ponds in nearby villages have been completed, and the company operates four hospitals in Kudikadu, Karaikadu, Pachaiyankuppam and Eechangadu villages. We are committed to further enhancing the socio-economic conditions of nearby villages (Annexure 19)
6.	The company shall earmark sufficient funds towards capital cost and recurring cost per annum to implement the conditions stipulated by the Ministry of Environment, Forest and Climate Change as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds so earmarked for environment management/ pollution control measures shall not be diverted for any other purpose.	Complied. We ensure the funds designated for environmental management and pollution control measures are not diverted for others purposes. The costs associated with the Environmental Management Plan (EMP) account statement is enclosed as annexure 11.
7.	A copy of the clearance letter shall be sent by the project proponent to concerned Panchayat, Zilla Parishad/Municipal Corporation, Urban local Body and the local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal.	Complied A copy of the environmental clearance has been sent to the local body and is available for reference at any time (Enclosed as annexure 20)
8.	The project proponent shall also submit six monthly reports on PARIVESH portal on the status of compliance of the stipulated Environmental Clearance conditions including results of monitored data (both in hard copies as well as by e-mail) to the respective Integrated Regional Office of MoEF&CC, the respective Zonal Office of CPCB and SPCB. A copy of Environmental Clearance and six-monthly compliance status report shall be posted on the website of the company.	Complied. The compliance report of EC conditions will be regularly submitted to the Regional Office of MoEF, Chennai/TNPCB along with Environment monitoring data and the same will be uploaded on the website. (Enclosed as annexure 56 & 21).
9.	The environmental statement for each financial year ending 31st March in Form-V as is mandated shall be submitted to the concerned State Pollution Control Board as prescribed under the Environment	Complied The environmental statement (Form V) for each financial year submitted to the TNPCB and uploaded on website (Annexure 21).

	(Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental clearance conditions and shall also be sent to the respective Integrated Regional Office of MoEF&CC by e-mail.	
10.	The project proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB/Committee and may also be seen at Website of the Ministry and at https://parivesh.nic.in/ . This shall be advertised within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same shall be forwarded to the concerned Regional Office of the Ministry.	Complied. We have advertised our environmental clearance in both Tamil and English local newspapers. A copy of the newspaper advertisement has been submitted to the Tamil Nadu Pollution Control Board/ Regional Office of the Ministry (Enclosed as annexure 22)
11.	The project authorities shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of start of the project.	Complied We inform the Regional office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of start of the project.
12.	This Environmental clearance is granted subject to final outcome of Hon'ble Supreme Court of India, Hon'ble High Court, Hon'ble NGT and any other Court of Law, if any, as may be applicable to this project.	Noted
13.	The Ministry reserves the right to stipulate additional conditions, if found necessary at subsequent stages and the project proponent shall implement all the said conditions in a time bound manner. The Ministry may revoke or suspend the environmental clearance, if implementation of any of the above conditions is not found satisfactory.	Noted
14.	Concealing factual data or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of the Environment (Protection) Act, 1986.	Noted

15.	Any appeal against this environmental clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.	Noted
16.	The above conditions shall be enforced, <i>inter-alia</i> under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.	Noted

Category of the Industry :

RED



CONSENT ORDER NO. 2407262689206

DATED: 30/10/2024.

PROCEEDINGS NO.T6/TNPCB/F.0020CUD/RL//CUD/A/2024 DATED: 30/10/2024

SUB: Tamil Nadu Pollution Control Board –CONSENT TO OPERATE FOR EXPANSION-II -M/s. ASIAN PAINTS LTD,PENTA DIVISION - PHASE 1 , S.F.No. 126,127,128/1,128/2,130,137/1,137/2,137/4,165/2,129(Part), KUDIKADU village Cuddalore Taluk and Cuddalore District - Consent for operation of the plant and discharge of emissions under Section 21 of the Air (Prevention and Control of Pollution) Act, 1981 as amended in 1987 (Central Act 14 of 1981) –Issued- Reg. (Industry User ID- R15CUD118194)

REF: 1. CTE Expansion II Proceeding No.T6/TNPCB/F.0020CUD/RL/CUD/W&A/2024 Dated: 11.09.2024
2. Application No. 62689206 Dated 19.10.2024
3. DEE, Cuddalore IR No. F.0020CUD/RL/AEE/CUD/2024 Dated 22.10.2024
4. Minutes of the CCC Meeting vide CCC item no.329-38 Dated 24.10.2024

CONSENT TO OPERATE FOR EXPANSION is hereby granted under Section 21 of the Air (Prevention and Control of Pollution) Act, 1981 as amended in 1987 (Central Act 14 of 1981) (hereinafter referred to as "The Act") and the rules and orders made there under to

Associate General Manager

M/s . ASIAN PAINTS LTD,PENTA DIVISION - PHASE 1

S.F No. 126,127,128/1,128/2,130,137/1,137/2,137/4,165/2,129(Part)

KUDIKADU Village

Cuddalore Taluk

Cuddalore District.

Authorizing the occupier to operate the industrial plant in the Air Pollution Control Area as notified by the Government and to make discharge of emission from the stacks/chimneys.

This is subject to the provisions of the Act, the rules and the orders made there under and the terms and conditions incorporated under the Special and General conditions stipulated in the Consent Order issued earlier and subject to the special conditions annexed.

This CONSENT is valid for the period ending **March 31, 2026**

J JOSEPHINE SAHAYA RANI

Digitally signed by J JOSEPHINE SAHAYA RANI
Date: 2024.10.30 18:14:27 +05'30'

For Member Secretary,
Tamil Nadu Pollution Control Board,
Chennai

To

Associate General Manager,

M/s. ASIAN PAINTS LTD,PENTA DIVISION - PHASE 1,

6-A Shanthi Nagar,

Opp to Hotel Grand Hyatt,

Santacruz(E),PO Box No.6818

Mumbai

Pin: 400055

Copy to:

1. The Commissioner, CUDDALORE-Panchayat Union, Cuddalore Taluk, Cuddalore District .
 2. The District Environmental Engineer, Tamil Nadu Pollution Control Board, CUDDALORE.
 3. The JCEE-Monitoring, Tamil Nadu Pollution Control Board, Cuddalore.
 4. File
-

SPECIAL CONDITIONS

1. This consent to operate for Expansion is valid for operating the facility for the manufacture of products (Col. 2) at the rate (Col. 3) mentioned below. Any change in the products and its quantity has to be brought to the notice of the Board and fresh consent has to be obtained.

Sl. No.	Description	Quantity	Unit
Product Details			
1.	Pentaerythritol (Powder & Solution Form)	930	MTPM
2.	Formaldehyde	920	MTPM
By-Product Details			
1.	Sodium Formate (Powder & Solution form)	651	MTPM
Intermediate Product Details			
1.	Nil	0.0	

2. This consent to operate for Expansion is valid for operating the facility with the below mentioned emission/noise sources along with the control measures and/or stack. Any change in the emission source/control measures/change in stack height has to be brought to the notice of the Board and fresh consent/Amendment has to be obtained.

I Point source emission with stack :				
Stack No.	Point Emission Source	Air pollution Control measures	Stack height from Ground Level in m	Gaseous Discharge in Nm³/hr
1	Sodium Formate Dryer-1 No	Wet scrubber with stack	18	
2	Mono Pentaerythritol Dryer -1 No	Wet scrubber with stack	12	
3	Mono Pentaerythritol Dryer -1 No	Wet scrubber with stack	12	
4	Di PE Dryer-1 No	Wet scrubber with stack	18	
5	Fluidized Bed Dryer	Bag Filter, Dust Collector with stack	10.5	
6	DG 500 KVA - 1 No	Acoustic enclosure with stack and retrofit emission control device	12	
7	DG 600 KVA - 1 No	Acoustic enclosure with stack and retrofit emission control device	12	
8	Five Effect Evaporator ejector vent	Stack	13.8	
9	Crude Vacuum Crystallizer vent-1	Stack	13.8	
10	Crude Vacuum Crystallizer vent-2	Stack	13.85	
11	Double Effect Evaporator ejector vent	Stack	13.9	
12	Sodium Formate Crystallizer ejector vent	Stack	15.3	
13	Pure Vacuum Crystallizer ejector vent	Stack	13.8	
14	Formaldehyde plant Distillation column eject vent	Stack	14.5	
15	Tank No. T 148-1 vent	Stack	11.8	
16	Tank No. T 148-2 vent	Stack	11.8	
II Fugitive/Noise emission :				
Sl. No.	Fugitive or Noise Emission sources	Type of emission	Control measures	
1.	VOC emissions	Fugitive	Tank vents are connected to Fa blower suction	
2.	DG sets 500 kVA 1 no. & 600 kVA 1 no	Noise	Acoustic Enclosures	

3.(a). The emission shall not contain constituents in excess of the tolerance limits as laid down hereunder :

Sl. No.	Parameter	Unit	Tolerance limits	(1) (2) (3) (4) (5) (6)
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3.(b) The Ambient Air in the industrial plant area shall not contain constituents in excess of the tolerance limits prescribed below.

Sl. No.	Pollutant	Time Weighted Average	Unit	Tolerance Limits	
				Industrial, Residential, Rural and other area	Ecologically Sensitive Area (notified by Central Govt.)
1.	Sulphur Dioxide (SO ₂)	Annual 24 hours	microgram/m ³ microgram/m ³	50 80	20 80
2.	Nitrogen Dioxide (NO ₂)	Annual 24 hours	microgram/m ³ microgram/m ³	40 80	30 80
3.	Particulate Matter (Size Less than 10 micro M) or PM ₁₀	Annual 24 hours	microgram/m ³ microgram/m ³	60 100	60 100
4.	Particulate Matter (Size Less than 2.5 micro M) or PM _{2.5}	Annual 24 hours	microgram/m ³ microgram/m ³	40 60	40 60
5.	Ozone (O ₃)	8 Hours 1 Hour	microgram/m ³ microgram/m ³	100 180	100 180
Sl. No.	Pollutant	Time Weighted Average	Unit	Tolerance Limits	Industrial, Residential, Rural and other area
					Ecologically Sensitive Area (notified by Central Govt.)
6.	Lead (Pb)	Annual 24 hours	microgram/m ³ microgram/m ³	0.5 1.0	0.5 1.0
7.	Carbon Monoxide (CO)	8 Hours 1 Hour	miligram/m ³ miligram/m ³	02 04	02 04
8.	Ammonia (NH ₃)	Annual 24 hours	microgram/m ³ microgram/m ³	100 400	100 400
9.	Benzene (C ₆ H ₆)	Annual	microgram/m ³	5	5
10.	Benzo(a) Pyrene (BaP) —particulate phase only	Annual	nanogram/m ³	01	01
11.	Arsenic (As)	Annual	nanogram/m ³	06	06
12.	Nickel (Ni)	Annual	nanogram/m ³	20	20

3(c) The Ambient Noise Level in the industrial plant area shall not exceed the limits prescribed below:

Limits in L.eq.-dB(A)	Day Time	Night Time
Industrial Area	75	70

- All units of the Air pollution control measures shall be operated efficiently and continuously so as to achieve the standards prescribed in Sl. No.3 above.
- The occupier shall not change or alter quality or quantity or the rate of emission or replace or alter the air pollution control equipment or change the raw material or manufacturing process resulting in change in quality and/or quantity of emissions without the previous written permission of the Board.
- The occupier shall maintain log book regarding the stack monitoring system or operation of the plant or any other particulars for each of the unit operations of air pollution control systems to reflect the working condition which shall be furnished for verification of the Board officials during inspection.

7. The occupier shall at his own cost get the samples of emission/air/noise levels collected and analyzed by the TNPC Board Laboratory once in every 6 months/once in a year/periodically for the parameters as prescribed.
8. Any upset condition in any of the plants of the factory which is likely to result in increased emissions and result in violation of the standards mentioned in Sl.No.3 shall be reported to the Member Secretary / Joint Chief Environmental Engineer-Monitoring and the concerned District/Assistant Environmental Engineer of the Board by e-mail immediately and subsequently by Post with full details of such upset condition.
9. The occupier shall always comply and carryout the order/directions issued by the Board in this Consent Order and from time to time without any negligence. The occupier shall be liable for action as per provisions of the Act in case of non compliance of any order/directions issued.

Special Additional Conditions:

The unit shall obtain No Objection Certificate (NOC) from the Tamil Nadu Bio Diversity Board /National Bio Diversity Authority if the unit is using any Biological resources or knowledge associated thereto as per the provisions of Biological Diversity Act 2002.

The industries shall take all efforts to use and popularize "Mission LiFE" logo and mascot which is available in TNPCB & MoEFCC website. They shall also request their employees to adopt "Mission LiFE" action points and document the same and furnish half yearly report to Board.

Additional Conditions:

1. The unit shall comply with the conditions stipulated in the Environmental Clearance obtained for expansion activity vide Letter No. SEIAA/TN/ F.6495/5(f)/ EC60/2018 Dated: 24.04.2018 obtained from SEIAA, Chennai and Environmental Clearance obtained for expansion activity vide Letter No. IA-J- 11011/283/2021-IA II(I) dated 28.11.2022 obtained from MOEF & CC, New Delhi at all times.
2. The unit shall obtain EC amendment from MOEF & CC, New Delhi with respect to their actual quantity of recycling of treated wastewater before applying CTO of the Board for full-fledged production.
3. The unit shall operate and maintain the Air Pollution Control measures efficiently and continuously so that the emission shall satisfy the Ambient Air Quality/Emission standards prescribed by the Board.
4. The unit shall adhere to the Ambient Air Quality/Stack Emission/ Ambient Noise Level standards prescribed by the Board.
5. The unit shall conduct the Ambient Air Quality/Stack Emission/Fugitive Emission/Ambient TVOC/THC survey through MoEF approved Laboratory once in three months and furnish the report to the Board without fail.
6. The unit shall continue to develop adequate green belt with thick canopy within the premises, so as to attenuate air and noise pollution and furnish the exact green belt area ear marked/developed as per norms in the unit premises and furnish photographs along with latitude and longitude co-ordinates.
7. The unit shall operate and maintain the Continuous Ambient Air Quality Monitoring Station (PM2.5, PM10, SO2, NOx) continuously and ensure the connectivity without any interruption with CARE AIR Centre, TNPC Board, Chennai.
8. The unit shall maintain the online sensors connected with Care Air Centre, Tamilnadu Pollution Control Board, Chennai and upload the data without any interruption.
9. The unit shall operate the plant without attracting complaints from the nearby public.
10. This consent order does not absolve from obtaining necessary permission / clearance from other Authority or under other Statute as applicable.

J JOSEPHINE SAHAYA RANI

Digitally signed by J JOSEPHINE SAHAYA
RANI
Date: 2024.10.30 18:14:55 +05'30'

For Member Secretary,
Tamil Nadu Pollution Control Board,
Chennai

GENERAL CONDITIONS

1. The occupier shall make an application along with the prescribed consent fee for grant of renewal of consent at least 60 days before the date of expiry of this Consent Order along with all the required particulars ensuring that there is no change in production quantity and emission.
2. This Consent is given by the Board in consideration of the particulars given in the application. Any change or alteration or deviation made in actual practice from the particulars furnished, in the application will also be ground for review/variation/revocation of the Consent Order under Section 21 of the Act.
3. The conditions imposed shall continue in force until revoked under Section 21 of the Act.
4. After the issue of this order, all the 'Consent to Operate' orders issued previously under Air (Prevention and Control of Pollution) Act, 1981 as amended stands defunct.
5. The occupier shall maintain an Inspection Register in the factory so that the inspecting officer shall record the details of the observations and instructions issued to the unit at the time of inspection for adherence.
6. The occupier shall provide and maintain an alternate power supply along with separate energy meter for the Air Pollution Control measures sufficient to ensure continuous operation of all pollution control equipments to ensure compliance.
7. The occupier shall provide all facilities to the Board officials for collection of samples in and around the factory at any time.
8. The applicant shall display the flow diagram of the sources of emission and pollution control systems provided at the site.
9. The liquid effluent arising out of the operation of the air pollution control equipment shall also be treated in a manner and to the satisfaction of standards prescribed by the Board in accordance with the provisions of Water (Prevention and Control of Pollution) Act, 1974 as amended.
10. The air pollution control equipments, location of inspection chambers and sampling port holes shall be made easily accessible at all time.
11. In case of any episodal discharge of emission, the industry shall take immediate action to bring down the emission within the limits prescribed by the Board.
12. If applicable, the occupier has to comply with the provisions of Public Liability Insurance Act, 1991 to provide immediate relief in the event of any hazard to human beings, other living creatures/plants and properties while handling and storage of hazardous substances.
13. The issuance of this consent does not authorize or approve the construction of any physical structures or facilities or the undertaking of any work in any natural watercourse or in Government Poromboke lands.
14. The issuance of this Consent does not convey any property right in either real personal property or any exclusive privileges, nor does it authorize any injury to private property or Government property or any invasion of personal rights nor any infringement of Central, State laws or regulation.
15. The occupier shall forth with keep the Board informed of any accident of unforeseen act or event of any poisonous, noxious or polluting matter or emissions are being discharged into stream or well or air as a result of such discharge, water or air is being polluted.
16. If due to any technological improvements or otherwise the Board is of opinion that all or any of the conditions referred to above requires variation (including the change of any treatment system, either in whole or in part) the Board shall, after giving the applicant an opportunity of being heard, vary all or any of such conditions and thereupon the applicant shall be bound to comply with the conditions as so varied.
17. In case there is any change in the constitution of the management, the occupier of the new management shall file fresh application under Air (Prevention and Control of Pollution) Act, 1981, as amended in Form-I alongwith relevant documents of change of management immediately and get the necessary amendment with renewal of consent order.
18. In case there is any change in the name of the company alone, the occupier shall inform the same with relevant documents immediately and get the necessary amendments for the change of name from the Board.

19. The occupier shall display this consent order granted to him in a prominent place for perusal of the inspecting Officers of this Board.

J JOSEPHINE SAHAYA RANI

Digitally signed by J JOSEPHINE SAHAYA RANI
Date: 2024.10.30 18:15:31 +05'30'

**For Member Secretary,
Tamil Nadu Pollution Control Board,
Chennai**

Category of the Industry :

RED



CONSENT ORDER NO. 2407162689206 DATED: 30/10/2024.

PROCEEDINGS NO.T6/TNPCB/F.0020CUD/RL/CUD/W/2024 DATED: 30/10/2024

SUB: Tamil Nadu Pollution Control Board –CONSENT TO OPERATE FOR EXPANSION-II -M/s. ASIAN PAINTS LTD,PENTA DIVISION - PHASE 1 , S.F.No. 126,127,128/1,128/2,130,137/1,137/2,137/4,165/2,129(Part), KUDIKADU village Cuddalore Taluk and Cuddalore District - Consent for the operation of the plant and discharge of sewage and/or trade effluent under Section 25 of the Water (Prevention and Control of Pollution) Act, 1974 as amended in 1988 (Central Act 6 of 1974) – Issued- Reg. (Industry User ID- R15CUD118194)

REF: 1. CTE Expansion II Proceeding No.T6/TNPCB/F.0020CUD/RL/CUD/W&A/2024 Dated: 11.09.2024
2. Application No. 62689206 Dated 19.10.2024
3. DEE, Cuddalore IR No. F.0020CUD/RL/AEE/CUD/2024 Dated 22.10.2024
4. Minutes of the CCC Meeting vide CCC item no.329-38 Dated 24.10.2024

CONSENT TO OPERATE FOR EXPANSION is hereby granted under Section 25 of the Water (Prevention and Control of Pollution) Act, 1974 as amended in 1988 (Central Act, 6 of 1974) (hereinafter referred to as "The Act") and the rules and orders made there under to

Associate General Manager
M/s . ASIAN PAINTS LTD,PENTA DIVISION - PHASE 1
S.F No. 126,127,128/1,128/2,130,137/1,137/2,137/4,165/2,129(Part)
KUDIKADU Village
Cuddalore Taluk
Cuddalore District.

Authorising the occupier to make discharge of sewage and /or trade effluent.

This is subject to the provisions of the Act, the rules and the orders made there under and the terms and conditions incorporated under the Special and General conditions stipulated in the Consent Order issued earlier and subject to the special conditions annexed.

This CONSENT is valid for the period ending **March 31, 2026**

J JOSEPHINE SAHAYA RANI Digitally signed by J JOSEPHINE SAHAYA RANI
Date: 2024.10.30 18:16:56 +05'30'

For Member Secretary,
Tamil Nadu Pollution Control Board,
Chennai

To
Associate General Manager,
M/s. ASIAN PAINTS LTD,PENTA DIVISION - PHASE 1,
6-A Shanthi Nagar,
Opp to Hotel Grand Hyatt,
Santacruz(E),PO Box No.6818

Mumbai

Pin: 400055

Copy to:

1. The Commissioner, CUDDALORE-Panchayat Union, Cuddalore Taluk, Cuddalore District .
2. The District Environmental Engineer, Tamil Nadu Pollution Control Board, CUDDALORE.
3. The JCEE-Monitoring, Tamil Nadu Pollution Control Board, Cuddalore.
4. File

SPECIAL CONDITIONS

1. This consent to operate for Expansion is valid for operating the facility for the manufacture of products (Col. 2) at the rate (Col. 3) mentioned below. Any change in the products and its quantity has to be brought to the notice of the Board and fresh consent has to be obtained.

Sl. No.	Description	Quantity	Unit
Product Details			
1.	Pentaerythritol (Powder & Solution Form)	930	MTPM
2.	Formaldehyde	920	MTPM
By-Product Details			
1.	Sodium Formate (Powder & Solution form)	651	MTPM
Intermediate Product Details			
1.	Nil	0.0	

2. This consent to operate for Expansion is valid for operating the facility with the below mentioned permitted outlets for the discharge of sewage/trade effluent. Any change in the outlets and the quantity has to be brought to the notice of the Board and fresh consent has to be obtained.

Outlet No.	Description of Outlet	Maximum daily discharge in KLD	Point of disposal
Effluent Type : Sewage			
1.	Sewage	44.0	On land for gardening
Effluent Type : Trade Effluent			
1.	Trade Effluent-I (RO Permeate)	145.0	Recycling to process
2.	Trade effluent II (MEE Condensate)	18.5	Recycling to process
3.	Trade effluent III (ATFD Condensate)	0.5	Recycling to process
4.	Trade effluent IV (ATFD Concentrate)	0.5	Evaporated in ATFD and converted to salt

3. The effluent discharge shall not contain constituents in excess of the tolerance Limits as laid down hereunder.

Sl. No.	Parameters	Unit	TOLERANCE LIMITS - OUTLETS -Nos					
			Sewage		Trade Effluent			
			1		1	2	3	
1.	pH		5.5 to 9		5.5 to 9	5.5 to 9	5.5 to 9	
2.	Temperature	oC	-		shall not exceed 5°C above the receiving water temperature	shall not exceed 5°C above the receiving water temperature	shall not exceed 5°C above the receiving water temperature	
3.	Particle size of Suspended solids	-	-		shall pass 850 micron IS sieve	shall pass 850 micron IS sieve	shall pass 850 micron IS sieve	
4.	Total Suspended Solids	mg/l	30		100	100	100	
5.	Total Dissolved solids (inorganic)	mg/l	-		2100	2100	2100	
6.	Oil & Grease	mg/l	-		10	10	10	
7.	Biochemical Oxygen Demand (3 days at 27oC)	mg/l	20		30	30	30	
8.	Chemical Oxygen Demand	mg/l	-		250	250	250	
9.	Chloride (as Cl)	mg/l	-		1000	1000	1000	
10.	Sulphates (as SO4)	mg/l	-		1000	1000	1000	
11.	Total Residual Chlorine	mg/l	-		1	1	1	
12.	Ammonical Nitrogen (as N)	mg/l	-		50	50	50	
13.	Total Kjeldahl Nitrogen (as N)	mg/l	-		100	100	100	
14.	Free Ammonia (as NH3)	mg/l	-		5	5	5	
15.	Arsenic (as As)	mg/l	-		0.2	0.2	0.2	
16.	Mercury (as Hg)	mg/l	-		0.01	0.01	0.01	
17.	Lead (as Pb)	mg/l	-		0.1	0.1	0.1	
18.	Cadmium(as Cd)	mg/l	-		2	2	2	
19.	Hexavalent Chromium (as Cr+6)	mg/l	-		0.1`	0.1`	0.1`	
20.	Total Chromium (as Cr)	mg/l	-		2	2	2	
21.	Copper (as Cu)	mg/l	-		3	3	3	
22.	Zinc (as Zn)	mg/l	-		1	1	1	
23.	Selenium (as Se)	mg/l	-		0.05	0.05	0.05	
24.	Nickel (as Ni)	mg/l	-		3	3	3	
25.	Boron (as B)	mg/l	-		2	2	2	
26.	Percent Sodium	%	-		-	-	-	
27.	Residual Sodium Carbonate	mg/l	-		-	-	-	
28.	Cyanide (as CN)	mg/l	-		0.2	0.2	0.2	
29.	Fluoride (as F)	mg/l	-		2	2	2	
30.	Dissolved Phosphates(as P)	mg/l	-		5	5	5	
31.	Sulphide (as S)	mg/l	-		2	2	2	
32.	Pesticides	mg/l	-					
33.	Phenolic Compounds (as C6H5OH)	mg/l	-		1	1	1	
34.	Radioactive materials a) Alpha emitters	micro curie/ml	-		10-7	10-7	10-7	

35.	Radioactive materials b). Beta emitters	micro curie/ml	-		10-6	10-6	10-6
36.	Fecal Coliform	MPN/100ml	-		-	-	-

4. All units of the sewage and Trade effluent treatment plants shall be operated efficiently and continuously so as to achieve the standards prescribed in Sl No.3 above or to achieve the zero liquid discharge of effluent as applicable.
5. The occupier shall maintain the Electro Magnetic Flow Meters/water Meters installed at the inlet of the water supply connection for each of the purposes mentioned below for assessing the quantity of water used and ensuring that such meters are easily accessible for inspection and maintenance and for other purposes of the Act.
 - a. Industrial Cooling, Spraying in mine pits or boiler feed.
 - b. Domestic purpose.
 - c. Process.
6. The occupier shall maintain the Electro Magnetic Flow Meters with computer recording arrangement for measuring the quantity of effluent generated and treated for the monitoring purposes of the Act.
7. Log book for each of the unit operations of ETP have to be maintained to reflect the working condition of ETP along with the readings of the Electro Magnetic Flow Meters installed to assess effluent quantity and the same shall be furnished for verification of the Board officials during inspection.
8. The occupier shall at his own cost get the samples of effluent/surface water/ground water collected in and around the unit by Board officials and analyzed by the TNPC Board Laboratory periodically.
9. Any upset condition in any of the plants of the factory which is, likely to result in increased effluent discharge and result in violation of the standards mentioned in Sl. No.3 above shall be reported to the Member Secretary / Joint Chief Environmental Engineer-Monitoring and the concerned District/Assistant Environmental Engineer of the Board by e-mail immediately and subsequently by Post with full details of such upset condition.
10. The occupier shall always comply and carryout the order/directions issued by the Board in this Consent Order and from time to time without any negligence. The occupier shall be liable for action as per provisions of the Act in case of non compliance of any order/directions issued.
11. The occupier shall develop adequate width of green belt at the rate of 400 numbers of trees per Hectare.
12. The occupier shall provide and maintain rain water harvesting facilities.
13. The occupier shall ensure that there shall not be any discharge of effluent either treated or untreated into storm water drain at any point of time.
14. In the case of zero liquid discharge of effluent units, the occupier shall adhere the following conditions as laid under.
 - i). The occupier shall ensure zero liquid discharge of effluent, thereby no discharge of untreated / treated effluent on land or into any water bodies either inside or outside the premises at any point of time.
 - ii) The occupier shall operate and maintain the Zero liquid discharge treatment components comprising of Primary, Secondary and tertiary treatment systems at all times and ensure that the RO permeate/Evaporator condensate shall be recycled in the process and the final RO reject shall be disposed off with the reject management system ensuring zero liquid discharge of effluents in the premises.
 - iii) The occupier shall operate and maintain the reject management system effectively and recover the salt from the system which shall be reused in the process if reusable or shall be disposed off as ETP sludge.
 - iv) In case of failure to achieve zero discharge of effluents for any reason, the occupier shall stop its production and operations forthwith and shall be reported to the Member Secretary/Joint Chief Environmental Engineer-Monitoring and the concerned District/Assistant Environmental Engineer of the Board by e-mail immediately and subsequently by Post with full details of such upset condition.
 - v) The occupier shall restart the production only after ascertaining that the Zero discharge treatment system can perform effectively for achieving zero discharge of effluents.

Special Additional Conditions:

The unit shall obtain No Objection Certificate (NOC) from the Tamil Nadu Bio Diversity Board /National Bio Diversity Authority if the unit is using any Biological resources or knowledge associated thereto as per the provisions of Biological Diversity Act 2002.

The industries shall take all efforts to use and popularize "Mission LiFE" logo and mascot which is available in TNPCB & MoEFCC website. They shall also request their employees to adopt "Mission LiFE" action points and document the same and furnish half yearly report to Board.

Additional Conditions:

1. The unit shall comply with the conditions stipulated in the Environmental Clearance obtained for expansion activity vide Letter No. SEIAA/TN/ F.6495/5(f)/ EC60/2018 Dated: 24.04.2018 obtained from SEIAA, Chennai and Environmental Clearance obtained for expansion activity vide Letter No. IA-J- 11011/283/2021-IA II(I) dated 28.11.2022 obtained from MOEF & CC, New Delhi at all times.
2. The unit shall obtain EC amendment from MOEF & CC, New Delhi with respect to their actual quantity of recycling of treated wastewater before applying CTO of the Board for full-fledged production.
3. The unit shall operate and maintain the Zero Liquid Discharge System for the treatment and disposal of trade effluent generated from the unit.
4. The unit shall operate and maintain the Sewage Treatment Plant for the treatment of the sewage generated and the treated sewage shall be utilized for green belt development/gardening purposes inside the premises.
5. The unit shall operate and maintain the online pH and TDS meter provided in the storm water drains to ensure that no chemical contamination takes place during rains outside the premises at all the time.
6. The industry shall maintain and regularly calibrate the online sensors provided for the effluent parameters so as to transmit quality data to the WQW of TNPCB, Chennai without interruption.
7. The unit shall ensure that a rehearsal of the Offsite emergency plan is conducted at least once in calendar year.
8. All necessary precautions shall be taken to avoid accidents and action plan shall be prepared and implemented for avoiding accidents.
9. The unit shall prepare the onsite & offsite emergency plan as prescribed under the rules and guidelines issued in the Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) Rules, 1989 and the Chemical Accidents (Emergency Planning, Preparedness and Response) Rules, 1996 and obtain approval for the same from Directorate of Industrial Safety & Health (DISH)/ District Collector/competent authority.
10. The unit shall conduct mock drill and safety audit as per Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) Rules, 1989 by a reputed agency and submit quarterly compliance report to the Board
11. The unit shall prepare and furnish proper flood management plan and monsoon preparedness plan to address the issues aroused during cyclones & floods
12. The unit shall phase out all underground tanks of raw material/product/oil etc.
13. The unit shall provide adequate drainage system throughout the premises to avoid flooding
14. The unit shall furnish the details of activities done through 'Corporate Social Responsibility' along with the amount spent and evidences every year.
15. The unit shall not increase the production without the valid consent of the Board.
16. In case of revision of consent fee by the Government, the unit shall remit the difference in amount within one month from the date of notification. Failing to remit the consent fee, this consent order will be withdrawn without any notice and further action will be initiated against the unit as per law.
17. The unit shall not use 'use and throwaway plastic' such as plastic sheets used for food wrapping, spreading on dining table etc., plastic plates, plastic coated tea cups, plastic tumbler, water pouches and packets, plastic straw, plastic carry bag and plastic flags irrespective of thickness, within the industry premises. Instead unit shall encourage use of eco friendly alternative such as banana leaf, arecanut palm plate, stainless steel, glass, porcelain plates / cups, cloth bag, jute bag etc.
18. The unit shall operate the plant without attracting complaints from the nearby public.

J JOSEPHINE SAHAYA RANI

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Date: 2024.10.30 18:17:19 +05'30'

For Member Secretary,
Tamil Nadu Pollution Control Board,
Chennai

GENERAL CONDITIONS

1. The occupier shall make an application along with the prescribed consent fee for grant of renewal of consent at least 60 days before the date of expiry of this Consent Order along with all the required particulars ensuring that there is no change in Production quantity and change in sewage/Trade effluent.
2. This Consent is issued by the Board in consideration of the particulars given in the application. Any change or alteration or deviation made in actual practice from the particulars furnished in the application will also be ground for review/variation/revocation of the Consent Order under Section 27 of the Act and to make such variation as deemed fit for the purpose of the Act.
3. The consent conditions imposed in this order shall continue in force until revoked under Section 27(2) of the Act.
4. After the issue of this order, all the 'Consent to Operate' orders issued previously under Water (Prevention and Control of Pollution) Act, 1974 as amended stands defunct.
5. The occupier shall maintain an Inspection Register in the factory so that the inspecting officer shall record the details of the observations and instructions issued to the unit at the time of inspection for adherence.
6. The occupier shall provide and maintain an alternate power supply along with separate energy meter for the Effluent Treatment Plant sufficient to ensure continuous operation of all pollution control equipments to maintain compliance.
7. The occupier shall provide all facilities to the Board officials for inspection and collection of samples in and around the factory at any time.
8. The occupier shall display the flow diagram of the sources of effluent generation and pollution control systems provided at the ETP site.
9. The solid waste such as sweepings, wastage, package, empty containers, residues, sludge including that from air pollution control equipments collected within the premises of the industrial plant shall be collected in an earmarked area and shall be disposed off properly.
10. The occupier shall collect, treat the solid wastes like food waste, green waste generated from the canteen and convert into organic compost.
11. The occupier shall segregate the Hazardous waste from other solid wastes and comply in accordance with Hazardous Wastes (Management, Handling and Transboundary Movement) Rules, 2008.
12. The occupier shall maintain good house-keeping within the factory premises.
13. All pipes, valves, sewers and drains shall be leak proof. Floor washings shall be admitted into the trade effluent collection system only and shall not be allowed to find their way in storm drains or open areas.
14. The occupier shall ensure that there shall not be any diversion or by-pass of trade effluent on land or into any water sources.
15. The occupier shall ensure that solar Evaporation pans shall be constructed in such a way that the bottom of the solar pan is at least 1 m above the Ground level (if applicable).
16. The occupier shall furnish the following returns in the prescribed formats to the concerned District office regularly.
 - a) Monthly water consumption returns of each of the purposes with water meter readings in Form-I on or before 5th of every month.
 - b) Yearly return on Hazardous wastes generated and accumulated for the period from 1st April to 31st March in Form-4 before the end of the subsequent 30th June of every year (if applicable).
 - c) Yearly Environmental Statement for the period from 1st April to 31st March in Form -V before the end of the subsequent 30th September of every year(if applicable).
17. If applicable, the occupier has to comply with the provisions of Public Liability Insurance Act, 1991 to provide immediate relief in the event of any hazard to human beings, other living creatures/plants and properties while handling and storage of hazardous substances.
18. The issuance of this consent does not authorize or approve the construction of any physical structures or facilities or the undertaking of any work in any natural watercourse or in Government Poromboke lands.
19. The issuance of this Consent does not convey any property right in either real personal property or any exclusive privileges, nor does it authorize any injury to private property or Government property or any invasion of personal rights nor any infringement of Central, State laws or regulation.

20. The occupier shall forth with keep the Board informed of any accident of unforeseen act or event of any poisonous, noxious or polluting matter or emissions are being discharged into stream or well or air as a result of such discharge, water or air is being polluted.
21. If due to any technological improvements or otherwise the Board is of opinion that all or any of the conditions referred to above requires variation (including the change of any treatment system, either in whole or in part) the Board shall, after giving the applicant an opportunity of being heard, vary all or any of such conditions and thereupon the applicant shall be bound to comply with the conditions as so varied.
22. In case there is any change in the constitution of the management, the occupier of the new management shall file fresh application under Water (Prevention and Control of Pollution) Act, 1974, as amended in Form-II alongwith relevant documents of change of management immediately and get the necessary amendment with renewal of consent order.
23. In case there is any change in the name of the company alone, the occupier shall inform the same with relevant documents immediately and get the necessary amendments for the change of name from the Board.
24. The occupier shall display this consent order granted to him in a prominent place for perusal of the inspecting Officers of this Board.

J JOSEPHINE SAHAYA RANI Digitally signed by J JOSEPHINE SAHAYA RANI
Date: 2024.10.30 18:17:34 +05'30'

For Member Secretary,
Tamil Nadu Pollution Control Board,
Chennai

Consent Conditions Compliance Status - PENTA CTO Under Air Act for the period

Oct 24 – Mar 25

CONSENT ORDER NO. 2407262689206

PROCEEDINGS NO.T6/TNPCB/F.0020CUD/RL//CUD/A/2024 DATED: 30/10/2024

Special Condition

1. This consent to operate for Expansion is valid for operating the facility for the manufacture of products (Col. 2) at the rate (Col. 3) mentioned below. Any change in the products and its quantity has to be brought to the notice of the Board and fresh consent has to be obtained.

Product details

S.no	Description	Quantity permitted (MTPM)	Month	Quantity produced (MTPM)
1	Pentaerythritol (Powder & Solution Form)	930	October - 2024	729
2			November – 2024	665
3			December – 2024	812
4			January – 2025	845
5			February – 2025	720
6			March – 2025	674

S.no	Description	Quantity permitted (MTPM)	Month	Quantity produced (MTPM)
1	Formaldehyde	920	October - 2024	636
2			November – 2024	517
3			December – 2024	668
4			January – 2025	720
5			February – 2025	611
6			March – 2025	537

By product details

S.no	Description	Quantity permitted (MTPM)	Month	Quantity produced (MTPM)
1	Sodium Formate	651	October - 2024	478
2			November – 2024	425
3			December – 2024	499
4			January – 2025	526
5			February – 2025	460
6			March – 2025	430

S.no	Condition	Status																																												
2	<p>This consent to operate for Expansion is valid for operating the facility with the below mentioned emission/noise sources along with the control measures and/or stack. Any change in the emission source/control measures/change in stack height has to be brought to the notice of the Board and fresh consent/Amendment has to be obtained</p> <table><tr><th>I</th><th colspan="3">Point source emission with stack:</th></tr><tr><th>Stack No.</th><th>Point Emission Source</th><th>Air pollution Control measures</th><th>Stack height From Ground Level in m</th></tr><tr><td>1.</td><td>Sodium Formate Dryer-1 No</td><td>Wet scrubber with stack</td><td>18</td></tr><tr><td>2.</td><td>Mono Pentaerythritol Dryer -1 No</td><td>Wet scrubber with stack</td><td>12</td></tr><tr><td>3</td><td>Mono Pentaerythritol Dryer -1 No</td><td>Wet scrubber with stack</td><td>12</td></tr><tr><td>4</td><td>Di PE Dryer-1 No</td><td>Wet scrubber with stack</td><td>18</td></tr><tr><td>5</td><td>Fluidized Bed Dryer</td><td>Bag Filter, Dust Collector with stack</td><td>10.5</td></tr><tr><td>6</td><td>DG 500 KVA - 1 No</td><td>Acoustic enclosure with stack and retrofit emission control device</td><td>12</td></tr><tr><td>7</td><td>DG 600 KVA - 1 No</td><td>Acoustic enclosure with stack and retrofit emission control device</td><td>12</td></tr><tr><td>8</td><td>Five Effect Evaporator Ejector vent</td><td>Stack</td><td>13.8</td></tr><tr><td>9</td><td>Crude Vacuum Crystallizer</td><td>Stack</td><td>13.8</td></tr></table>	I	Point source emission with stack:			Stack No.	Point Emission Source	Air pollution Control measures	Stack height From Ground Level in m	1.	Sodium Formate Dryer-1 No	Wet scrubber with stack	18	2.	Mono Pentaerythritol Dryer -1 No	Wet scrubber with stack	12	3	Mono Pentaerythritol Dryer -1 No	Wet scrubber with stack	12	4	Di PE Dryer-1 No	Wet scrubber with stack	18	5	Fluidized Bed Dryer	Bag Filter, Dust Collector with stack	10.5	6	DG 500 KVA - 1 No	Acoustic enclosure with stack and retrofit emission control device	12	7	DG 600 KVA - 1 No	Acoustic enclosure with stack and retrofit emission control device	12	8	Five Effect Evaporator Ejector vent	Stack	13.8	9	Crude Vacuum Crystallizer	Stack	13.8	Agreed upon.
I	Point source emission with stack:																																													
Stack No.	Point Emission Source	Air pollution Control measures	Stack height From Ground Level in m																																											
1.	Sodium Formate Dryer-1 No	Wet scrubber with stack	18																																											
2.	Mono Pentaerythritol Dryer -1 No	Wet scrubber with stack	12																																											
3	Mono Pentaerythritol Dryer -1 No	Wet scrubber with stack	12																																											
4	Di PE Dryer-1 No	Wet scrubber with stack	18																																											
5	Fluidized Bed Dryer	Bag Filter, Dust Collector with stack	10.5																																											
6	DG 500 KVA - 1 No	Acoustic enclosure with stack and retrofit emission control device	12																																											
7	DG 600 KVA - 1 No	Acoustic enclosure with stack and retrofit emission control device	12																																											
8	Five Effect Evaporator Ejector vent	Stack	13.8																																											
9	Crude Vacuum Crystallizer	Stack	13.8																																											

		vent-1								
	10	Crude Vacuum Crystallizer vent-2	Stack	13.85						
	11	Double Effect Evaporator ejector vent	Stack	13.9						
	12	Sodium Formate Crystallizer ejector vent	Stack	15.3						
	13	Pure Vacuum Crystallizer ejector vent	Stack	13.8						
	14	Formaldehyde plant Distillation column eject vent	Stack	14.5						
	15	Tank No. T 148-1 vent	Stack	11.8						
	16	Tank No. T 148-2 vent	Stack	11.8						
	II Fugitive/Noise emission:									
	1.	VOC emissions	Fugitive	Tank vents Are connected to Fa blower Suction						
	2.	DG sets 500 kVA 1 no. & 600 kVA 1 no	Noise	Acoustic Enclosures						
3	A. The emission shall not contain constituents in excess of the tolerance limits as laid down hereunder: B. The Ambient Air in the industrial plant area shall not contain constituents in excess of the tolerance limits prescribed below. The Ambient Noise Level in the industrial plant area shall not exceed the limits prescribed below: <table><tr><th>Limits in L.eq.-dB(A)</th><th>Day Time</th><th>Night Time</th></tr><tr><td>Industrial Area</td><td>75</td><td>70</td></tr></table>			Limits in L.eq.-dB(A)	Day Time	Night Time	Industrial Area	75	70	i. Emissions are within the tolerance limit prescribed by M/s TNPCB. ROA is Enclosed as annexure 18.
Limits in L.eq.-dB(A)	Day Time	Night Time								
Industrial Area	75	70								
4	All units of the Air pollution control measures shall be operated efficiently and continuously so as to achieve the standards prescribed in Sl. No.3 above.			Air pollution control facilities in Driers located in Monopentaerythritol						

		Dipentaerythritol, Sodium Formate and Fluidized Bed Dryer are operated efficiently. Samples are collected, measured and monitored parameters are under the prescribed limit. ROA report is enclosed as Annexure 2
5	The occupier shall not change or alter quality or quantity or the rate of emission or replace or alter the air pollution control equipment or change the raw material or manufacturing process resulting in change in quality and/or quantity of emissions without the previous written permission of the Board.	Agreed upon
6	The occupier shall maintain log book regarding the stack monitoring system or operation of the plant or any other particulars for each of the unit operations of air pollution control systems to reflect the working condition which shall be furnished for verification of the Board officials during inspection	Complied We are maintaining log book for operation of air pollution control systems to monitoring the working condition and the same will be submit for verification during inspection.
7	The occupier shall at his own cost get the samples of emission/air/noise levels collected and analyzed by the TNPC Board Laboratory once in every 6 months/once in a year/periodically for the parameters as prescribed.	Complied. We pay to the TNPCB Board to conduct emission/air/noise levels from Monopentaerythritol, Dipentaerythritol, Sodium Formate and Fluidized Bed Dryer once in six months for the parameters as prescribed.
8	Any upset condition in any of the plants of the factory which is likely to result in increased emissions and result in violation of the standards mentioned in Sl.No.3 shall be reported to the Member Secretary / Joint Chief Environmental Engineer-Monitoring and the concerned District/Assistant Environmental Engineer of the Board by e-mail immediately and subsequently by Post with full details of such upset condition.	Agreed upon
9	The occupier shall always comply and carryout the order/directions issued by the Board in this Consent Order and from time to time without any negligence. The occupier shall be liable for action as per provisions of the Act in case of non compliance of any order/directions issued.	Agreed upon
	Special additional Conditions	
1	The unit shall obtain No Objection Certificate (NOC) from the Tamil Nadu Bio Diversity Board /National Bio Diversity Authority if the unit is using any Biological resources or	We are in notified industrial zone and hence No Objection Certificate

	knowledge associated thereto as per the provisions of Biological Diversity Act 2002.	(NOC) from Tamil Nadu Biodiversity Board is not applicable.
2	The industries shall take all efforts to use and popularize "Mission LIFE" logo and mascot which is available in TNPCB & MoEFCC website. They shall also request their employees to adopt "Mission LIFE" action points and document the same and furnish half yearly report to Board.	We have taken efforts to implement and popularise mission life logo and mascot which is available in TNPCB and MOEF&CC website. We have collected the details of activities, under mission life and the document furnished in the half yearly report to the Board (Enclosed as Annexure 23)
	Additional Conditions:	
1	The unit shall comply with the conditions stipulated in the Environmental Clearance obtained for expansion activity vide Letter No. SEIAA/TN/ F.6495/5(f)/ EC60/2018 Dated: 24.04.2018 obtained from SEIAA, Chennai and Environmental Clearance obtained for expansion activity vide Letter No. IA-J- 11011/283/2021-IA II(I) dated 28.11.2022 obtained from MOEF & CC, New Delhi at all times	Complied We are complying the conditions given in the Environmental Clearance obtained for expansion activity vide Letter No. SEIAA/TN/ F.6495/5(f)/ EC60/2018 Dated: 24.04.2018 obtained from SEIAA. (Enclosed as Annexure 24)
2	The unit shall obtain EC amendment from MOEF & CC, New Delhi with respect to their actual quantity of recycling of treated wastewater before applying CTO of the Board for full-fledged production	Agreed upon. Before applying CTO for full fledged production we will seek EC amendment.
3	The unit shall operate and maintain the Air Pollution Control measures efficiently and continuously so that the emission shall satisfy the Ambient Air Quality/Emission standards prescribed by the Board.	Complied Air Pollution Control measures are maintained, and it is running efficiently and continuously. The ambient air quality and emission standards are under the prescribed limit. ROA is Enclosed as annexure 2.
4	The unit shall adhere to the Ambient Air Quality/Stack Emission/ Ambient Noise Level standards prescribed by the Board.	Complied. Ambient air quality, Stack emission and ambient noise level are under the prescribed limit. ROA is Enclosed as annexure 2.
5	The unit shall conduct the Ambient Air Quality / Stack Emission / Fugitive Emission / Ambient TVOC / THC survey through MoEF approved Laboratory once in three months and furnish the report to the Board without fail	Complied. We are conducting AAQ/Stack emission/ Fugitive/TVOC, THC by

		MoEF approved Laboratory and furnishing to the board periodically. Report enclosed as annexure 25.
6	The unit shall continue to develop adequate green belt with thick canopy within the premises, so as to attenuate air and noise pollution and furnish the exact green belt area ear marked/developed as per norms in the unit premises and furnish photographs along with latitude and longitude co-ordinates	Complied. We planted 2062 nos of tree saplings in the FY 2024-25. Greenbelt area photographs along with latitude and longitude are furnished. Plantation details along with photographs enclosed as annexure 12.
7	The unit shall operate and maintain the Continuous Ambient Air Quality Monitoring Station (PM2.5, PM10, SO2, NOx) continuously and ensure the connectivity without any interruption with CARE AIR Centre, TNPC Board, Chennai.	Complied We operate and maintain Continuous Ambient Air Quality Monitoring Station (PM2.5, PM10, SO2, NOx) continuously and we ensure the connectivity without any interruption. Reports are enclosed as annexure 3.
8	The unit shall maintain the online sensors connected with Care Air Centre, Tamilnadu Pollution Control Board, Chennai and upload the data without any interruption	Complied We ensure the online sensors are connected with care air and the data's are uploading without any interruption. Care air graphs are enclosed as annexure 26.
9	The unit shall operate the plant without attracting complaints from the nearby public.	Agreed upon
10	This consent order does not absolve from obtaining necessary permission / clearance from other Authority or under other Statute as applicable.	Agreed upon Other necessary permission / clearance from other Authorities is obtained.
	GENERAL CONDITIONS	
1	The occupier shall make an application along with the prescribed consent fee for grant of renewal of consent at least 60 days before the date of expiry of this Consent Order along with all the required particulars ensuring that there is no change in production quantity and emission	Agreed upon
2	This Consent is given by the Board in consideration of the particulars given in the application. Any change or alteration or deviation made in actual practice from the particulars furnished, in the application will also be	Agreed upon

	ground for review/variation/revocation of the Consent Order under Section 21 of the Act.	
3	The conditions imposed shall continue in force until revoked under Section 21 of the Act	Agreed upon
4	After the issue of this order, all the 'Consent to Operate' orders issued previously under Air (Prevention and Control of Pollution) Act, 1981 as amended stands defunct.	Agreed upon
5	The occupier shall maintain an Inspection Register in the factory so that the inspecting officer shall record the details of the observations and instructions issued to the unit at the time of inspection for adherence	Complied. We are maintaining inspection register in our factory for recording the details of the observation and instruction issued during the time of inspection. Enclose as annexure 53.
6	The occupier shall provide and maintain an alternate power supply along with separate energy meter for the Air Pollution Control measures sufficient to ensure continuous operation of all pollution control equipments to ensure compliance	Complied. We are maintaining alternate power supply via Turbine & DG for continuous availability of power supply.
7	The occupier shall provide all facilities to the Board officials for collection of samples in and around the factory at any time.	Agreed upon
8	The applicant shall display the flow diagram of the sources of emission and pollution control systems provided at the site.	Complied. We displayed the Flow diagram of the source of emission and pollution control systems at our factory site. Photographs are enclosed as annexure 35.
9	The liquid effluent arising out of the operation of the air pollution control equipment shall also be treated in a manner and to the satisfaction of standards prescribed by the Board in accordance with the provisions of Water (Prevention and Control of Pollution) Act, 1974 as amended.	Complied. Liquid effluent arising out from operation of air pollution control equipment is again reused in the process and if required we also have treatment facilities in our ETP to treat the Liquid effluent.
10	The air pollution control equipments, location of inspection chambers and sampling port holes shall be made easily accessible at all time.	Agreed upon
11	In case of any episodal discharge of emission, the industry shall take immediate action to bring down the emission within the limits prescribed by the Board.	Agreed upon
12	If applicable, the occupier has to comply with the provisions of Public Liability Insurance Act, 1991 to provide immediate relief in the event of any hazard to	Complied. Public Liability Act policy enclosed as annexure 49.

	human beings, other living creatures/plants and properties while handling and storage of hazardous substances.	
	The issuance of this consent does not authorize or approve the construction of any physical structures or facilities or the undertaking of any work in any natural watercourse or in Government Poromboke lands.	Agreed upon
	The issuance of this Consent does not convey any property right in either real personal property or any exclusive privileges, nor does it authorize any injury to private property or Government property or any invasion of personal rights nor any infringement of Central, State laws or regulation.	Agreed upon
	The occupier shall forth with keep the Board informed of any accident of unforeseen act or event of any poisonous, noxious or polluting matter or emissions are being discharged into stream or well or air as a result of such discharge, water or air is being polluted.	Agreed upon
	If due to any technological improvements or otherwise the Board is of opinion that all or any of the conditions referred to above requires variation (including the change of any treatment system, either in whole or in part) the Board shall, after giving the applicant an opportunity of being heard, vary all or any of such conditions and thereupon the applicant shall be bound to comply with the conditions as so varied	Agreed upon
	In case there is any change in the constitution of the management, the occupier of the new management shall file fresh application under Air (Prevention and Control of Pollution) Act, 1981, as amended in Form-I alongwith relevant documents of change of management immediately and get the necessary amendment with renewal of consent order.	Agreed upon
	In case there is any change in the name of the company alone, the occupier shall inform the same with relevant documents immediately and get the necessary amendments for the change of name from the Board.	Agreed upon
	The occupier shall display this consent order granted to him in a prominent place for perusal of the inspecting Officers of this Board.	Complied. Granted consent order is displayed at our site for perusal for the inspecting officers from the board.

Consent Conditions Compliance Status - PENTA CTO Under Water Act for the period

Oct 24 – Mar 25

CONSENT ORDER NO. 2407162689206

PROCEEDINGS NO.T6/TNPCB/F.0020CUD/RL/CUD/W/2024 DATED: 30/10/2024.

1. This consent to operate for Expansion is valid for operating the facility for the manufacture of products (Col. 2) at the rate (Col. 3) mentioned below. Any change in the products and its quantity has to be brought to the notice of the Board and fresh consent has to be obtained.

Product details

S.no	Description	Quantity permitted (MTPM)	Month	Quantity produced (MTPM)
1	Pentaerythritol (Powder & Solution Form)	930	October - 2024	729
2			November – 2024	665
3			December – 2024	812
4			January – 2025	845
5			February – 2025	720
6			March – 2025	674

S.no	Description	Quantity permitted (MTPM)	Month	Quantity produced (MTPM)
1	Formaldehyde	920	October - 2024	636
2			November – 2024	517
3			December – 2024	668
4			January – 2025	720
5			February – 2025	611
6			March – 2025	537

By product details

S.no	Description	Quantity permitted (MTPM)	Month	Quantity produced (MTPM)
1	Sodium Formate	651	October - 2024	478
2			November – 2024	425
3			December – 2024	499
4			January – 2025	526
5			February – 2025	460
6			March – 2025	430

S.no	Special Condition	Compliance Status																																
2	<p>This consent to operate for Expansion is valid for operating the facility with the below mentioned permitted outlets for the discharge of sewage/trade effluent. Any change in the outlets and the quantity has to be brought to the notice of the Board and fresh consent has to be obtained.</p> <table><thead><tr><th>Outlet No.</th><th>Description of Outlet</th><th>Maximum daily discharge in KLD</th><th>Point of disposal</th></tr></thead><tbody><tr><td colspan="4">Effluent Type: Sewage</td></tr><tr><td>1.</td><td>Sewage</td><td>44.0</td><td>On land for gardening</td></tr><tr><td colspan="4">Effluent Type : Trade Effluent Nil</td></tr><tr><td>1.</td><td>Trade Effluent-I (RO Permeate)</td><td>145.0</td><td>Recycling to process</td></tr><tr><td>2.</td><td>Trade effluent II (MEE Condensate)</td><td>18.5</td><td>Recycling to process</td></tr><tr><td>3.</td><td>Trade effluent III (ATFD Condensate)</td><td>0.5</td><td>Recycling to process</td></tr><tr><td>4.</td><td>Trade effluent III (ATFD salt)</td><td>0.5</td><td>Evaporated in ATFD and converted to salt</td></tr></tbody></table>	Outlet No.	Description of Outlet	Maximum daily discharge in KLD	Point of disposal	Effluent Type: Sewage				1.	Sewage	44.0	On land for gardening	Effluent Type : Trade Effluent Nil				1.	Trade Effluent-I (RO Permeate)	145.0	Recycling to process	2.	Trade effluent II (MEE Condensate)	18.5	Recycling to process	3.	Trade effluent III (ATFD Condensate)	0.5	Recycling to process	4.	Trade effluent III (ATFD salt)	0.5	Evaporated in ATFD and converted to salt	Agreed upon
Outlet No.	Description of Outlet	Maximum daily discharge in KLD	Point of disposal																															
Effluent Type: Sewage																																		
1.	Sewage	44.0	On land for gardening																															
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3.	Trade effluent III (ATFD Condensate)	0.5	Recycling to process																															
4.	Trade effluent III (ATFD salt)	0.5	Evaporated in ATFD and converted to salt																															
3	<p>The effluent discharge shall not contain constituents in excess of the tolerance Limits as laid down hereunder.</p>	<p>Complied.</p> <p>We ensure effluent Treated water is under tolerance limit regularly through our internal lab report and periodically we conduct water sample analysis through TNPCB lab and MoEF&CC approved laboratory. TNPCB ROA report enclosed as annexure 29</p>																																
4	<p>All units of the sewage and Trade effluent treatment plants shall be operated efficiently and continuously so as to achieve the standards prescribed in Sl No.3 above or to achieve the zero liquid discharge of effluent as applicable.</p>	<p>Complied.</p> <p>We ensure sewage treatment plant and effluent treatment plant are operating efficiently and continuously. We analyse sewage water sample & effluent water sample through TNPCB lab and MoEF&CC approved lab. The analysed water sample</p>																																

		parameters are under the prescribed standards. ROA is enclosed as annexure 5.
5	The occupier shall maintain the Electro Magnetic Flow Meters/water Meters installed at the inlet of the water supply connection for each of the purposes mentioned below for assessing the quantity of water used and ensuring that such meters are easily accessible for inspection and maintenance and for other purposes of the Act. a. Industrial Cooling, Spraying in mine pits or boiler feed. b. Domestic purpose. c. Process.	Complied We have installed electromagnetic flow meter at the inlet of the water supply connection for each of the purposes of industrial cooling, Boiler feed, Domestic purposes and process for assessing the quantity of water used and ensuring that such meters are easily accessible for inspection and maintenance. Installed flow meter photos are enclosed as annexure 27.
6	The occupier shall maintain the Electro Magnetic Flow Meters with computer recording arrangement for measuring the quantity of effluent generated and treated for the monitoring purposes of the Act.	Complied. We maintain Electro Magnetic Flow Meters reading in computer and recorded to measure the quantity of effluent generated and treated. Records maintained in computer is enclosed as annexure 28.
7	Log book for each of the unit operations of ETP have to be maintained to reflect the working condition of ETP along with the readings of the Electro Magnetic Flow Meters installed to assess effluent quantity and the same shall be furnished for verification of the Board officials during inspection.	Complied We maintain logbook for ETP operations to record the Electro Magnetic Flow Meters to assess effluent quantity and the same is furnished for verification to the board officials during inspection.
8	The occupier shall at his own cost get the samples of effluent/surface water/ground water collected in and around the unit by Board officials and analyzed by the TNPC Board Laboratory periodically.	Complied. We analyse the Effluent water sample by TNPCB Board laboratory and MoEF&CC approved lab periodically and we ensure the results are within the prescribed limits. (ROA report is enclosed as annexure 29)
9	Any upset condition in any of the plants of the factory which is, likely to result in increased effluent discharge and result in violation of the standards mentioned in Sl. No.3 above shall be reported to the Member Secretary / Joint Chief Environmental Engineer-Monitoring and the concerned District/Assistant Environmental Engineer of the Board by e-mail immediately and subsequently by Post with full details of such upset condition.	Agreed upon

10	The occupier shall always comply and carryout the order/directions issued by the Board in this Consent Order and from time to time without any negligence. The occupier shall be liable for action as per provisions of the Act in case of non-compliance of any order/directions issued.	Complied. We are complying the order/directions issued by the board in the consent order time to time without any negligence.
11	The occupier shall develop adequate width of green belt at the rate of 400 numbers of trees per Hectare.	Complied. In 5.57 hectares of dedicated green belt, 2062 tree plantation for the year 2024 – 2025 has been done. Tree plantation details are enclosed as annexure 12.
12	The occupier shall provide and maintain rain water harvesting facilities.	Complied We are maintaining Rainwater harvesting facility inside our factory and the photos are enclosed annexure as 30.
13	The occupier shall ensure that there shall not be any discharge of effluent either treated or untreated into storm water drain at any point of time.	Complied. Dedicated storm water drain facility ensuring no discharge of treated or untreated effluent is happening into storm water drainage. Photographs are enclosed as annexure 09.
14	<p>In the case of zero liquid discharge of effluent units, the occupier shall adhere the following conditions as laid under.</p> <p>i). The occupier shall ensure zero liquid discharge of effluent, thereby no discharge of untreated / treated effluent on land or into any water bodies either inside or outside the premises at any point of time.</p> <p>ii) The occupier shall operate and maintain the Zero liquid discharge treatment components comprising of Primary, Secondary and tertiary treatment systems at all times and ensure that the RO permeate/Evaporator condensate shall be recycled in the process and the final RO reject shall be disposed off with the reject management system ensuring zero liquid discharge of effluents in the premises.</p> <p>iii) The occupier shall operate and maintain the reject management system effectively and recover the salt from the system which shall be reused in the process if reusable or shall be disposed off as ETP sludge.</p> <p>iv) In case of failure to achieve zero discharge of effluents for any reason, the occupier shall stop its</p>	<p>Complied.</p> <p>i. We have ZLD systems to treat our effluent and we ensure that there is no any discharge of untreated / treated effluent on land or into any water bodies either inside or outside the premises at any point of time. ZLD Photographs are enclosed annexure as 5.</p> <p>ii. We operate and maintain the Zero Liquid Discharge treatment components comprising of Primary, Secondary and tertiary treatment systems at all times.</p> <p>iii. RO permeate and Evaporator condensate is again reused for cooling tower makeup.</p> <p>The final RO reject water is treated by ZLD system following with Agitated thin film dryer as final product as salt. ATFD final reject salt will be stored at hazardous waste storage shed for disposal.</p> <p>We operate and maintain the reject management system effectively and recover the salt from the system. The</p>

	<p>production and operations forthwith and shall be reported to the Member Secretary/Joint Chief Environmental Engineer-Monitoring and the concerned District/Assistant Environmental Engineer of the Board by e-mail immediately and subsequently by Post with full details of such upset condition.</p> <p>v) The occupier shall restart the production only after ascertaining that the Zero discharge treatment system can perform effectively for achieving zero discharge of effluents.</p>	<p>recovered salt is stored at hazardous waste storage shed. ATFD salt will be disposed of once a beneficial use or a recycler who can utilize.</p> <p>iv. Agreed upon v. Agreed upon</p>
	Special Additional Conditions:	
1	The unit shall obtain No Objection Certificate (NOC) from the Tamil Nadu Bio Diversity Board/National Bio Diversity Authority if the unit is using any Biological resources or knowledge associated thereto as per the provisions of Biological Diversity Act 2002.	We are in notified industrial zone and hence No Objection Certificate (NOC) from Tamil Nadu Biodiversity Board is not applicable.
2	The industries shall take all efforts to use and popularize "Mission LiFE" logo and mascot which is available in TNPCB & MoEFCC website. They shall also request their employees to adopt "Mission LiFE" action points and document the same and furnish half yearly report to Board.	We have taken efforts to implement and popularise mission life logo and mascot which is available in TNPCB and MOEF&CC website. We have collected the details of activities, under mission life and the document furnished in the half yearly report to the Board (Enclosed as Annexure 23)
	Additional Conditions:	
1	The unit shall comply with the conditions stipulated in the Environmental Clearance obtained for expansion activity vide Letter No. SEIAA/TN/ F.6495/5(f)/ EC60/2018 Dated: 24.04.2018 obtained from SEIAA, Chennai and Environmental Clearance obtained for expansion activity vide Letter No. IA-J- 11011/283/2021-IA II(I) dated 28.11.2022 obtained from MOEF & CC, New Delhi at all times.	<p>Complied</p> <p>We are complying the conditions given in the Environmental Clearance obtained for expansion activity vide Letter No. SEIAA/TN/ F.6495/5(f)/ EC60/2018 Dated: 24.04.2018 obtained from SEIAA, (Enclosed as Annexure 24)</p>
2	The unit shall obtain EC amendment from MOEF & CC, New Delhi with respect to their actual quantity of recycling of treated wastewater before applying CTO of the Board for full-fledged production.	Agreed upon
3	The unit shall operate and maintain the Zero Liquid Discharge System for the treatment and disposal of trade effluent generated from the unit.	<p>Complied.</p> <p>We operate and maintain the Zero liquid discharge system for treatment of trade effluent generated from our unit. Photographs of ZLD system is enclosed annexure as 05.</p>

4	The unit shall operate and maintain the Sewage Treatment Plant for the treatment of the sewage generated and the treated sewage shall be utilized for green belt development/gardening purposes inside the premises	Complied We operate and maintain the Sewage treatment plant for the treatment of sewage and treated water is utilized for green belt development. Green belt development enclosed annexure as 12 & 6.
5	The unit shall operate and maintain the online pH and TDS meter provided in the storm water drains to ensure that no chemical contamination takes place during rains outside the premises at all the time.	Complied. We installed online Ph and TDS meter in the storm water drainage to ensure there is no chemical contamination taken place during rains outside the premises. Online pH and TDS meter installed photos are enclosed annexure as 09.
6	The industry shall maintain and regularly calibrate the online sensors provided for the effluent parameters so as to transmit quality data to the WQW of TNPCB, Chennai without interruption.	Complied. Calibration certificate for online sensors provided for the effluent parameters are maintained regularly and the Calibration certificate enclosed annexure as 31
7	The unit shall ensure that a rehearsal of the Offsite emergency plan is conducted at least once in calendar year.	Complied. Off-site emergency plan rehearsal will be conducted by district authorities. We are regularly following up with the authorities for conducting Off site emergency plan rehearsal.
W	All necessary precautions shall be taken to avoid accidents and action plan shall be prepared and implemented for avoiding accidents.	Complied. All the necessary precaution equipments are installed at site such as Alarms and sensors are at various area to avoid accidents. Action plan and mock drill reports are enclosed annexure as 13.
9	The unit shall prepare the onsite & offsite emergency plan as prescribed under the rules and guidelines issued in the Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) Rules, 1989 and the Chemical Accidents (Emergency Planning, Preparedness and Response) Rules, 1996 and obtain approval for the same from Directorate of Industrial Safety & Health (DISH)/ District Collector/competent authority	Complied. i. On site emergency plan enclosed annexure as 13. ii. Off site emergency plan rehearsal will be conducted by district authorities and we are regularly following up with the authorities for conducting Off site emergency plan rehearsal
10	The unit shall conduct mock drill and safety audit as per Manufacture, Storage and Import of	Complied.

	Hazardous Chemicals (MSIHC) Rules, 1989 by a reputed agency and submit quarterly compliance report to the Board	We conduct mock drill and safety audit periodically and the reports are enclosed annexure as 13&33.
11	The unit shall prepare and furnish proper flood management plan and monsoon preparedness plan to address the issues aroused during cyclones & floods.	Complied We have done proper monsoon preparedness plan to address the issues aroused during cyclones & floods. The reports are enclosed annexure as 34.
12	The unit shall phase out all underground tanks of raw material/product/oil etc.	Complied. We ensure all the underground raw material/product/oil tanks are phased out.
13	The unit shall provide adequate drainage system throughout the premises to avoid flooding	Complied. We have adequate drainage system throughout the premises to avoid flooding at monsoon. Photographs are enclosed annexure as 30.
14	The unit shall furnish the details of activities done through 'Corporate Social Responsibility' along with the amount spent and evidences every year.	Complied. We have done Drinking water pipeline supply project to Karaikadu village, Desilting project for Annavalli Thangal and Sedapalayam Canal linking, and Desilting project for Ramannakulam, Anukampattu Pond under Corporate Social Responsibility. Activities and amount spent for the CSR is enclosed as annexure 19.
15	The unit shall not increase the production without the valid consent of the Board.	Agreed upon
16	In case of revision of consent fee by the Government, the unit shall remit the difference in amount within one month from the date of notification. Failing to remit the consent fee, this consent order will be withdrawn without any notice and further action will be initiated against the unit as per law	Agreed upon
17	The unit shall not use 'use and throwaway plastic' such as plastic sheets used for food wrapping, spreading on dining table etc., plastic plates, plastic coated tea cups, plastic tumbler, water pouches and packets, plastic straw, plastic carry bag and plastic flags irrespective of thickness, within the industry premises. Instead unit shall encourage use of eco friendly alternative such as banana leaf, arecanut palm plate, stainless steel, glass, porcelain plates / cups, cloth bag, jute bag etc.	Complied. Eco-friendly alternatives such as banana leaf, areca nut palm plate, stainless steel, glass, porcelain plates / cups, cloth bag, jute bag etc has been educated to the employees and followed in our industry through our mission life activity.
18	The unit shall operate the plant without attracting complaints from the nearby public.	Agreed upon

	GENERAL CONDITIONS	
1	The occupier shall make an application along with the prescribed consent fee for grant of renewal of consent at least 60 days before the date of expiry of this Consent Order along with all the required particulars ensuring that there is no change in Production quantity and change in sewage/Trade effluent.	Agreed upon
2	This Consent is issued by the Board in consideration of the particulars given in the application. Any change or alteration or deviation made in actual practice from the particulars furnished in the application will also be ground for review/variation/revocation of the Consent Order under Section 27 of the Act and to make such variation as deemed fit for the purpose of the Act.	Agreed upon
3	The consent conditions imposed in this order shall continue in force until revoked under Section 27(2) of the Act.	Agreed upon
4	After the issue of this order, all the 'Consent to Operate' orders issued previously under Water (Prevention and Control of Pollution) Act, 1974 as amended stands defunct.	Agreed upon
5	The occupier shall maintain an Inspection Register in the factory so that the inspecting officer shall record the details of the observations and instructions issued to the unit at the time of inspection for adherence.	Complied. We are maintaining inspection register in our factory for recording the details of the observation and instruction issued during inspection. Enclose as annexure 53.
6	The occupier shall provide and maintain an alternate power supply along with separate energy meter for the Effluent Treatment Plant sufficient to ensure continuous operation of all pollution control equipments to maintain compliance.	Complied We have alternate power supply along with separate energy meter to ensure continuous operation of all pollution control equipments to maintain compliance.
7	The occupier shall provide all facilities to the Board officials for inspection and collection of samples in and around the factory at any time.	Agreed upon
8	The occupier shall display the flow diagram of the sources of effluent generation and pollution control systems provided at the ETP site	Complied All the flow diagram of the sources of effluent generation and pollution control systems provided at our ETP site. Photos are enclosed as annexure 35.
9	The solid waste such as sweepings, wastage, package, empty containers, residues, sludge including that from air pollution control equipments collected within the premises of the industrial plant shall be collected in an	Complied. Solid waste such as sweepings, wastage and package that are from air pollution control equipments is collected and reused in process.

	earmarked area and shall be disposed off properly.	Empty containers, residues and sludge is disposed to authorised hazardous waste facilities.
10	The occupier shall collect, treat the solid wastes like food waste, green waste generated from the canteen and convert into organic compost.	Complied We collect food waste & green waste generated from canteen is converted into organic compost as a manure. Photos are enclosed as annexure 36.
11	The occupier shall segregate the Hazardous waste from other solid wastes and comply in accordance with Hazardous Wastes (Management, Handling and Transboundary Movement) Rules, 2008.	Complied. We segregate hazardous waste and solid waste at the source level and dispose it as per Hazardous Wastes (Management, Handling and Transboundary Movement) Rules, 2008.
12	The occupier shall maintain good house-keeping within the factory premises.	Complied We are maintaining good house keeping practices within the factory premises. Photos are enclosed annexure as 37.
13	All pipes, valves, sewers and drains shall be leak proof. Floor washings shall be admitted into the trade effluent collection system only and shall not be allowed to find their way in storm drains or open areas.	Complied. Floor washings are connected with trade effluent collection system and it is treated in ETP. We ensure that the floor washing water will not contaminate into the storm water drains.
14	The occupier shall ensure that there shall not be any diversion or by-pass of trade effluent on land or into any water sources.	Complied. We ensure that there is no any diversion or by-pass of trade effluent on land or into any water sources.
15	The occupier shall ensure that solar Evaporation pans shall be constructed in such a way that the bottom of the solar pan is at least 1 m above the Ground level (if applicable).	Complied We have constructed solar Evaporation pans bottom 1 m above the Ground level. Solar pan photos are enclosed annexure as 38)
16	The occupier shall furnish the following returns in the prescribed formats to the concerned District office regularly. a) Monthly water consumption returns of each of the purposes with water meter readings in Form-I on or before 5th of every month. b) Yearly return on Hazardous wastes generated and accumulated for the period from 1st April to 31 st March in Form-4 before the end of the subsequent 30th June of every year (if applicable).	Complied. a. Monthly water consumption returns form 1 is submitted before 5th of every month. b. Yearly return on Hazardous wastes generated and accumulated for the period from 1st April to 31st March in Form-4 is submitted before the end of 30th June of every year.

	c) Yearly Environmental Statement for the period from 1st April to 31st March in Form –V before the end of the subsequent 30th September of every year(if applicable).	
17	If applicable, the occupier has to comply with the provisions of Public Liability Insurance Act, 1991 to provide immediate relief in the event of any hazard to human beings, other living creatures/plants and properties while handling and storage of hazardous substances.	Complied. We are complying with the provisions of Public Liability Insurance Act, 1991. Enclosed as annexure 49.
18	The issuance of this consent does not authorize or approve the construction of any physical structures or facilities or the undertaking of any work in any natural watercourse or in Government Poromboke lands.	Agreed upon
19	The issuance of this Consent does not convey any property right in either real personal property or any exclusive privileges, nor does it authorize any injury to private property or Government property or any invasion of personal rights nor any infringement of Central, State laws or regulation.	Agreed upon
20	The occupier shall forth with keep the Board informed of any accident of unforeseen act or event of any poisonous, noxious or polluting matter or emissions are being discharged into stream or well or air as a result of such discharge, water or air is being polluted.	Agreed upon
21	If due to any technological improvements or otherwise the Board is of opinion that all or any of the conditions referred to above requires variation (including the change of any treatment system, either in whole or in part) the Board shall, after giving the applicant an opportunity of being heard, vary all or any of such conditions and thereupon the applicant shall be bound to comply with the conditions as so varied.	Agreed upon
22	In case there is any change in the constitution of the management, the occupier of the new management shall file fresh application under Water (Prevention and Control of Pollution) Act, 1974, as amended in Form-II along with relevant documents of change of management immediately and get the necessary amendment with renewal of consent order.	Agreed upon
23	In case there is any change in the name of the company alone, the occupier shall inform the same with relevant documents immediately and get the necessary amendments for the change of name from the Board.	Agreed upon

24	The occupier shall display this consent order granted to him in a prominent place for perusal of the inspecting Officers of this Board.	Complied. Granted consent order is displayed at our site for perusal of the inspecting Officers of this Board.
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Category of the Industry :

RED



CONSENT ORDER NO. 2408256877875 DATED: 29/04/2024.

PROCEEDINGS NO.T2/TNPCB/F.0388CUD/RL/CUD/A/2024 DATED: 29/04/2024

SUB: Tamil Nadu Pollution Control Board - RENEWAL OF CONSENT –M/s. ASIAN PAINTS LIMITED (CAPTIVE POWER PLANT) , S.F.No. 129 & 137, KUDIKADU village, Cuddalore Taluk and Cuddalore District - Renewal of Consent for the operation of the plant and discharge of emissions under Section 21 of the Air (Prevention and Control of Pollution) Act, 1981 as amended in 1987 (Central Act 14 of 1981) –Issued- Reg.

REF: 1. Application no. 56877875 dated: 01.04.2024 for Renewal of Consent.
2. IR.No : F.0388CUD/RL/JCEE-M/CUD/2024 dated 03/04/2024

RENEWAL OF CONSENT is hereby granted under Section 21 of the Air (Prevention and Control of Pollution) Act, 1981 as amended in 1987 (Central Act 14 of 1981) (hereinafter referred to as “The Act”) and the rules and orders made there under to

The Factory Manager
M/s . ASIAN PAINTS LIMITED (CAPTIVE POWER PLANT)
S.F No. 129 & 137
KUDIKADU Village
Cuddalore Taluk
Cuddalore District.

Authorizing the occupier to operate the industrial plant in the Air Pollution Control Area as notified by the Government and to make discharge of emission from the stacks/chimneys.

This is subject to the provisions of the Act, the rules and the orders made there under and the terms and conditions incorporated under the Special and General conditions stipulated in the Consent Order issued earlier and subject to the special conditions annexed.

This RENEWAL OF CONSENT is valid for the period ending **March 31, 2027**

Digitally signed by S
RAJAN
Date: 2024.04.29
18:15:52 +05'30'
S RAJAN
For Member Secretary,
Tamil Nadu Pollution Control Board,
Chennai

SPECIAL CONDITIONS

1. This renewal of consent is valid for operating the facility for the manufacture of products (Col. 2) at the rate (Col. 3) mentioned below. Any change in the products and its quantity has to be brought to the notice of the Board and fresh consent has to be obtained.

Sl. No.	Description	Quantity	Unit
Product Details			
1.	Steam	16	MT/hour
2.	Captive Power	1.5	MW/hour
By-Product Details			
1.	Nil	0.0	
Intermediate Product Details			
1.	Nil	0.0	

2. This renewal of consent is valid for operating the facility with the below mentioned emission/noise sources along with the control measures and/or stack. Any change in the emission source/control measures/change in stack height has to be brought to the notice of the Board and fresh consent/Amendment has to be obtained.

I	Point source emission with stack :			
Stack No.	Point Emission Source	Air pollution Control measures	Stack height from Ground Level in m	Gaseous Discharge in Nm ³ /hr
1	16 TPH Boiler	Multiclone separators and bag filters followed by Stack	42	26400
2	14 TPH Boiler	Multiclone separators and bag filters followed by Stack	50	28500
3	Coal Crusher	Bag Filters with stack	5	15000
II	Fugitive/Noise emission :			
Sl. No.	Fugitive or Noise Emission sources	Type of emission	Control measures	
1.	Fly Ash Silo	Fugitive	Bag Filter	
2.	Coal Conveyor	Fugitive	Covered conveyors are used	

Special Additional Conditions:

The unit shall obtain No Objection Certificate (NOC) from the Tamil Nadu Bio Diversity Board /National Bio Diversity Authority if the unit is using any Biological resources or knowledge associated thereto as per the provisions of Biological Diversity Act 2002.

The industries shall take all efforts to use and popularize "Mission LiFE" logo and mascot which is available in TNPCB & MoEFCC website. They shall also request their employees to adopt "Mission LiFE" action points and document the same and furnish half yearly report to Board.

Additional Conditions:

1. The unit shall conduct the Ambient Air Quality/Stack Emission/Ambient TVOC survey through Board's Lab and furnish the RoA report to the Board within three months.
2. The unit shall operate and maintain the Air Pollution Control measures efficiently and continuously so as to achieve the National Ambient Air Quality/Emissions standards prescribed by the MoEF & CC.
3. The unit shall achieve the ambient noise level standards prescribed by the Board.
4. The unit shall conduct the Ambient Air Quality/Stack Emission/Fugitive Emission/Ambient TVOC survey through MoEF approved Laboratory once in three months and furnish the report to the Board
5. The unit shall continue to develop more green belt in and around the premises.
6. The unit shall calibrate and maintain the online continuous emission monitoring system once in six months and upload quality data to CAC, Tamil Nadu Pollution Control Board, and Chennai without any interruption.
7. The unit shall dispose the Ash generated from the Boiler to the cement industries/fly ash brick manufacturers then and there without accumulation, and to comply with all the provision of the fly ash notification 1999 as amended.
8. The unit shall complete all the works as per the time line furnished vide their letter dated 30.03.2023
9. The Unit shall operate and maintain the following measures for control of fugitive emission.
Coal handling plant:
 - a. To store the coal in a complete closed shed to reduce the emission due to wind.
 - b. Totally enclosed coal conveyors to prevent wind erosion.
 - c. Dust extraction systems at various dust emanating sources such as coal crusher, coal bunker, ash silo and all transfer points.
 - d. Water sprinklers at various places in coal handling areas for wetting of coal.
 - e. Coal movement inside the plant by covered coal conveyors only.
 - f. Black topped roads inside the plant to prevent dust emission due to vehicular movement.
 Ash handling plant:
 - a. Dust collectors at various places such as Electro Static Precipitators, Air pre heater, Economizers, etc.
 - b. The total dust collection system should be a closed one to prevent exposure of fly ash to atmosphere.
 - c. The dry fly ash loading system for ash silos to load the closed vehicle for transportation to beneficial users.
10. The unit shall liable to pay the consent fee and shall remit the difference in amount in case of any revision of consent fee by the Government.
11. The unit shall submit Environmental Statement for the financial year ending the 31st March in form-V as per the Rule 14 of the Environment (Protection) Rules, 1986.
12. The unit's activity shall not attract any complaint from the nearby public.
13. This consent order does not absolve from obtaining necessary permission/clearance from other Authority or under other statues as applicable.

Digitally signed by S
S RAJAN
 RAJAN
 Date: 2024.04.29
 18:20:06 +05'30'
For Member Secretary,
Tamil Nadu Pollution Control Board,
Chennai

To
 The Factory Manager,
 M/s. ASIAN PAINTS LIMITED (CAPTIVE POWER PLANT),
 6-A Shanthi Nagar, Opp to Hotel Grand Hyatt, Santacruz(E), PO Box No.6818 Mumbai
 Pin: 400055

Copy to:

1. The Commissioner, CUDDALORE-Panchayat Union, Cuddalore Taluk, Cuddalore District .
2. The District Environmental Engineer, Tamil Nadu Pollution Control Board, CUDDALORE.
3. The JCEE-Monitoring, Tamil Nadu Pollution Control Board, Cuddalore.
4. File

Category of the Industry :

RED



CONSENT ORDER NO. 2408156877875 DATED: 29/04/2024.

PROCEEDINGS NO.T2/TNPCB/F.0388CUD/RL/CUD/W/2024 DATED: 29/04/2024

SUB: Tamil Nadu Pollution Control Board - RENEWAL OF CONSENT – M/s. ASIAN PAINTS LIMITED (CAPTIVE POWER PLANT) , S.F.No. 129 & 137, KUDIKADU village, Cuddalore Taluk and Cuddalore District - Renewal of Consent for the operation of the plant and discharge of sewage and/or trade effluent under Section 25 of the Water (Prevention and Control of Pollution) Act, 1974 as amended in 1988 (Central Act 6 of 1974) – Issued- Reg.

REF: 1. Application no. 56877875 dated: 01.04.2024 for Renewal of Consent.
2. IR.No : F.0388CUD/RL/JCEE-M/CUD/2024 dated 03/04/2024

RENEWAL OF CONSENT is hereby granted under Section 25 of the Water (Prevention and Control of Pollution) Act, 1974 as amended in 1988 (Central Act, 6 of 1974) (hereinafter referred to as “The Act”) and the rules and orders made there under to

The Factory Manager
M/s . ASIAN PAINTS LIMITED (CAPTIVE POWER PLANT)
S.F No. 129 & 137
KUDIKADU Village
Cuddalore Taluk
Cuddalore District.

Authorising the occupier to make discharge of sewage and /or trade effluent.

This is subject to the provisions of the Act, the rules and the orders made there under and the terms and conditions incorporated under the Special and General conditions stipulated in the Consent Order issued earlier and subject to the special conditions annexed.

This RENEWAL OF CONSENT is valid for the period ending **March 31, 2027**

S RAJAN

Digitally signed by S RAJAN
Date: 2024.04.29 18:20:48
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**For Member Secretary,
Tamil Nadu Pollution Control Board,
Chennai**

SPECIAL CONDITIONS

1. This renewal of consent is valid for operating the facility for the manufacture of products/byproducts (Col. 2) at the rate (Col 3) mentioned below. Any change in the product/byproduct and its quantity has to be brought to the notice of the Board and fresh consent has to be obtained.

Sl. No.	Description	Quantity	Unit
Product Details			
1.	Steam	16	MT/hour
2.	Captive Power	1.5	MW/hour
By-Product Details			
1.	Nil	0.0	
Intermediate Product Details			
1.	Nil	0.0	

2. This renewal of consent is valid for operating the facility with the below mentioned outlets for the discharge of sewage/trade effluent. Any change in the outlets and the quantity has to be brought to the notice of the Board and fresh consent has to be obtained.

Outlet No.	Description of Outlet	Maximum daily discharge in KLD	Point of disposal
Effluent Type : Sewage			
1.	Sewage	1.0	Treated in Penta division STP
Effluent Type : Trade Effluent			
1.	Trade effluent	1.0	Treated in Penta division ETP system

Special Additional Conditions:

The unit shall obtain No Objection Certificate (NOC) from the Tamil Nadu Bio Diversity Board /National Bio Diversity Authority if the unit is using any Biological resources or knowledge associated thereto as per the provisions of Biological Diversity Act 2002.

The industries shall take all efforts to use and popularize "Mission LiFE" logo and mascot which is available in TNPCB & MoEFCC website. They shall also request their employees to adopt "Mission LiFE" action points and document the same and furnish half yearly report to Board.

Additional Conditions:

1. The unit shall operate and maintain the Sewage Treatment Plant provided in the main plant (M/s. Asian Paints Limited - Penta Division) efficiently and continuously so as to bring the quality of the treated sewage to satisfy the standards prescribed by the Board.
2. The unit shall operate and maintain the Effluent Treatment Plant with Zero Liquid Discharge System provided in the main plant (M/s. Asian Paints Limited - Penta Division) efficiently and continuously so as to satisfy the standards prescribed by the Board.
3. The industry shall maintain and calibrate regularly the online effluent monitors to transmit quality data to WQW, TNPCB, Chennai.
4. The unit shall to maintain the EMFM with computer recording arrangements provided in the Zero Liquid Discharge plant and furnish the data to the Board.
5. The unit shall ensure to maintain the online pH and TDS meter provided in the storm water drains so to ensure that no chemical contamination takes place during rains outside the premises.
6. The unit shall maintain the rain water harvesting facility for all the buildings so as to recharge the ground water
7. The unit shall dispose the boiler ash then and there without accumulation for further beneficial use.
8. The bio degradable solid waste, non-bio degradable solid waste generated from screening process, STP sludge, etc generated from the project activity shall be properly collected, segregated and disposed as per the provision of Solid waste (Management and Handling) Rules, 2016
9. The unit shall not use 'use and throwaway plastic' such as plastic sheets used for food wrapping, spreading on dining table etc., plastic plates, plastic coated tea cups, plastic tumbler, water pouches and packets, plastic straw, plastic carry bag and plastic flags irrespective of thickness, within the industry premises. Instead unit shall encourage use of eco friendly alternative such as banana leaf, arecanut palm plate, stainless steel, glass, porcelain plates / cups, cloth bag, jute bag etc.
10. The unit shall comply with the notifications issued by CPCB from time to time for water consumption, effluent standards and coal / Ash handling.
11. The unit shall operate and maintain the EMFM with computer recorder arrangement provided at inlet and outlet of ETP & maintain log book to monitor the quantity of trade effluent generation and trade effluent utilization.
12. The unit shall ensure the connectivity of online monitors for the effluent parameters flow, pH, BOD, COD and TSS provided at ETP out let with Care Air Centre Of TNPCB, Guindy , Chennai and provide proper data at all times.
13. The unit's activity shall not attract any complaint from the nearby public.
14. The unit shall liable to pay the consent fee and shall remit the difference in amount in case of any revision of consent fee by the Government.
15. The unit shall submit Environmental Statement for the financial year ending the 31st March in form-V as per the Rule 14 of the Environment (Protection) Rules, 1986.
16. This consent order does not absolve from obtaining necessary permission/clearance from other Authority or under other statues as applicable.

Digitally signed by S
S RAJAN RAJAN
 Date: 2024.04.29
 18:21:17 +05'30'
For Member Secretary,
Tamil Nadu Pollution Control Board,
Chennai

To
 The Factory Manager,
 M/s. ASIAN PAINTS LIMITED (CAPTIVE POWER PLANT),
 6-A Shanthi Nagar, Opp to Hotel Grand Hyatt, Santacruz(E), PO Box No.6818 Mumbai
 Pin: 400055

Copy to:

1. The Commissioner, CUDDALORE-Panchayat Union, Cuddalore Taluk, Cuddalore District .
2. The District Environmental Engineer, Tamil Nadu Pollution Control Board, CUDDALORE.
3. The JCEE-Monitoring, Tamil Nadu Pollution Control Board, Cuddalore.
4. File

**Compliance report on the latest Consent to Operate order conditions stipulated under
Air & Water Acts issued to the unit.**

**M/s. Asian Paints Limited (Captive Power plant)
AIR ACT for the period Oct 2024 to March 2025**

Consent Order No. 2408256877875 Dated: 29/04/2024.

Proceedings No. T2/TNPCB/F.0388CUD/RL/CUD/A/2024 Dated: 29/04/2024.

SPECIAL ADDITIONAL CONDITIONS

S.No.	Condition	Compliance
1.	The unit shall obtain No Objection Certificate (NOC) from the Tamil Nadu Biodiversity Board /National Biodiversity Authority if the unit is using any Biological resources or knowledge associated thereto as per the provisions of Biological Diversity Act 2002.	We are in notified industrial zone and hence No Objection Certificate (NOC) from Tamil Nadu Biodiversity Board is not applicable.
2.	The industries shall take all efforts to use and popularize "Mission Life" logo and mascot which is available in TNPCB and MOEFCC website. They shall also request their employees to adopt "Mission Life" action points and document the same and furnish of yearly report to board.	We have maximised efforts to use and popularise "Mission Life" logo and mascot. With the help of employees we have adopted many "Mission Life" action points efforts undertaken under "Mission Life" action points (Enclosed as Annexure 23)

ADDITIONAL CONDITIONS

S.No.	Condition	Compliance
1.	The unit shall conduct the ambient air quality stack emission/ambient TVOC survey through board's lab and furnish the ROA report to the board within 3 months.	Complied. We conduct ambient air quality/stack emission/ambient TVOC survey periodically through boards lab and the same will be furnish to the Board.
2.	The unit shall operate and maintain air pollution control measures efficiently and continuously to achieve the national ambient air quality/emissions standards prescribed by the MOEF and CC.	Complied. We operate and maintain air pollution control measures efficiently and continuously. National ambient air quality emission standards prescribed by the MOEF&CC are achieved by

**Compliance report on the latest Consent to Operate order conditions stipulated under
Air & Water Acts issued to the unit.**

		monitoring the air quality through continuous ambient air quality monitoring station.
3.	The unit shall achieve the ambient noise level standards prescribed by the board	Complied. Ambient noise level is monitored periodically, and the values are within the prescribed standards. Reports are enclosed as annexure 18
4.	the unit shall conduct the ambient air quality/ stack emission/ fugitive emission/ ambient tvoc survey through moef approved laboratory once in 3 months and furnish the report to the board.	Complied Once in three months we are conducting AAQ/Stack emission/ Fugitive/TVOC, THC by MoEF approved Laboratory. Reports are enclosed as annexure 25.
5.	The unit shall continue to develop more green belt in and around the premises.	Complied. Tree plantation for the FY 2024-25 – 2062 nos. Green belt area photographs along with latitude and longitude are furnished. Plantation details along with photographs enclosed as annexure 12
6.	The unit shall calibrate and maintain the online continuous emission monitoring system once in 6 months and upload quality data to CAC Tamil Nadu pollution Control Board Chennai without any interruption.	Complied. We calibrate and maintain the online continuous emission monitoring system once in 6 months and we upload quality data to CAC TNPCB without any interruption. Calibration certificate enclosed as annexure 32.
7.	The unit shall dispose the ash generated from the boiler to the cement industries/ fly ash brick manufacturers then and there without accumulation, and to comply with all the provisions of the fly ash notification 1999 as amended	Complied. We dispose the fly ash generated from the boiler to the fly ash brick manufacturers then and there without accumulation. March 2025 closing stock of fly ash is zero. March month updation of Fly ash portal screenshot enclosed as annexure 39.

Compliance report on the latest Consent to Operate order conditions stipulated under Air & Water Acts issued to the unit.

8.	the unit shall complete all the works as per the timeline furnished vide letter dated 30.3.2023.	We have completed all the works as per the letter dated 30.3.2023. Diffused aerator, Filter Press, Screw press is commissioned and it is operational.
9.	<p>The unit shall operate and maintain the following measures for control of fugitive emission</p> <p>coal handling plant:</p> <ol style="list-style-type: none"> To store the coal in Complete closed shed to reduce the emission due to wind. Totally enclosed coal conveyors to prevent wind erosion. Dust extraction systems at various dust emanating sources such as coal crusher, coal bunker, ash silo and all transfer points. Water sprinklers at various places in coal handling areas for wetting of coal. Coal movement inside the plant by covered coal conveyors only. Black tarred roads inside the plant to prevent dust emission due to vehicular movement. <p>Ash handling plant</p> <ol style="list-style-type: none"> Dust collectors at various places such as electrostatic precipitators, air preheater, economizers etc. The total dust collection system should be a closed one to prevent exposure of fly ash to atmosphere the dry fly ash loading system for ash silos to load the closed vehicle for transportation to beneficial users. 	<p>Coal handling plant</p> <ol style="list-style-type: none"> Coal is stored in completely closed shed to reduce the emission due to wind. Totally enclosed coal conveyors are provided to prevent wind erosion. Dust extraction system is available in coal crusher area Water sprinklers horn provided for wetting of coal. Coal movement inside the plant is made through covered coal conveyors. Cement roads and black tarred roads are provided within the plant to prevent dust emission due to vehicular movement. <p>Ash handling plant.</p> <ol style="list-style-type: none"> Cyclone separators, bag filters are provided at various places for dust collection. Total flyash transport from the boiler is made through pneumatic conveyors to prevent exposure of fly ash to atmosphere. Vehicles are ensured that they are closed for transportation through tarpaulin. <p>Enclosed as annexure 40</p>
10.	The unit shall liable to pay the consent fee and shall remit the difference in amount in case of	Agreed upon.

Compliance report on the latest Consent to Operate order conditions stipulated under Air & Water Acts issued to the unit.

	any revision of consent fee by the government.	
11.	The unit shall submit environmental statement for the financial year ending the 31st March in Form- V as per the rule 14 of the Environment (Protection) rules, 1986.	Complied. Environmental statement Form V will be submitted as per the rule 14 of the Environment (Protection) rules, 1986.
12.	The unit's activity shall not attract any complaint from the nearby public	Agreed upon
13.	this consent order does not absolve from obtaining necessary permission/clearance from other authority or under other statutes as applicable.	Agreed upon

M/s. Asian Paints Limited (Captive Power plant)
WATER ACT for the period Oct 24 to March 25

Consent Order No. 2408256877875 Dated: 29/04/2024.

Proceedings No. T2/TNPCB/F.0388CUD/RL/CUD/A/2024 Dated: 29/04/2024.

SPECIAL ADDITIONAL CONDITIONS

S.No.	Condition	Compliance
1	The unit shall obtain No Objection Certificate (NOC) from the Tamil Nadu Biodiversity Board /National Biodiversity Authority if the unit is using any biological resources or knowledge associated thereto as per the provisions of Biological Diversity Act 2002.	Complied. We are in notified industrial zone and hence No Objection Certificate (NOC) from Tamil Nadu Biodiversity Board is not applicable.
2	The industries shall take all efforts to use and popularise "Mission Life" logo and mascot which is available in TNPCB and MOEFCC website. They shall also request their employees to adopt "Mission Life" action points and document the same and furnish half yearly report to board.	Complied. We have maximised efforts to use and popularise "Mission Life" logo and mascot. With the help of employees we have adopted many "Mission Life" action points efforts undertaken under "Mission Life" action points. Reports are enclosed as Annexure 23.

ADDITIONAL CONDITIONS

Compliance report on the latest Consent to Operate order conditions stipulated under Air & Water Acts issued to the unit.

S.No.	Condition	Compliance
1.	The unit shall operate and maintain the Sewage Treatment Plant provided in the main plant (M/s. Asian Paints Limited - Penta Division) efficiently and continuously so as to bring the quality of the treated sewage to satisfy the standards prescribed by the Board.	Complied. STP is well maintained and operated efficiently. Quality of STP water is satisfying the standards prescribed by the Board. ROA report is enclosed as Annexure 41.
2.	The unit shall operate and maintain the Effluent Treatment Plant with Zero Liquid Discharge System provided in the main plant (M/s. Asian Paints Limited - Penta Division) efficiently and continuously so as to satisfy the standards prescribed by the Board.	Complied. We operate and maintain the ETP with Zero Liquid Discharge system efficiently and continuously so as to satisfy the standards prescribed by the Board. ZLD System photos is enclosed as Annexure 5.
3.	The industry shall maintain and regularly calibrate the online effluent monitors to transmit quality data to WQW, TNPCB, Chennai.	Complied. We maintain and regularly calibrate the online monitors to transmit quality data to WQW, TNPCB, Chennai. Calibration certificate are enclosed as Annexure 31
4.	The unit shall to maintain the EMFM with computer recording arrangements provided in the Zero Liquid Discharge plant and furnish the data to the Board.	Complied. EMFM readings are recorded in the computer and it is maintained. The data's are enclosed as Annexure 28
5.	The unit shall ensure to maintain the online pH and TDS meter provided in the storm water drains so to ensure that no chemical contamination takes place during rains outside the premises.	Complied. Online pH and TDS meter is connected in storm water drain and monitored to enusre that no chemical contamination is taking place. Photos are enclosed as Annexure 9.
6.	The unit shall maintain the rainwater harvesting facility for all the buildings so as to recharge the ground water	Complied. We maintain rainwater harvesting facility for all the building to recharge the ground water. Photos are enclosed as

**Compliance report on the latest Consent to Operate order conditions stipulated under
Air & Water Acts issued to the unit.**

		Annexure 9.
7.	The unit shall dispose the boiler ash then and there without accumulation for further beneficial use.	Complied. We dispose the boiler ash then and there without accumulation for further beneficial use. FY 24-25 March month closing stock is zero. March month fly ash portal screenshot enclosed as annexure 39.
8.	The biodegradable solid waste, non-biodegradable solid waste generated from screening process, STP sludge, etc. generated from the project activity shall be properly collected, segregated and disposed as per the provision of Solid waste (Management and Handling) Rules, 2016	Complied. The bio-degradable wastes are processed, dried and used as manure within the site (Enclosed as annexure 36). non-biodegradable solid waste generated from screening process, STP sludge, etc. generated from the project activity shall be properly collected, segregated and disposed as per the provision of Solid waste (Management and Handling) Rules, 2016 to authorized recyclers.
9.	The unit shall not use “use and throwaway plastics” such as plastic sheets used for food wrapping, spreading on dining table etc., plastic plates, plastic coated teacups, plastic tumbler, water pouches and packets, plastic straw, plastic carry bag and plastic flags irrespective of thickness, within the industry premises. Instead, unit shall encourage use of eco-friendly alternative such as banana leaf, are canut palm plate, stainless steel, glass, porcelain plates/cups, cloth bag, jute bag.	Complied. We do not “use and throwaway plastic”. Banana leaf, Arecanut palm plate, stainless steel, glass porcelain plates/cups, cloth bag, jute bag will be used where it is applicable.
10.	The unit shall comply with the notifications issued by CPCB from time to time for water consumption, effluent standards and coal / Ash handling.	Agreed to Comply.
11.	The unit shall operate and maintain the EMFM with computer recorder arrangement provided at	Complied. We operate and maintain the

**Compliance report on the latest Consent to Operate order conditions stipulated under
Air & Water Acts issued to the unit.**

	the inlet and outlet of ETP & maintain logbook to monitor the quantity of trade effluent generation and trade effluent utilization.	EMFM with computer recorder arrangement provided at the inlet and outlet of ETP & maintain logbook to monitor the quantity of trade effluent generation and trade effluent utilization. (Enclosed as annexure 38)
12.	The unit shall ensure the connectivity of online monitors for the effluent parameters flow, pH, BOD, COD and TSS provided at ETP outlet with Care Air Centre Of TNPCB, Guindy, Chennai and provide proper data at all times.	STP is well maintained and operated efficiently. The Treated Sewage Characteristics satisfies the standards prescribed by the TNPCB Board. ROA reports are enclosed as annexure 41.
13.	The unit's activity shall not attract any complaint from the nearby public.	Agreed to Comply
14.	The unit shall be liable to pay the consent fee and shall remit the difference in amount in case of any revision of consent fee by the Government.	Agreed upon.
15.	The unit shall submit Environmental Statement for the financial year ending the 31st March in Form-V as per the Rule 14 of the Environment (Protection) Rules, 1986.	We submit Environmental Statement for the financial year ending 31 st March in Form-V as per the Rule 14 of the Environment (Protection) Rules, 1986.
16.	This consent order does not absolve from obtaining necessary permission/clearance from other Authority or under other statues as applicable.	Agreed upon.

Annexure 2

TNPCB ROA STACK ANALYSIS REPORT



TAMIL NADU POLLUTION CONTROL BOARD
ADVANCED ENVIRONMENTAL LABORATORY, CUDDALORE.
AMBIENT AIR QUALITY SURVEY – REPORT OF ANALYSIS.

- | | |
|--|---|
| 1. Name of the Industry | M/s. Asian Paints Ltd,
(Captive Power Plant) |
| 2. Address of the Industry | Sipcot Industrial Complex,
Cuddalore – 5. |
| 3. Category / Classification | Red – Large. |
| 4. Land use classification | Industrial. |
| 5. Date of Survey | 30.07.2024 to 31.07.2024 |
| 6. Duration of Survey | 24 Hours. |
| 7. Renewal Consent order No / Validity | : 2408256877875/ 31.03.2027. |

Meteorological Conditions.

Ambient Temperature (°C)	Min 24	Max 32	Relative Humidity(%)	Min 68	Max 78
Weather condition	Clear Sky		Rain Fall (mm)	Nil	
Predominant Wind Direction	SW - NE		Mean Wind Speed (Km/hr.)	7.6	

Ambient Air Quality Survey Results

Sl. No	Location	Direction *	Distance (m)*	Height from GL (m)	Pollutants Concentration (µg/m ³) (24 Hours Average)			
					PM ₁₀	PM _{2.5}	SO ₂	NO ₂
1	On top of the Scaffolding near II Main Gate	NE	220	2	78	38	28	33
2	On top of the Scaffolding near Eastern side Compound wall	E	210	2	74	-	26	31
3	On top of the Scaffolding near Ash silo plant	SE	212	2	68	-	24	29
4	On top of the Scaffolding near Cold Storage yard	SW	200	2	56	27	22	27
5	On top of the Scaffolding near EB yard	NW	200	2	64	-	20	25
6	On top of the Scaffolding near Lawn	W	205	2	59	-	18	23

Note: * With respect to major emission sources.

ES/1012

Chief Scientific Officer,
TNPCC/AEL/CUDDALORE



TAMIL NADU POLLUTION CONTROL BOARD
ADVANCED ENVIRONMENTAL LABORATORY, CUDDALORE.
AMBIENT AIR QUALITY SURVEY

1. Name and address of the Industry : M/s. Asian Paints Ltd,
(Captive Power Plant).
2. Date of Survey : 30.07.2024 to 31.07.2024
3. Predominant Wind Direction : SW - NE
4. Weather Condition : Clear Sky

Station V

On top of the Scaffolding near
EB yard (NW)

PM₁₀ 64 µg/m³
SO₂ 20 µg/m³
NO₂ 25 µg/m³

Station I

On top of the Scaffolding near
- II Main Gate. (NE)

PM₁₀ 78 µg/m³
PM_{2.5} 38 µg/m³
SO₂ 28 µg/m³
NO₂ 33 µg/m³

Station VI

On top of the Scaffolding in
Lawn (W)

PM₁₀ 59 µg/m³
SO₂ 18 µg/m³
NO₂ 23 µg/m³

SOURCE

Station II

On top of the Scaffolding near
Eastern side Compound wall
(E)

PM₁₀ 74 µg/m³
SO₂ 26 µg/m³
NO₂ 31 µg/m³

Station IV

On top of the Scaffolding near
Cold Storage yard (SW)

PM₁₀ 56 µg/m³
PM_{2.5} 27 µg/m³
SO₂ 22 µg/m³
NO₂ 27 µg/m³

Station III

On top of the Scaffolding
near Ash silo plant (SE)

PM₁₀ 68 µg/m³
SO₂ 24 µg/m³
NO₂ 29 µg/m³

Meteorological Conditions

Predominant wind direction	NE - SW
Wind Speed	7.6
Weather condition	Clear Sky
Rain fall	Nil

[Signature]
ES

[Signature]
10/10/24
Chief Scientific Officer,
TNPCL/AEL/CUDDALORE



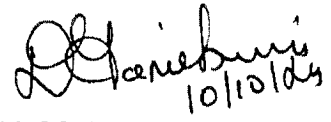
TAMIL NADU POLLUTION CONTROL BOARD

Report of Analysis.

1. Name of the Industry : M/s. Asian Paints Ltd,
(Captive Power Plant)
2. Address of the Industry : B-5 To B – 10 Sipcot Industrial Complex,
Cuddalore – 5.
3. Date of Survey : 30.07.2024 to 31.07.2024
- Stack Monitoring Survey Results**

Sl. No	Stack attached to		Stack Temp °K	Flue Gas Velocity in (m/Sec)	Gas Discharge Rate in (Nm ³ /hr)	Pollutants (mg/Nm ³)		
						PM	SO ₂	NO _x
1	Boiler – 16 T/hr Fuel : Coal APC : Stack		413	15.04	44162	50	56	120
2	Coal Crusher Fuel : Coal APC : Bag Filter		315	11.16	4774	60	12	21


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10/10/24
Chief Scientific Officer,
TNPCB/AEL/CUDDALORE



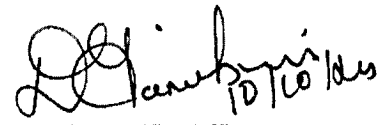
TAMIL NADU POLLUTION CONTROL BOARD

1. Name of the Industry : M/s. Asian Paints Ltd,
(Captive Power Plant)
2. Address of the Industry : B-5 To B – 10 Sipcot Industrial Complex,
Kudikadu, Cuddalore – 5.
3. Date of Survey : 30.07.2024 to 31.07.2024
4. Type of Industry : Chemical

Stack Monitoring Additional Particulars

Sl.No	Details of Stack mentioned in Consent order	Details of Stack available and in working conditions	Details of Stack for which Stack emission sampling have been done
1	Boiler – 16 T/hr	Working	Boiler – 16 T/hr
2	Coal Crusher	Working	Coal Crusher


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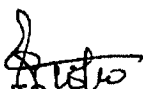

Chief Scientific Officer,
TNPCB/AEL/CUDDALORE

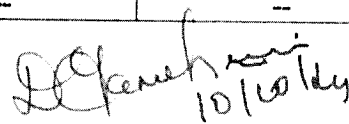


TAMIL NADU POLLUTION CONTROL BOARD
General & Stack Details – During the day of survey

1. Name of the Industry : M/s. Asian Paints Ltd,
(Captive Power Plant)
2. Address of the Industry : B-5 To B – 10 Sipcot Industrial Complex,
Cuddalore – 5.
3. Date of Survey : 30.07.2024 to 31.07.2024

Sl. No	Particulars		1	2
1	Stack attached to		Boiler 16T/Hr	Coal Crusher
2	Details of process stack		--	--
3	Height from G Level in (m)		42	5.0
4	Diameter. or C Sec in (m)		1.2	0.4
5	Port hole height from Ground Level in (m)		14	3.2
6	Fuel Used (with % Sulphur content)		Coal	Power
7	Fuel Consumption rate per day (mention units)		83 MT	--
8	Boiler type and capacity		16T/Hr	--
9	APC measures provided		Bag Filter	Bag Filter
10	APC functional status		Working	Working
11	Compo sition of flue gas	CO %	-	-
		CO ₂ %	-	-
		O ₂ %	-	-
12	Ambient temp. in °K		303	305
13	Temp. of flue gas in °K		413	315
14	Velocity of flue gas in m/sec		15.04	11.16
15	Volume of flue gas sampled in m ³		1.008	1.020
16	Gaseous Discharge rate per day in Nm ³ / hr		44162	4774
17	Combustion efficiency (%)		--	--


ES


10/10/24
Chief Scientific Officer,
TNPCB/AEL/CUDDALORE



TAMIL NADU POLLUTION CONTROL BOARD
Report of Analysis.

1	Name of the Industry		M/s. Asian Paints Ltd, (Captive Power Plant)	
2	Address of the Industry		B-5 To B-10 Sipcot Industrial Complex, Cuddalore – 5.	
3	Date of Survey		30.07.2024	
Category		R-L	Land use Classification	Industrial
Type of Survey		Ambient	Time of Survey	Day
Meteorological conditions			Calm	

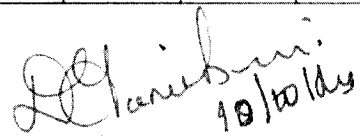
Logging Parameters

Instrument Used	CASELLA No: 5007321			
Logging Interval	10 Minutes	at each point	Measuring Range 50 – 110 dBA	
Weighting	"A"		Time Weighting	FAST
Sound Incidence	Frontal		Time in hrs.	11.30 – 13.15 Hrs

Report of Noise Level Monitoring

Sl. No.	Location	Duration (min)	Distance (m)	Direction	Sound Level – dB(A)		
					Leq	Min	Max
1	Near Northern side Compound wall	10	100	N	60.5	54.1	70.2
2	Near North East side Compound wall	10	210	NE	62.4	56.2	70.8
3	Near Eastern side Compound wall	10	220	E	63.5	48.9	72.1
4	Near ETP	10	290	SE	58.4	45.2	68.4
5	Near Southern side Compound wall	10	150	S	60.1	52.1	71.1
6	Near Old gate	10	200	SW	64.2	56.9	72.8


ES


Chief Scientific Officer,
TNPCB/AEL/CUDDALORE



TAMIL NADU POLLUTION CONTROL BOARD

1. Name of the Industry : M/s. Asian Paints Ltd,
(Captive Power Plant)
2. Address of the Industry : B-5 To B – 10, Sipcot Industrial Complex,
Cuddalore – 5.
3. Date of Survey : 30.07.2024 to 31.07.2024

STATUS OF POLLUTANTS LEVEL

I Ambient Air Quality

1 Total number of Air quality Stations Monitored : 6

2 Number of AAQ stations in which Pollutants : Nil
level exceeded the Board Standards

Maximum and Minimum values of Pollutants level observed


Sl no	Pollutant	Valus in microgram/m ³		Board standard (As per the consent order)
		Minimum	Maximum	
1	Particulate Matter (PM ₁₀)	56	78	100
2	Particulate Matter (PM _{2.5})	27	38	60
3	Gaseous pollutants			
	(I) SO ₂	18	28	80
	(II) NO ₂	23	33	80

II Stack Monitoring

1. Total Number of Stacks Monitored : 2

2. Number of Stacks in which Pollutants : Nil
level exceeded the Board Standards


ES


15/10/24
Chief Scientific Officer,
TNPCB/AEL/CUDDALORE



TAMIL NADU POLLUTION CONTROL BOARD
ADVANCED ENVIRONMENTAL LABORATORY, CUDDALORE.

AMBIENT AIR QUALITY SURVEY – REPORT OF ANALYSIS.

1. Name of the Industry : M/s. Asian Paints Ltd,
(Penta Division)
2. Address of the Industry : Sipcot Industrial Complex,
Cuddalore – 5.
3. Category / Classification : Red – Large.
4. Land use classification : Industrial.
5. Date of Survey : 29.07.2024 to 30.07.2024
6. Duration of Survey : 24 Hours.
7. Renewal Consent order No / : 2408256807535/ 31.3.2026
Validity


Meteorological Conditions.

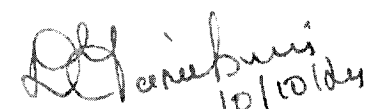
Ambient Temperature (°C)	Min 25	Max 32	Relative Humidity(%)	Min 70	Max 85
Weather condition	Clear		Rain Fall (mm)	Nil	
Predominant Wind Direction	SW - NE		Mean Wind Speed (Km/hr.)	7.2	

Ambient Air Quality Survey Results

Sl. No	Location	Direction *	Distance (m)*	Height from GL (m)	Pollutants Concentration (µg/m ³) (24 Hours Average)			
					PM ₁₀	PM _{2.5}	SO ₂	NO ₂
1	On top of the Scaffolding near North East side Compound wall	NE	200	2	85	36	30	36
2	On top of the Scaffolding near Eastern side Compound wall	E	270	2	72	-	26	31
3	On top of the Scaffolding near ETP	SE	210	2	66	-	23	28
4	On top of the Scaffolding near Old gate	SW	200	2	60	25	19	23

Note:* With respect to major emission sources.


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10/10/24
Chief Scientific Officer,
AEL, TNPCB, Cuddalore.

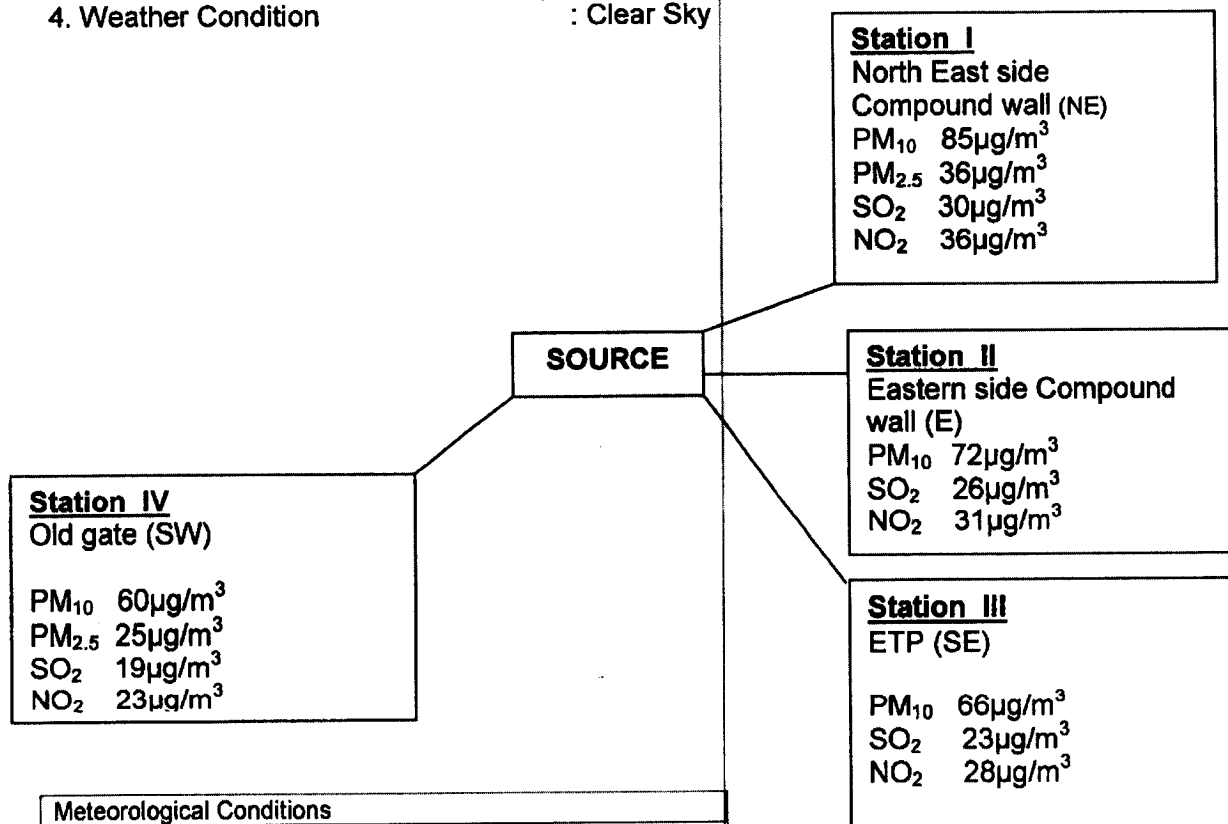
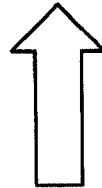


TAMIL NADU POLLUTION CONTROL BOARD
ADVANCED ENVIRONMENTAL LABORATORY, CUDDALORE.
AMBIENT AIR QUALITY SURVEY

Schematic Diagram Showing Location of Sampling

1. Name and address of the Industry : Ms. Asian Paints Ltd,
(Penta Division)
SIPCOT Industrial Complex,
Kudikadu, Cuddalore 607 005.
2. Date of Survey : 29.07.2024 to 30.07.2024
3. Predominant Wind Direction : SW - NE
4. Weather Condition : Clear Sky

N



Meteorological Conditions	
Predominant wind direction	SW - NE
Wind Speed (km/hr)	7.2
Weather condition	Clear Sky
Rain fall(mm)	Nil

ES

10/10/24
Chief Scientific Officer,
AEL, TNPCB, Cuddalore.



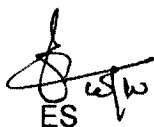
TAMIL NADU POLLUTION CONTROL BOARD
ADVANCED ENVIRONMENTAL LABORATORY, CUDDALORE.

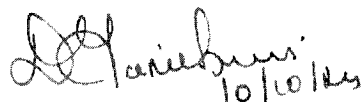
STACK MONITORING SURVEY – Report of Analysis.

1. Name of the Industry : M/s. Asian Paints – (Penta Division)
2. Address of the Industry : B-5 To B – 10 Sipcot Industrial Complex,
Cuddalore – 5.
3. Date of Survey : 29.07.2024 to 30.07.2024

Stack Monitoring Survey Results

Sl. No	Stack attached to	Stack Temp °K	Flue Gas Velocity in (m/Sec)	Gas Discharge Rate in (Nm ³ /hr)	Pollutants (mg/Nm ³)		
					PM	SO ₂	NO _x
1	Sodium Format dryer – Wet scrubber outlet Fuel : Nil	321	14.66	382	47.3	-	-
2	Mono Pentaerithritol dryer – Wet scrubber outlet Fuel : Nil	324	15.38	1599	56.0	-	-
3	Di Pentaerithritol dryer – Wet scrubber outlet Fuel : Nil	323	14.70	2392	47.0	-	-
4	Fluid Bed dryer – Bag filter outlet Fuel : Nil	341	15.78	4771	57.1	-	-
5	DG set I - 500 KVA Fuel : Diesel APC : Stack	549	22.01	2107	60	40	730
6	DG set I - 600 KVA Fuel : Diesel APC : Stack	483	19.17	2086	55.0	42	713


ES


Chief Scientific Officer,
AEL, TNPCB, Cuddalore.



TAMIL NADU POLLUTION CONTROL BOARD
ADVANCED ENVIRONMENTAL LABORATORY, CUDDALORE.

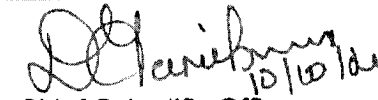
STACK MONITORING SURVEY – Additional Results

1. Name of the Industry : M/s. Asian Paints Ltd, (Penta Division)
2. Address of the Industry : B-5 To B – 10 Sippcot Industrial Complex,
Kudikadu, Cuddalore – 5.
3. Date of Survey : 29.07.2024 to 30.07.2024
4. Type of Industry : Chemical

Stack Monitoring Additional Particulars

Sl. No	Details of Stack mentioned in Consent order	Details of Stack available and in working conditions	Details of Stack for which Stack emission sampling have been done
1	DG set I - 600 KVA	working	DG set I - 600 KVA
2	DG set II - 500 KVA	Working	DG set I - 500 KVA
3	DG Set – 365 KVA-I	Not Working	-
4	DG Set – 365 KVA-II	Not Working	-
5	Sodium Formate dryer – Wet scrubber outlet	working	Sodium Formate dryer – Wet scrubber outlet
6	Mono Pentaerithritol dryer – Wet scrubber outlet	working	Mono Pentaerithritol dryer – Wet scrubber outlet
7	Di Pentaerithritol dryer – Wet scrubber outlet	working	Di Pentaerithritol dryer – Wet scrubber outlet
8	Fluid Bed dryer – Bag filter outlet	working	Fluid Bed dryer – Bag filter outlet


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10/10/24
Chief Scientific Officer,
AEL, TNPCB, Cuddalore



TAMIL NADU POLLUTION CONTROL BOARD
ADVANCED ENVIRONMENTAL LABORATORY, CUDDALORE.

TOTAL VOLATILE ORGANIC COMPOUNDS – Report of Analysis.

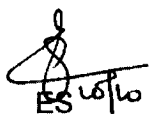
1	Name of the Industry	M/s. Asian Paints Ltd, (Penta Division)	
2	Address of the Industry	B-5 To B-10 Sipcot Industrial Complex, Cuddalore – 5.	
3	Date of Survey	29.07.2024 to 30.07.2024	
	Category	R-L	Land use Classification
	Type of Survey	Ambient	Time of Survey
	Meteorological conditions	Calm	Day

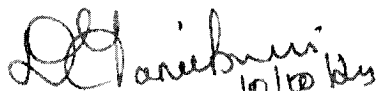
Logging Parameters

Instrument used	Phocheck Tiger
Serial No	T – 106428
Time in hours	16.00 hrs

Report of Total Volatile Organic Compounds

Sl. No.	Location	Distance (m)	TVOC (ppm)
1	Near Formaldehyde Plant	70	3.214
2	Near Caustic Storage Tank	50	2.330
3	Near Scrap Yard	60	2.360
4	Near ETP area	80	2.514
5	Inside the formaldehyde plant	10	4.120
6	Near old Gate	120	3.129
7	Eastern Compound Wall	200	2.609
8	North East Compound wall	210	2.541
9	ETP admin area	240	3.702
10	EB yard	200	4.321


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10/10/24
Chief Scientific Officer,
AEL, TNPCB, Cuddalore



TAMIL NADU POLLUTION CONTROL BOARD
ADVANCED ENVIRONMENTAL LABORATORY, CUDDALORE.

AMBIENT/SOURCE NOISE LEVEL SURVEY – Report of Analysis.

1	Name of the Industry	M/s. Asian Paints Ltd, (Penta Division)		
2	Address of the Industry	B-5 To B-10 Sipcot Industrial Complex, Cuddalore – 5.		
3	Date of Survey	29.07.2024 to 30.07.2024		
Category		R-L	Land use Classification	Industrial
Type of Survey		Ambient	Time of Survey	Day
Meteorological conditions			Calm	

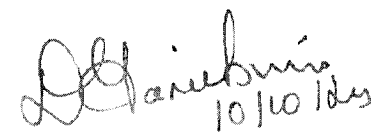
Logging Parameters

Instrument Used	CASELLA No: 5007321			
Logging Interval	10 Minutes at each point	Measuring Range 50 – 110 dBA		
Weighting	"A"	Time Weighting	FAST	
Sound Incidence	Frontal	Time in hrs.	11.30 – 12.45 Hrs	

Report of Noise Level Monitoring

Sl. No.	Location	Duration (min)	Distance (m)	Direction	Sound Level – dB(A)		
					Leq	Min	Max
1	Near Northern side Compound wall	10	100	N	59.8	51.9	70.4
2	Near North East side Compound wall	10	210	NE	65.1	53.8	83.4
3	Near Eastern side Compound wall	10	200	E	59.5	50.9	73.2
4	Near ETP	10	240	SE	68.4	56.2	85.4
5	Near Southern side Compound wall	10	150	S	58.1	50.1	65.7


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10/10/24
Chief Scientific Officer,
AEL, TNPCB, Cuddalore



TAMIL NADU POLLUTION CONTROL BOARD
ADVANCED ENVIRONMENTAL LABORATORY, CUDDALORE.

1. Name of the industry : M/s. Asian Paints Ltd, (Penta Division)
2. Pollution Category : Chemical
3. Date of AAQ Survey : 29.07.2024 to 30.07.2024
4. Predominant wind Direction : SW - NE
5. Weather Conditions : Clear Sky

STATUS OF POLLUTANTS LEVEL

I Ambient Air Quality

1. Total number of Air quality Stations Monitored : 6
2. Number of AAQ stations in which Pollutants level exceeded the Board Standards : Nil

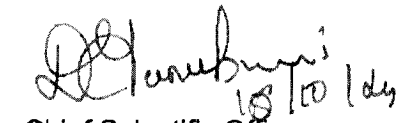
Maximum and Minimum values of Pollutants level observed

Sl no	Pollutant	Valus in microgram/m ³		Board standard (As per the consent order)
		Minimum	Maximum	
1	Particulate Matter (PM _{2.5})	25	36	60
2	Particulate Matter (PM ₁₀)	60	85	100
3	Gaseous pollutants			
	1. SO ₂	19	30	80
	2. NO ₂	23	36	80

II Stack Monitoring

1. Total Number of Stacks Monitored : 6
2. Number of Stacks in which Pollutants level exceeded the Board Standards : Nil


ES


18/10/24
Chief Scientific Officer,
AEL, TNPCB, Cuddalore



SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT



TC-6118

ULR - TC611825000005253F
Report No : QEN250129017-10

Page 1 of 1
Report Date : 01 Feb 2025

Customer Name : M/s. Asian Paints Limited. (Penta Division)
Customer Address : B5-B10, SIPCOT Industrial Complex, Kudikadu, Cuddalore-607005.
Sample Name : Ambient Noise Level Monitoring
Sample Description : Ambient Noise Level Monitoring
Reference : Test Request Form Dated 27.01.2025
Sample Drawn By : Laboratory
Sample Procedure : IS 9989
Sampling Date : 28 Jan 2025
Sample Received on : 29 Jan 2025
Test Started on : 29 Jan 2025
Test Completed on : 01 Feb 2025

TEST RESULTS

Sl. No	Location	Noise Level dB (A)	CPCB Standards (Industrial Area) For Noise in Leq dB (A)
		Day Time	Day Limit
1	Near Northern Side Compound Wall	64.7	75 dB (A)
2	Near East Side Compound Wall	73.8	
3	Near North East Side Compound Wall	58.2	
4	Near ETP	73.5	
5	Near Southern Side Compound Wall	56.2	
6	Near Main Gate	60.3	
7	Near Western Side Compound Wall	58.0	
8	Near Vehicle Shed	55.5	
9	Near Old Gate	53.1	
10	Near South East Compound Wall	55.6	

Conclusion : The above tested Sample Conforms to the CPCB Standards for the above tested Locations.

/***** End of the Report *****/

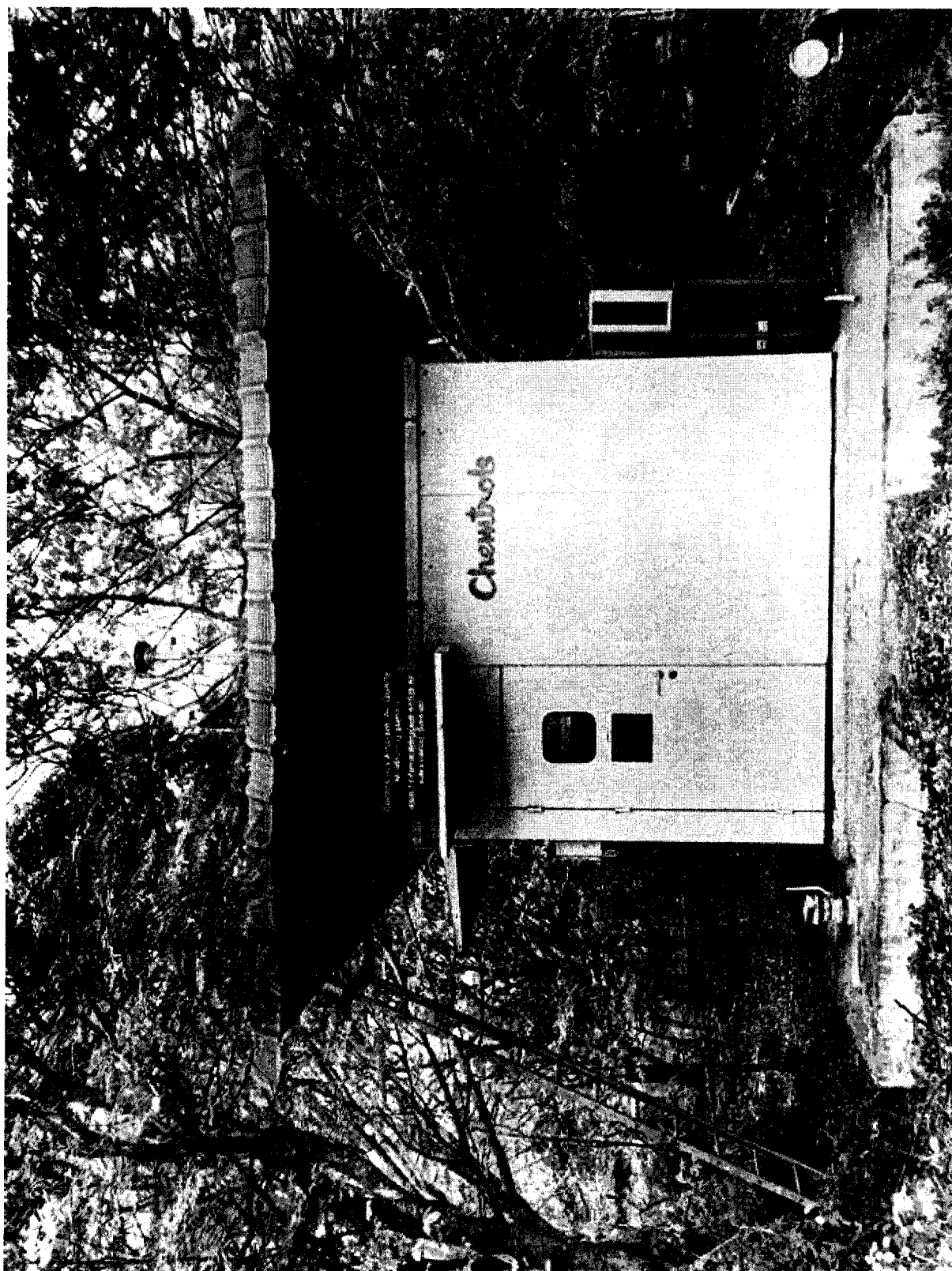
M. Sarathkumar
Authorized Signatory-Chemical

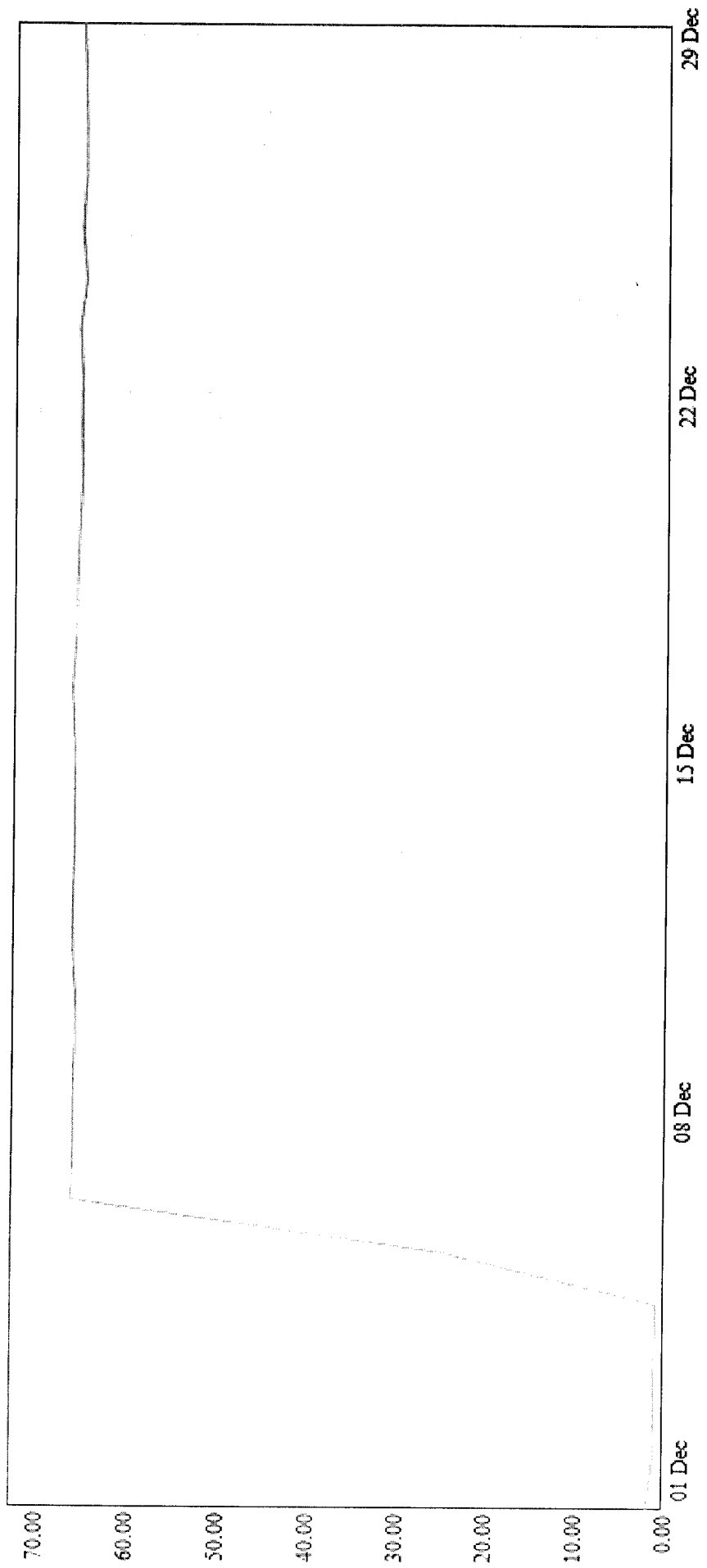
Laboratory Address: 39/6, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124.

Note: Test results relate only to the items tested. Test Report shall not be reproduced in full or part without the approval of SMS Labs. Non-Perishable remnant samples will be disposed 15 days from the date of receipt unless otherwise agreed with the customer except in case of regulatory samples, which will be retained for a specific period as per regulatory requirements; while perishable and environmental remnant samples will be disposed consequently upon completion of testing. Samples are not drawn by laboratory unless or otherwise stated. A satisfactory test report in no way implies that a product so tested is approved by NABL. The Laboratory accepts no liability with regard to the origin or source from which the sample(s) is/ are said to be extracted.

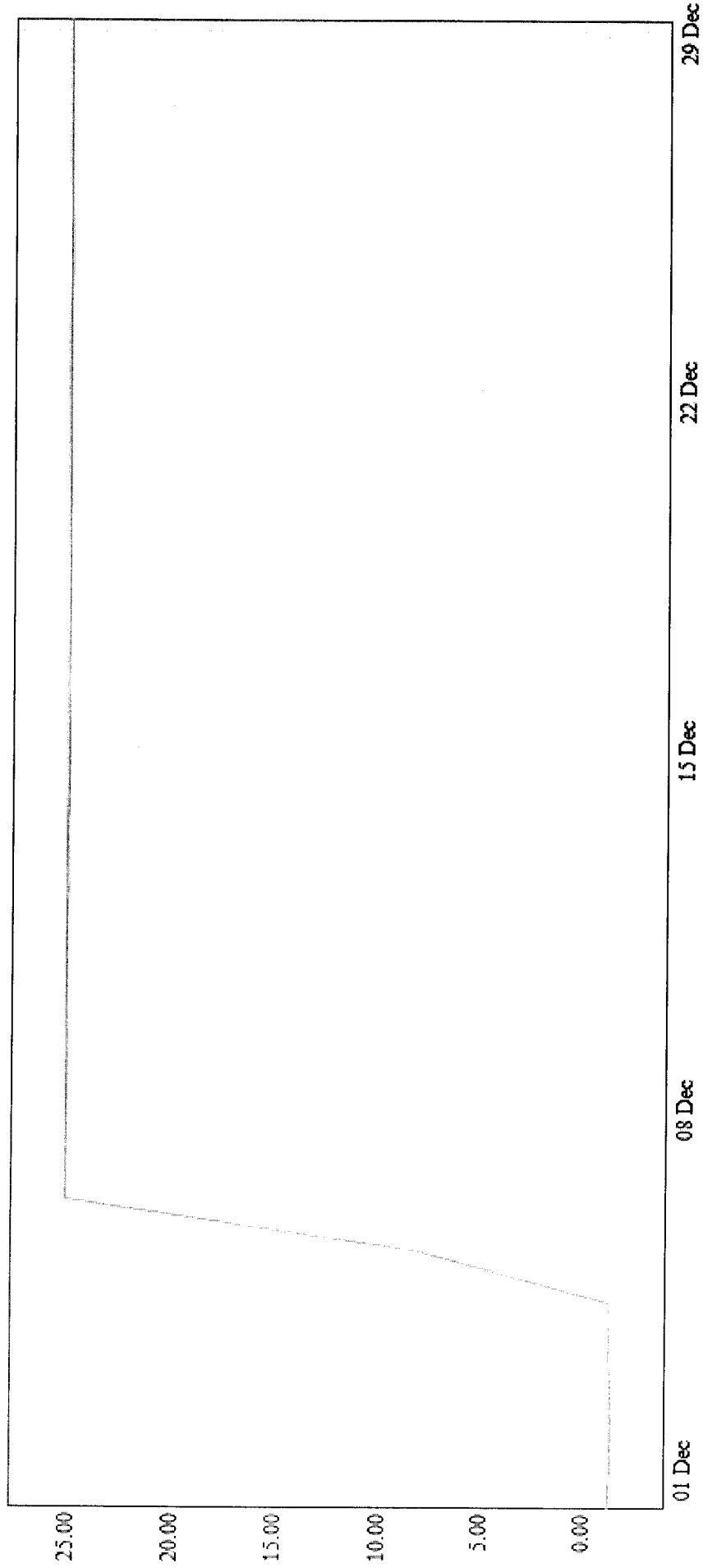
Annexure 3

CAAQMS

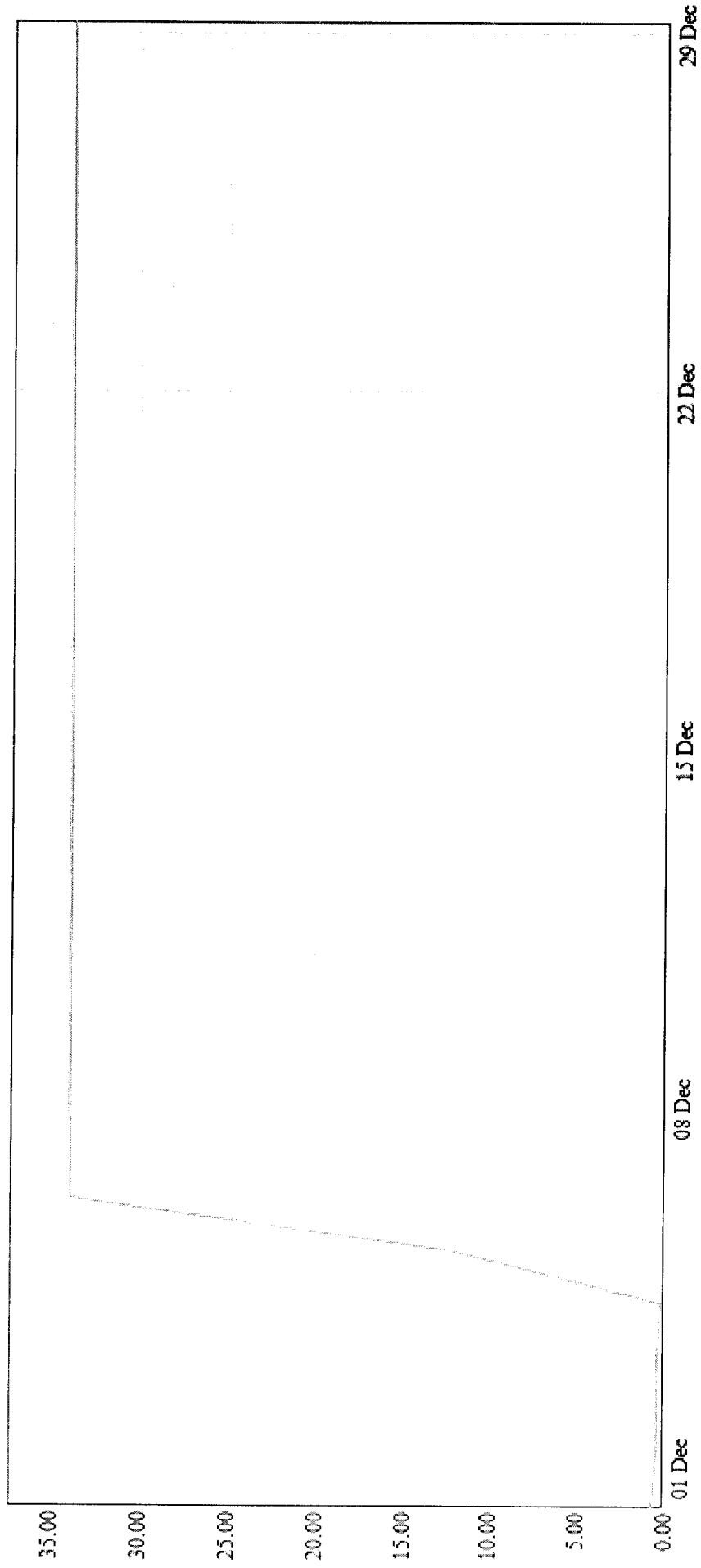




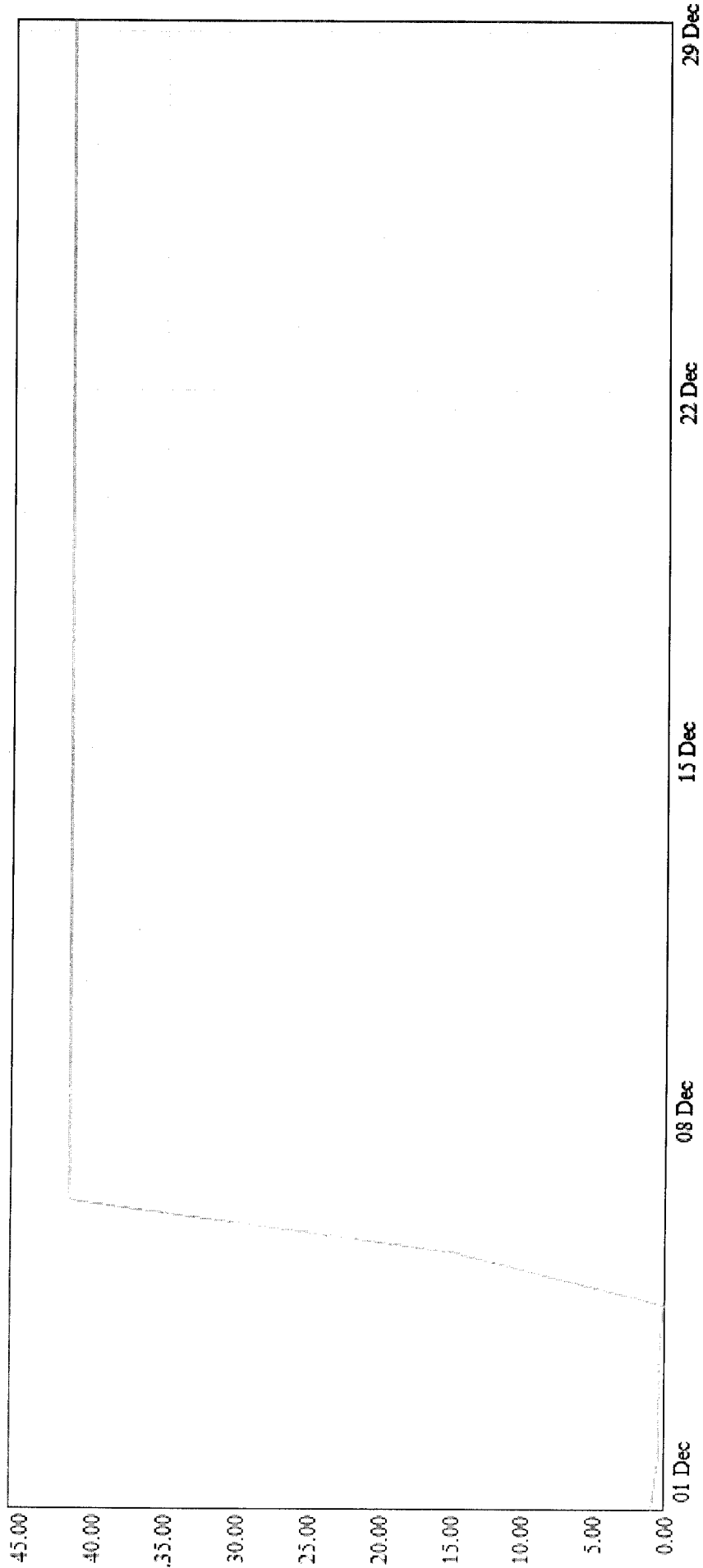
- PM10_AAQM_STAT10 (ug/m3)



-NOX_AAQM_STATION (ug/m3)



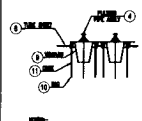
-SO2_AAQM_STATION (ug m3)



-PAH5_AAQM_STAT1 ($\mu\text{g}/\text{m}^3$)

Annexure 4

BAG FILTERS & CONVEYORS



A)	LOAD DATA:				
	TOTAL UNIT WEIGHT (KG) ...				8500
	UNIT WEIGHT WITH OUST PROPPED FILLED TILT INLET TOP (KG) ...				11000
	TRAIL COAT ON EACH COLUMN (KG) ...				2780
B)	DESIGN DATA:				
	QAS VOLUME (M ³) ...				28400
	DESIGN PRESSURE (BAR WG) ...				2800
	SERVICE TEMPERATURE IN DEGREE CENTIGRADE ...				4,200
	MAXIMUM DESIGN TEMPERATURE IN DEGREE CENTIGRADE ...				250
	SOOT DENSITY FOR EXCHANGE (KG/M ³) ...				800
	SOOT DENSITY FOR POWER (KG/M ³) ...				1200
	AIR TO CLOTH RATIO (MG/M ³) ...				1.14
	INLET OUST LOAD (MG/M ³) ...				2.00
	OUTLET EXHAUST (MG/M ³) ...				1.00
	PROPPED DROP (KG/M ³) ...				1.00
	PLATE & SOLENOID VALVE ...				1.00
	FILTRATION AREA (M ²) ...				376.3
	FOUNDATION DESPTO TO BE DECIDED BY CUSTOMERS CIVIL ENGINE CONSIDERING WIND LOAD AND SUCH OTHER LOADS.				
C)	ALL FOUNDATION BOLT TO BE GROOVED AFTER DRECTING THE EQUIPMENT IN POSITION.				
	PRODUCT DATA:				
	LAIDDER PORTION IS NEGATIVE - ACTUAL POSITION TO BE DECIDED AT SITE BASED ON SITE CONDITIONS.				
	PRESSURE SWITCH CANNOT BE CHARGED:				
	OT-FAN SHOULD NOT START UNLESS DISCHARGE VALVE AND SEQUENTIAL CONTROLLER STARTS OPERATING.				
	CUSTOMER HAS TO MAKE SEPARATE PROVISION FOR FAN FOUNDATION.				
	SEQUENTIAL CONTROLLER SHOULD NOT BE MOUNTED ON STEERING STRUCTURE.				
	SPACE REQUIRED FOR BAG & CAGE REMOVAL - 1.70 MTR SQUARE				
D)	UTILITIES:				
	POWER: 415V 50Hz, 3 Ph, 4 W, 3 L, 4 N, 1 PE, 1 GND				
	CORROSION: 230V/50Hz, 50 Hz, 3 Ph, 4 W, 3 L, 4 N, 1 PE, 1 GND				
	RAY DRIVE: REARER MOTOR 6 HP TO RAY, 4 HP AC, 3 PH AC				
	COMPRESSOR AIR REQUIREMENT 1.5 L/G MIN				
	NORMAL 37.1 INCH (COMPRESSED AIR QUALITY: OK, CONTENT: 0.25 MPa)				
	SURFACE CONTACT PRESSURE DOW POINT TEMP: 100 INCH (OILS/SPONDER 2 INCH)				
E)	PAINTING DETAILS FOR BASE TYPE:				
	WELDING PREPARATION: MANUAL, CLEANING				
	TWO COATS OF 60% ALUMINUM PAINT				
F)	FINISH PAINT: SILVER SHADE:				
	INSEET: TWO COATS OF 60% ALUMINUM PAINT				
	FINISH PAINT: SILVER SHADE				
34	PRESSURE SWITCH	INLAND / ORIGIN / SWITCH	EEC	3-40 KIDONG	1 NO.
35	HEATER HEATER PAD		EEC	LOOSE	1 LOT
36	ZEPER 8P/16Z SWITCH FOR RAY	JAYS-HEP	EEC	LOOSE	1 NO.
37	D.P. SWITCH	INLAND / ORIGIN / SWITCH	EEC	3-40 KIDONG	1 NO.
38	RAY FLANGE		EEC	M.B.	1 LOT
39	RAJ NG		EEC	M.B.	1 LOT
40	ACCESS WINDOW		EEC	M.B.	1 NO.
41	SUPPORT STRUCTURE WITH LADDER		EEC	M.B.	1 NO.
42	CONNECTOR 1/2" UP BSP		EEC	M.B. LOOSE	2 NOS.
43	CONNECTOR 1/2" UP		EEC	M.B. LOOSE	2 NOS.
44	FOUNDATION WITH BOLT		EEC	M.B. X 800 LG.	24 NOS.
45	P.U. TUBE BROW		EEC	LOOSE	1 LOT
46	1/2" BSP ROCKET WITH PLUG		EEC	M.B.	1 NO.
47	1/2" BSP ROCKET WITH PLUG		EEC	M.B.	1 NO.
48	1/2" UP P CONNECTOR		EEC	M.B.	1 NO.
49	INLET & OUTLET FLANGE MIDWIND		EEC	M.B. X 8 LOOSE	8 NOS.
50	PONDER DISCHARGE FLANGE MIDWIND		EEC	M.B. X 8 LOOSE	8 NOS.
51	INLET VALVE WITH 1/2" UP CONNECTOR		EEC	IS-2002 LOOSE	1 LOT
52	OUTLET & COUNTER FLANGES		EEC	YES	2 LOT
53	INLET & COUNTER FLANGES		EEC	YES	2 LOT
54	SECURATURAL TIMER	INLAND / MARKS	EEC	230 V, 50 Hz, AC PORT	1 NO.
55	PRELUDGE GAUGE 5/8" BOTTOM CENTER	PRELUDGE / HANDE	EEC	9-10 KIDONG	1 NO.
56	MANUFACTURE ASBLY	ACTIVITY	EEC	40 x 40 x 100 mm	1 NO.
57	GAUGE 4" X 3/4" X 2445 MM LONG		EEC	9-10 KIDONG	210 NOS.
58	BAG - 8" X 10" X 2445 MM LONG	BWF	EEC	PPS WEB ON	210 NOS.
59	VENTURE		EEC	PPS BOW	210 NOS.
60	RAY MANHOLE PIPERHEAD		EEC	210 NOS. BY CLASS	1 NO.
61	RAY SHEET		EEC	210 NOS. BY CLASS	1 LOT
62	TURB-ROSET		EEC	210 NOS. BY CLASS	1 NO.
63	ROTARY AIR LOCK VALVE (2L)		EEC	210 NOS. BY CLASS	1 NO.
64	210 NOS. BY CLASS		EEC	210 NOS. BY CLASS	1 NO.
65	PLATE & SOLENOID VALVE	ROTTER & MARKS	EEC	1 1/2" BSP, 220V AC DIAPHRAM TYPE	15 NOS.
66	HEAVING		EEC	3 mm THK.	1 NO.
67	HEAVING		EEC	3 mm THK.	1 NO.
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99	HEAVING		EEC	3 mm THK.	1 NO.
100	HEAVING		EEC	3 mm THK.	1 NO.

TITLE: - GA OF BAG FILTER PJ-12-210 FOR 16 TPH BOILER EXHAUST
CLIENT :- M/s. ASIAN PAINTS LIMITED.

CONSULTANT :-

111

EEC
Environmental Engineering Consultants
ENVIROMENTAL ENGINEERING CONSULTANT
SARITA VAIBHAV, SINHGAD ROAD,
PUNE - 411030.

PROJECT No. :

1718

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PRIOR PERMISSION IN WRITING FOR THE PURPOSE OTHER THAN FOR WHICH IS THE ISSUED

FILLET WELD

ALT. No.	ALTERATION	DATE
FOR ALTERATION DETAILS, REFER FIRST SHEET OF THE DRAWING		

DRAWN	PJP	25.10.17
CHECKED	SAGAR	25.10.17
APPROVED	ARD	25.10.17

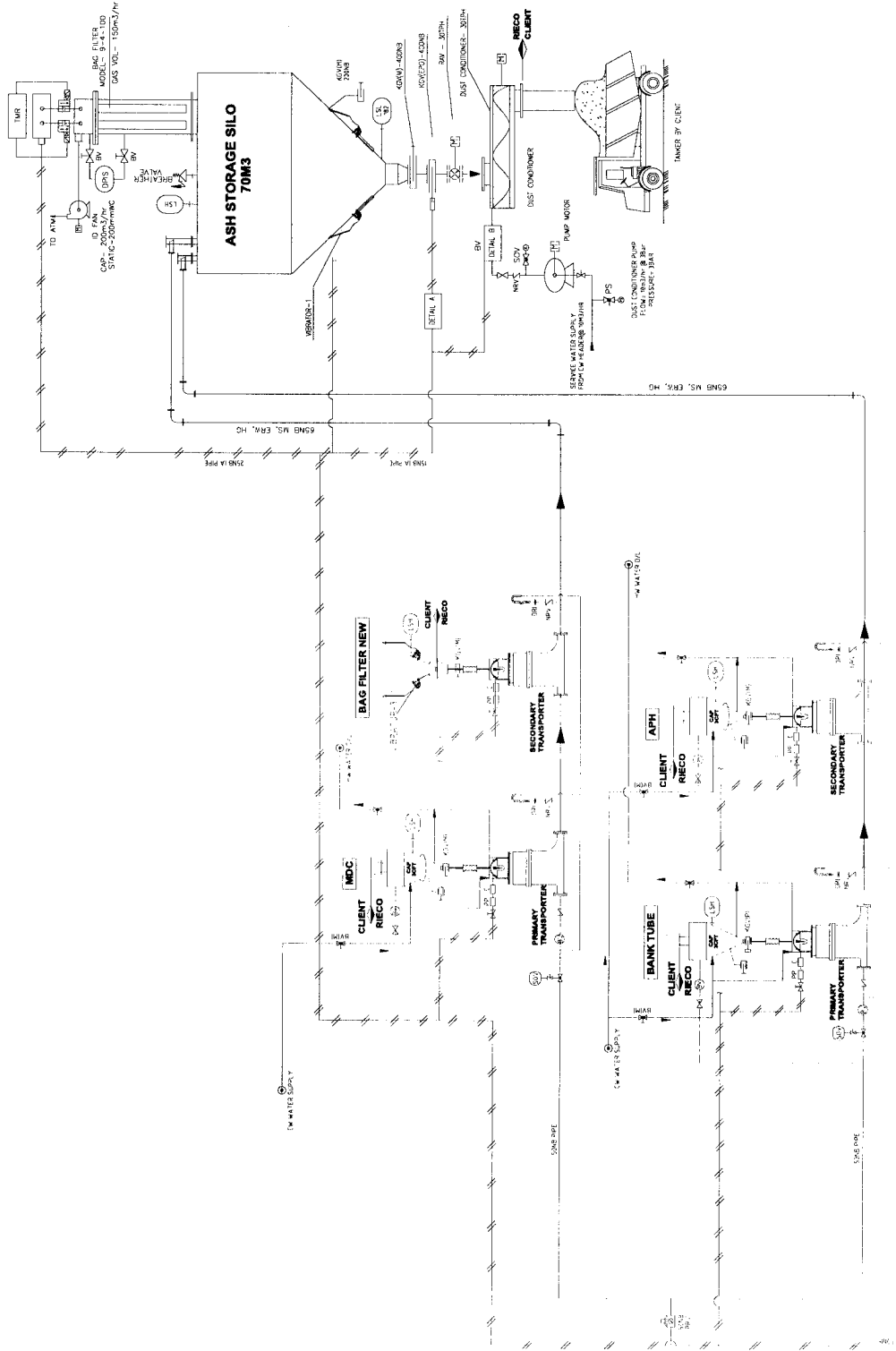
PROJECTION	DRG.NO:
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718-G-01-001

RFV

0

DENSE PHASE PNEUMATIC CONVEYING SYSTEM



NOTE: EVERYTHING IN RED IS IN CLIENT SCOPE

CLIENT	M/S. ASIAN PAINTS LTD
RECO'S OFFER No.	9350_R0
CLIENT'S P.O.No.	
RECO INDUSTRIES LTD.	
1162/2 SHYAMNAGAR BEHIND OBSERVATORY PUNE-411 005 (INDIA)	
TITLE	FLOWSCHEME FOR DENSE PHASE PNEUMATIC CONVEYING SYSTEM FOR FLY ASH HANDLING
REFERENCE DES. No.	
REPLACES DES. No.	
SCALE	
DRAWING No.	
REVISION	
DATE	
SHEET	
OF	

Annexure 5

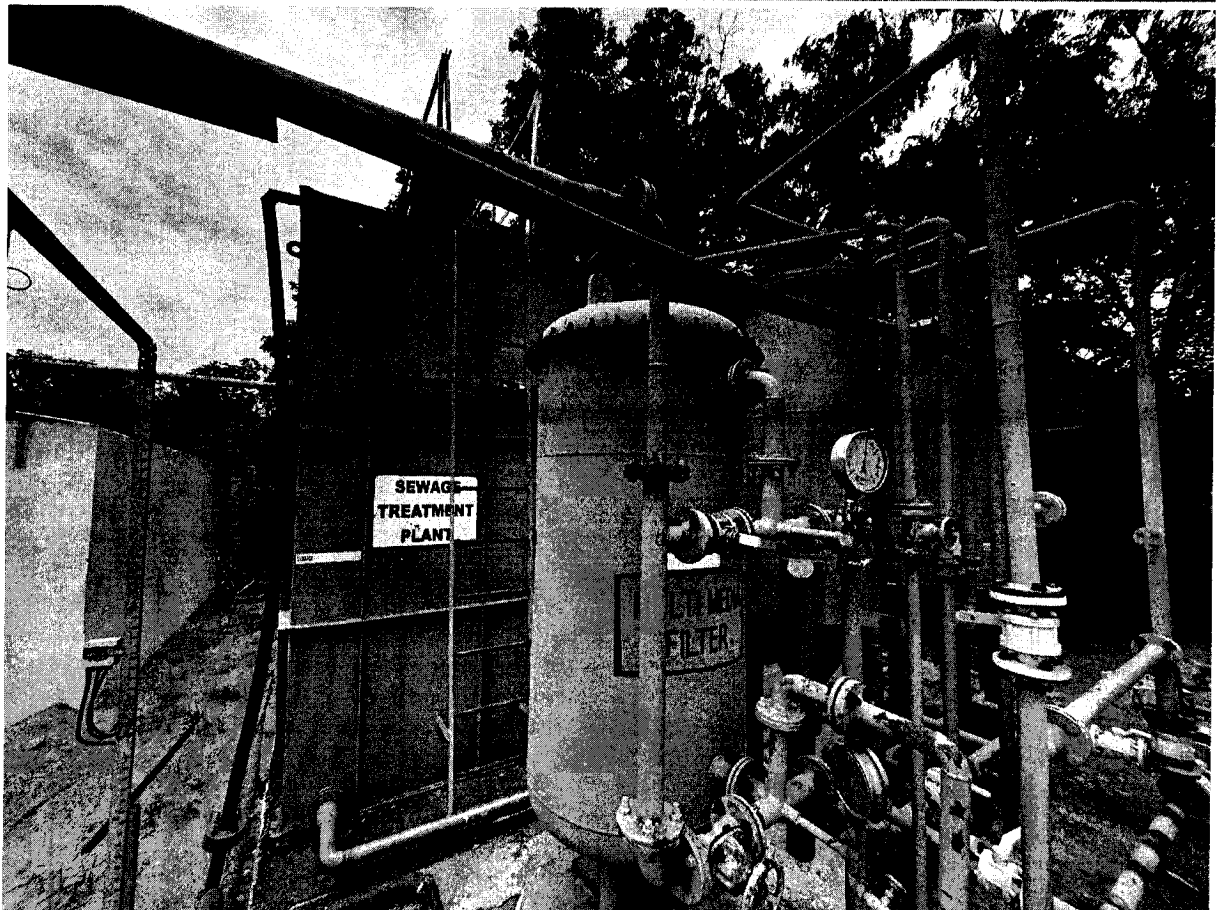
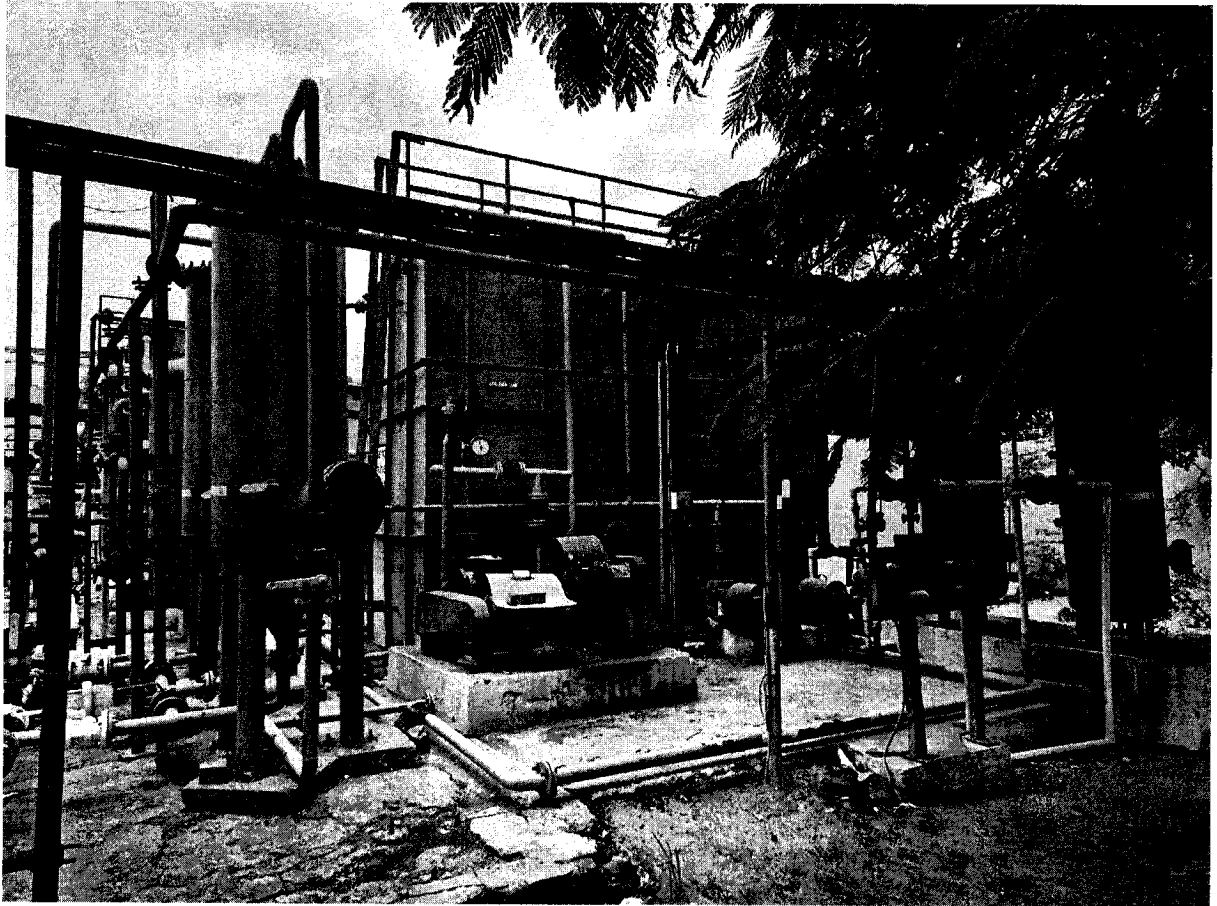
ZLD SYSTEM





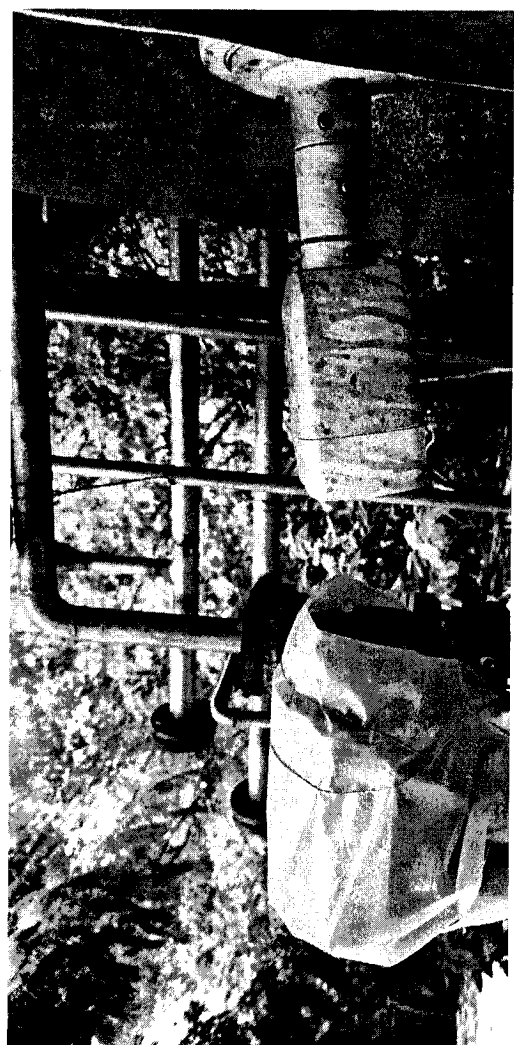
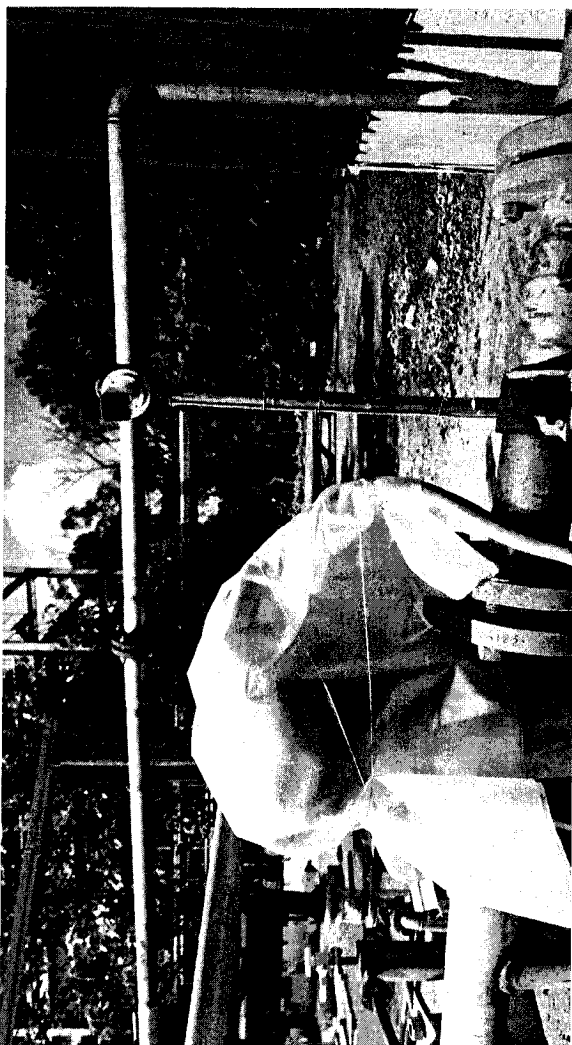
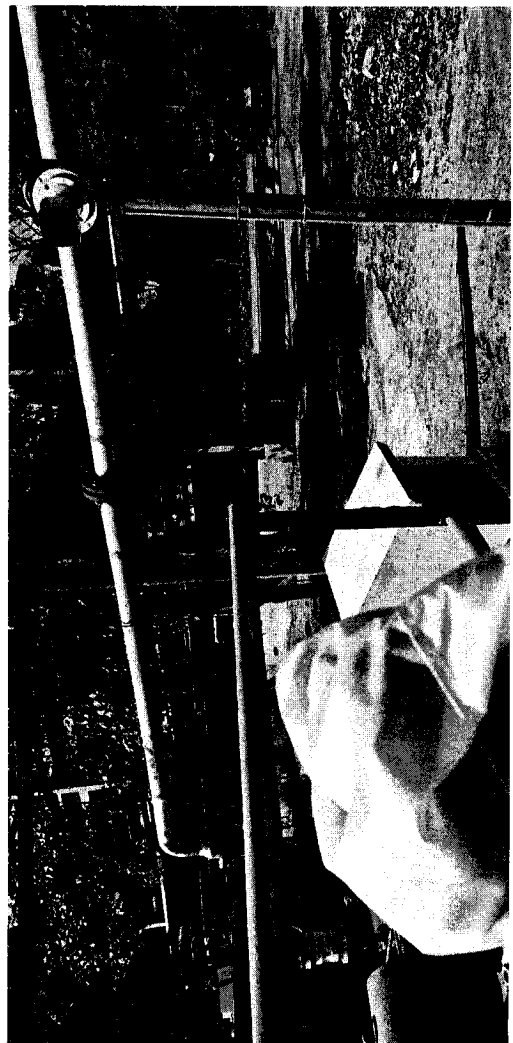
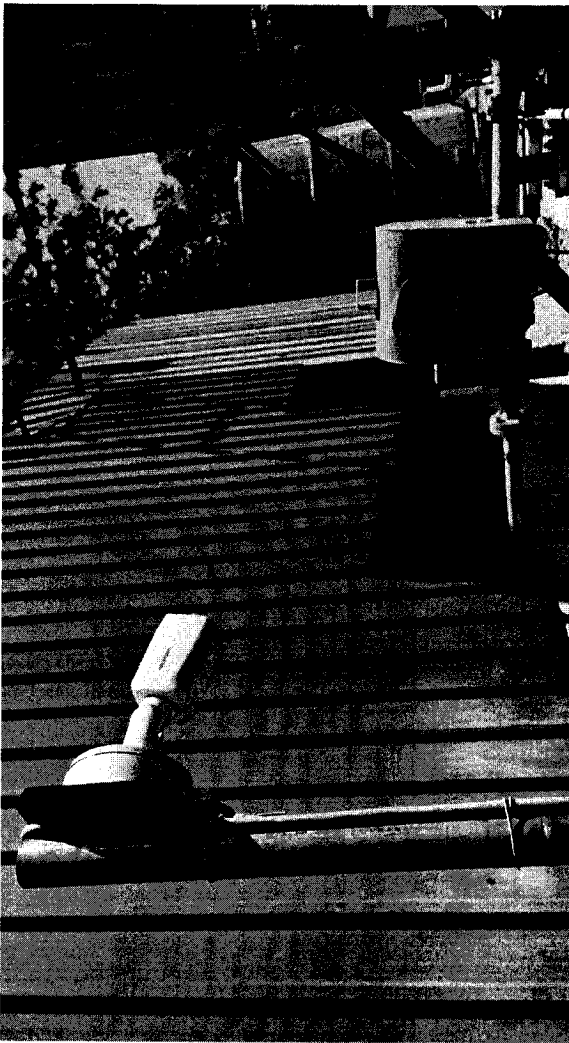
Annexure 6

STP



Annexure 7

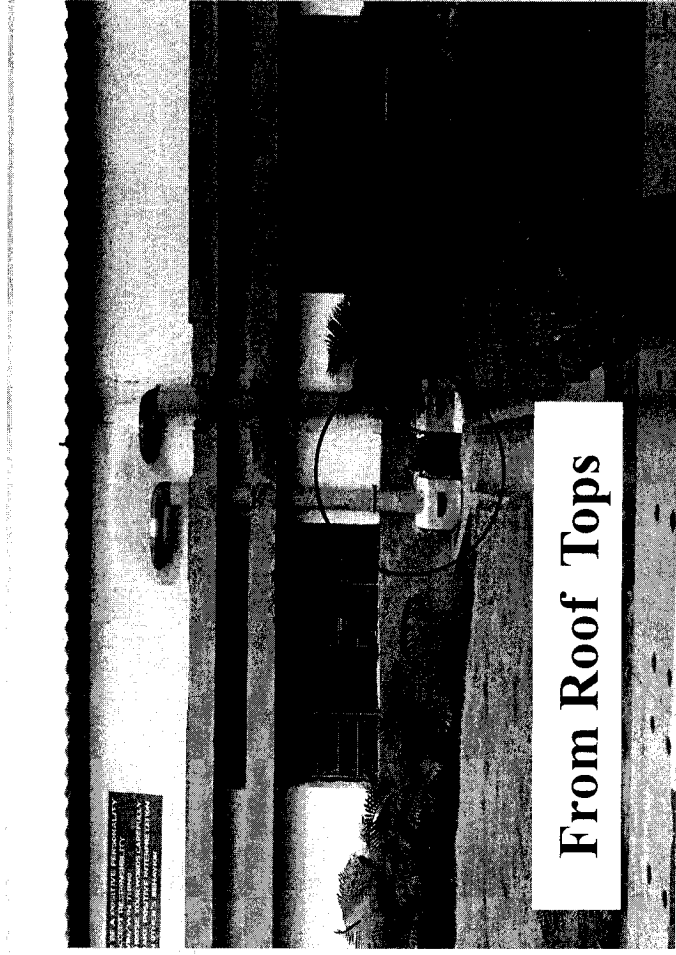
WEB CAMERA AT ETP



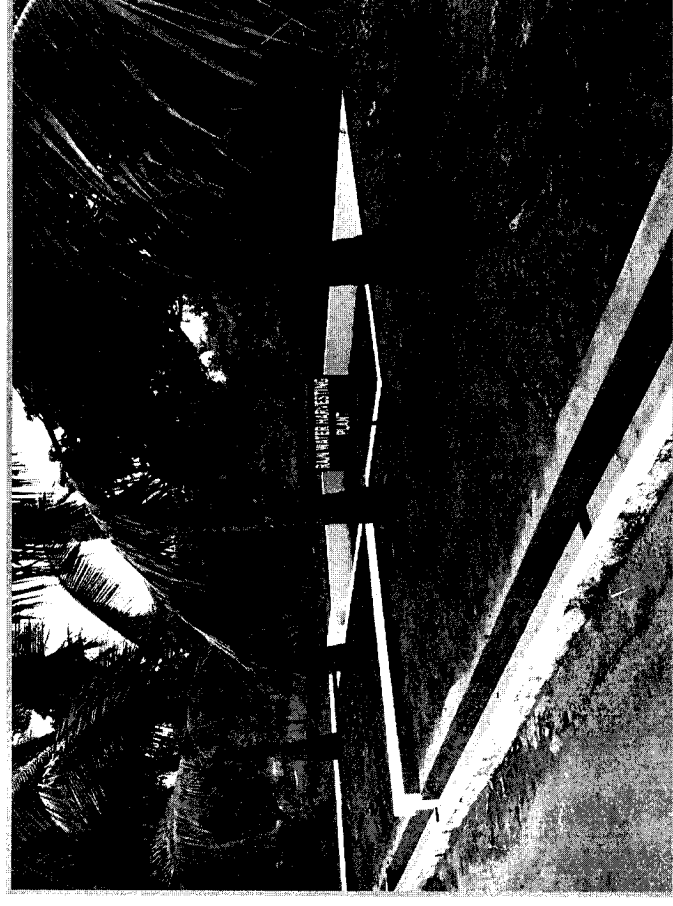
Annexure 8

STORM WATER DRAINAGE

STORM WATER AT PENTA PLANT SITE

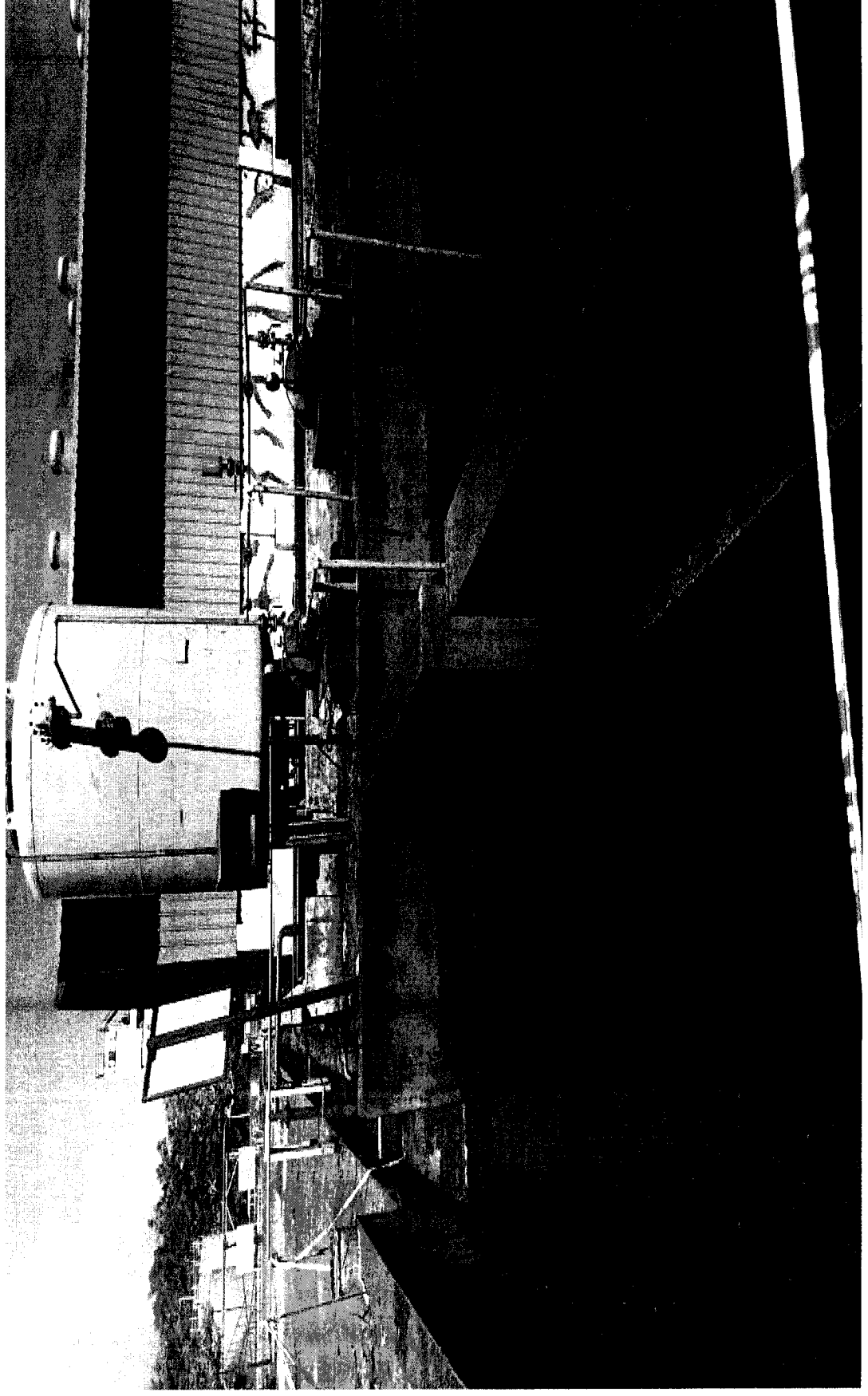


From Roof Tops



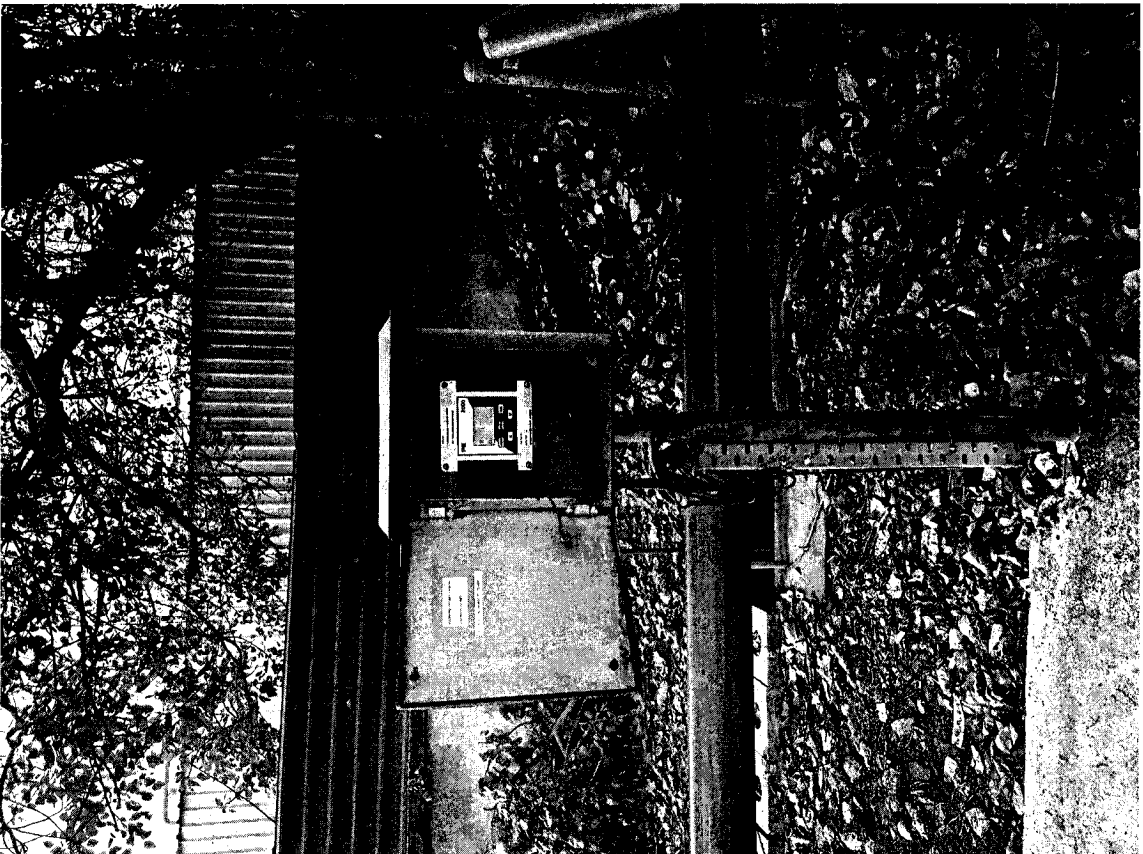
Rain water collection tank

RAIN WATER HARVESTING AT BOILER PLANT SITE

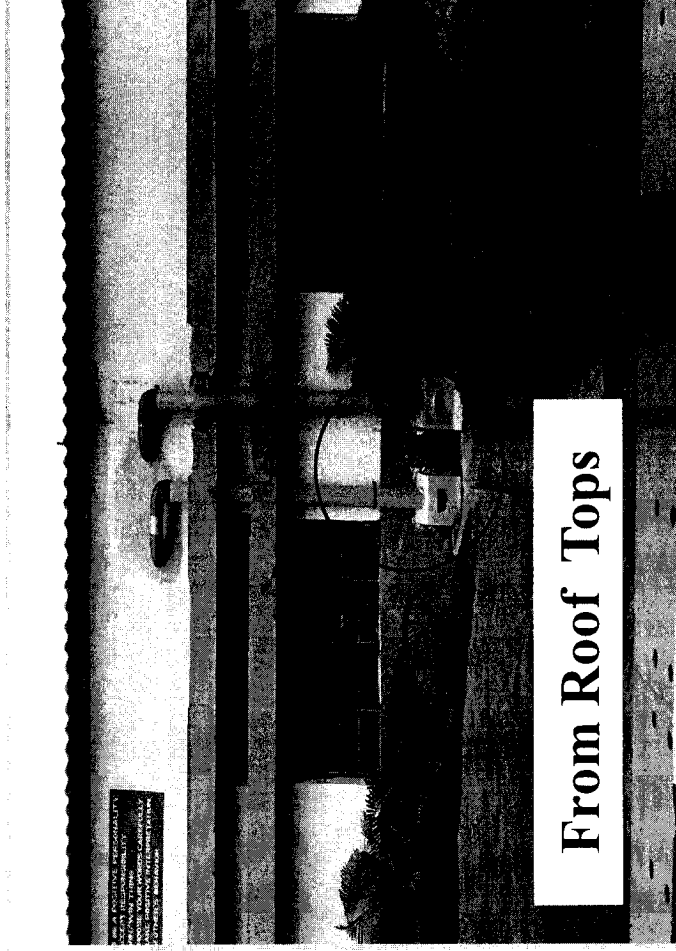


Annexure 9

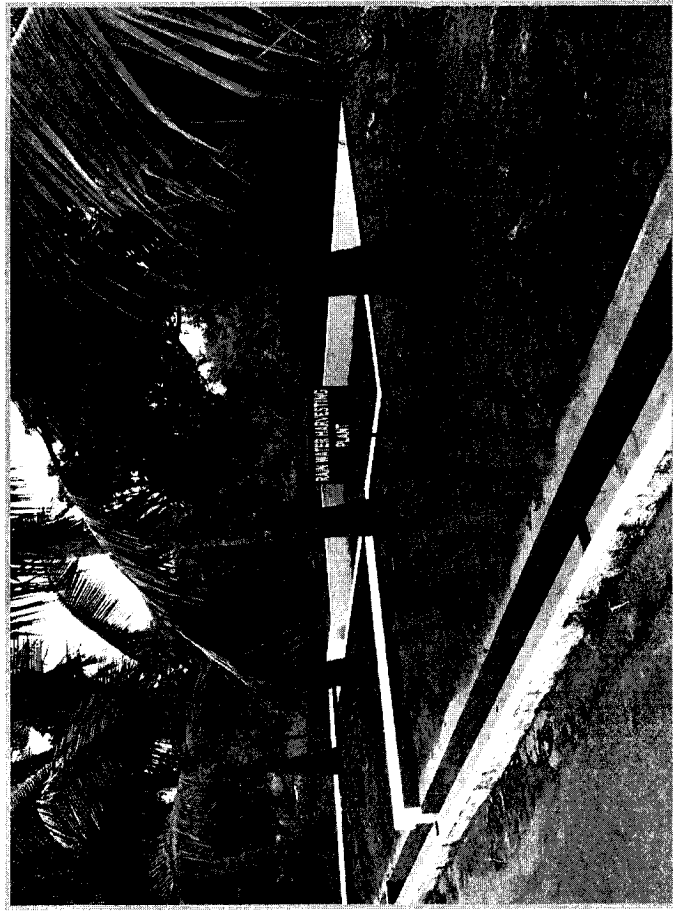
PH & TDS METER AT STORM WATER
DRAINAGE AND RAIN WATER
HARVESTING SYSTEM



RAIN WATER HARVESTING AT PENTA PLANT SITE

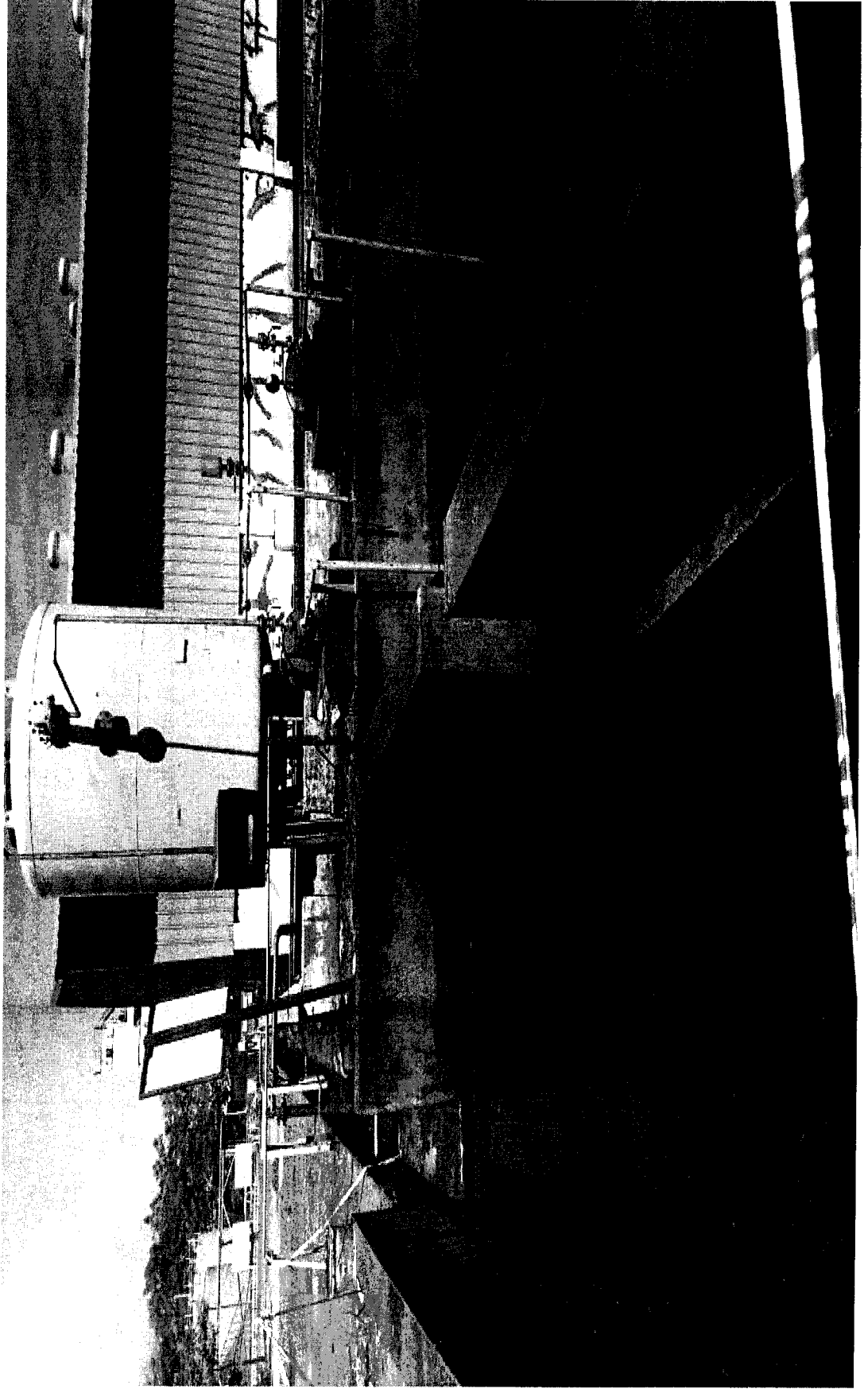


From Roof Tops



Rain water collection tank

RAIN WATER HARVESTING AT BOILER PLANT SITE

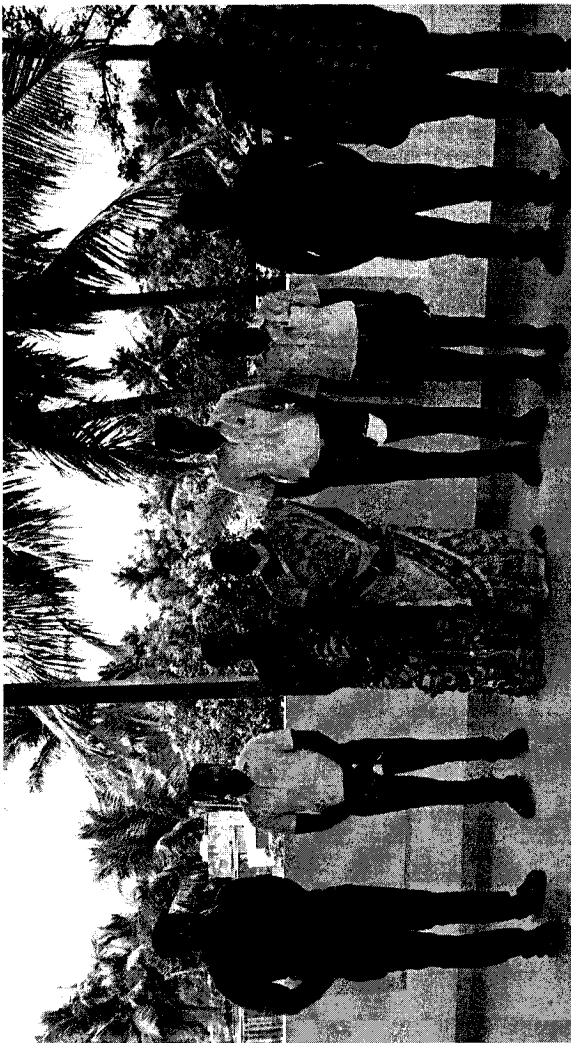


Annexure 10

CER ACTIVITIES

CSR Highlights

FY 24-25



CSR spend 24-25

SN	Project	Theme	Partner	Annual Budget	Q1 spent	Q2 plan (Q2 plan + Q2 spent)			Total (Rs. Lakhs)
1	Primary Health Centers at 4 Villages	H&H	Help Age India	20	10	0	10	0	20
2	IWSM- Supply side Desilting Annavalli Lake	Water	NAF	90	70	0	20	40	90
3	Demand side Soil Health card Vermi Compost preparation Direct seeding of Rice	Water	NAF	26					26
Grand Total (Health & Hygiene +Water)				136	80	10	30	40	136

HEALTH CENTER TIMING

Health center Location	Visit Timings	Visit Days
Pachiyankuppam	9.30 to 1.00	Mon, Wed & Fri
Kudikadu	2.30 to 5.00	Mon, Wed & Fri
Karaikadu	2.30 to 5.00	Tue, Thu & Sat
Echankadu	9.30 to 1.00	Tue, Thu & Sat

ANNAVALLI LAKE

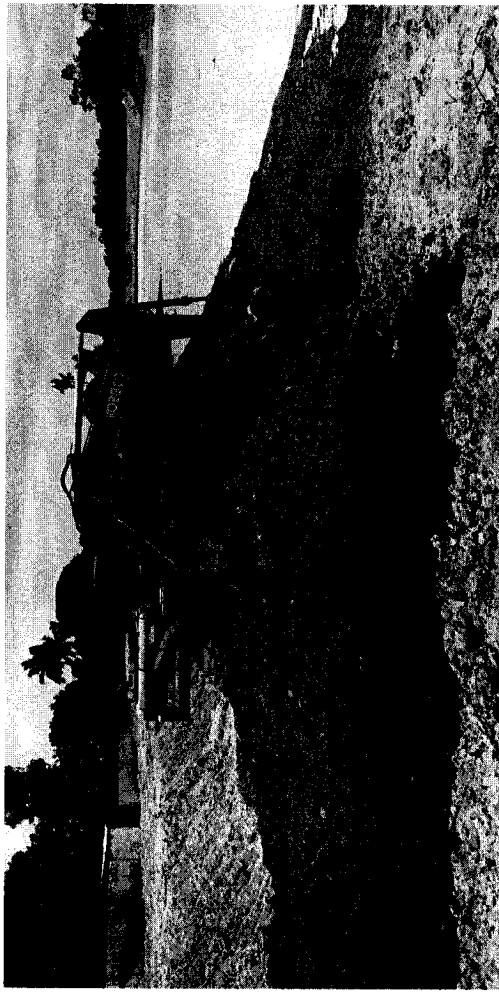
DE-SILATION

28000 CuM

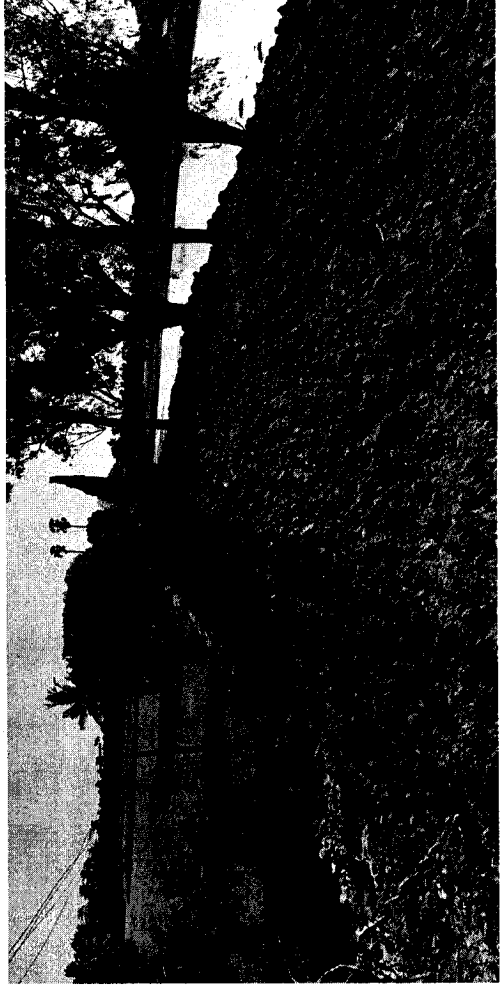
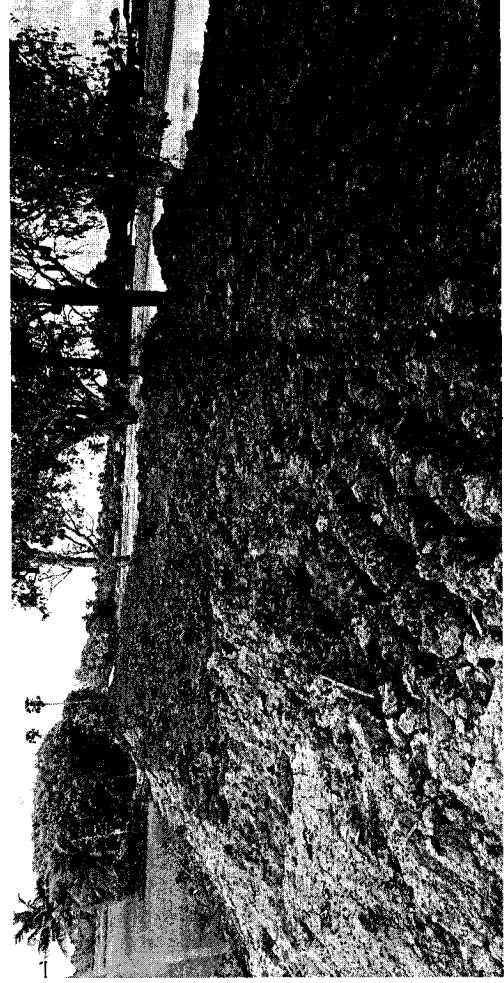
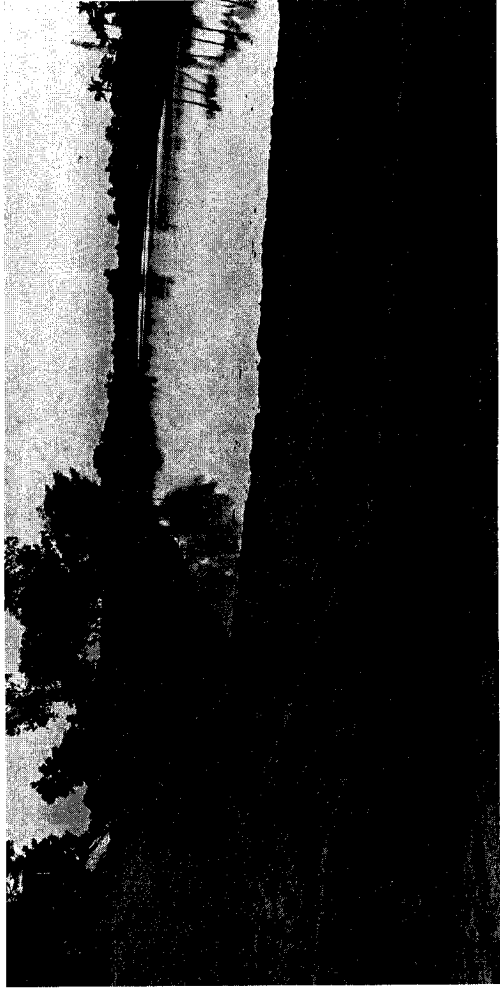
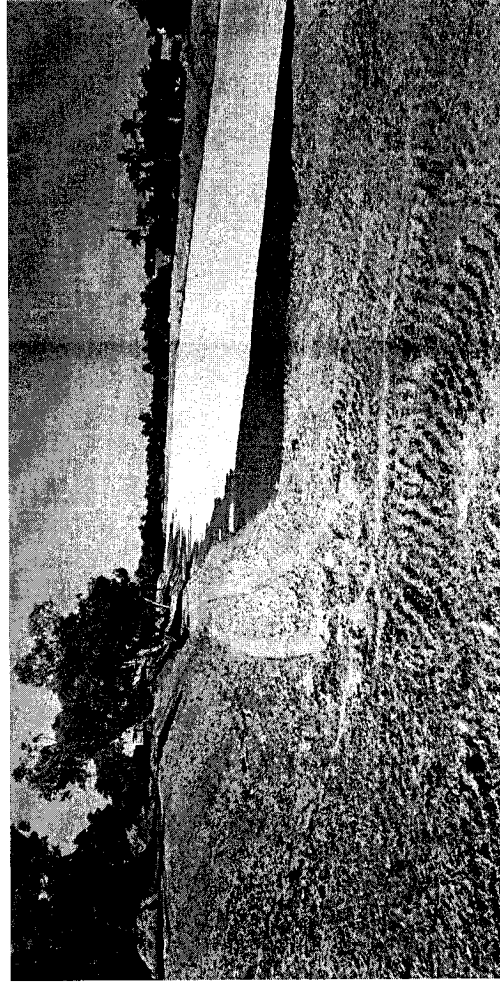
Drone Shot before starting of the project – Annavalli project.



EARTH WORK EXCAVATION & SECTIONING



BUND FORMATION



**AGRAHARATHU LAKE
TO
PULIKUTHU VAIKKAL
DE-SILTATION
14400 CuM**

AGARAKARATHU LAKE TO PULIKUTHU VAAIKAL



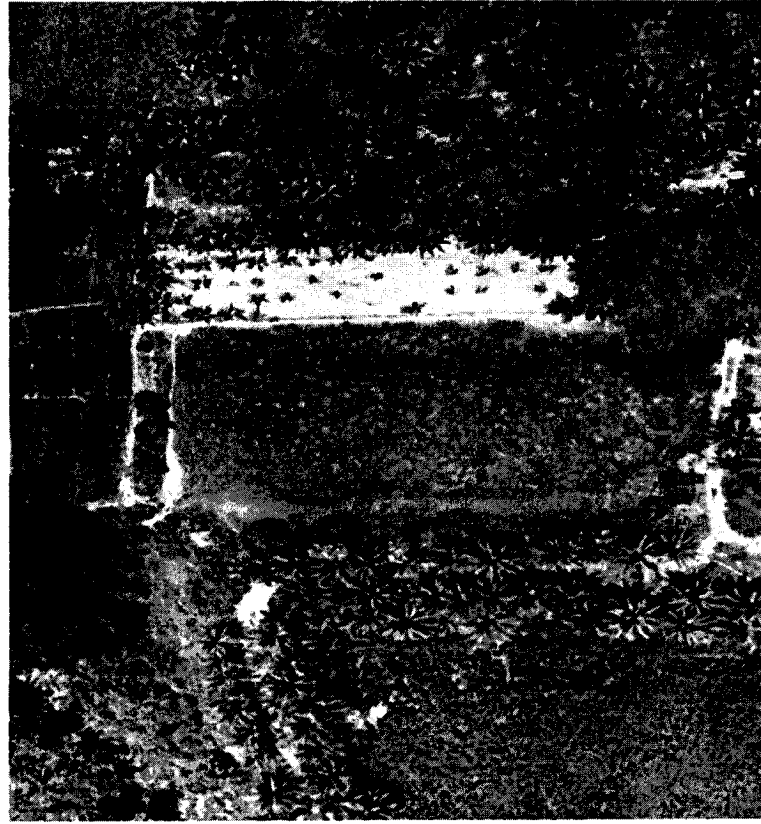
AGARAKARATHU LAKE TO PULIKUTHU VAAIKAL



Total distance of canal from Agraharathu Eri to Uppanar – 4.5 KM
Bush clearance & desilting activities completed up to 3 KM length
Remaining 1.5 KM length activities will be completed by End of October 2024.

KAMBANKULAM – Periyakattu Sagai DE-SILTATION 3600 CuM

PERIYAKAATUSAAGAI - KAMPANKULAM DRONE VIEW



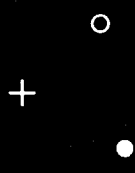
KAMBANKULAM EARTH WORK EXCAVATION



KAMBANKULAM EARTH WORK EXCAVATION



Thanks



Annexure 11
EMP BANK STATEMENT



Account Name : ASIAN PAINTS LIMITED

Address : 6 A SHANTINAGAR, VAKOLA PIPE
LINE ROAD, SANTACRUZ(EAST)
SANTACRUZ(E) MUMBAI-400055
6 A SHANTINAGAR, VAKOLA PIPE

Date : 4 Nov 2024

Account Number : 00000037888950027

Account Description : CA-GOLD-PUB-OTH-ALL-INR

Drawing Power : 0.00

Interest Rate(% p.a.) : 0.0000

MOD Balance : 0.00

CIF No. : 80569381844

IFS Code : SBIN0000829

MICR Code : 607002004

Nomination Registered : No

Balance as on 1 Oct 2024 : 4,15,178.16

Account Statement from 1 Oct 2024 to 31 Oct 2024

Txn Date	Value Date	Description	Ref No./Cheque No.	Debit	Credit	Balance
1 Oct 2024	1 Oct 2024	TO CLEARING-Chq No. 672100 PNB UTHAYA CHEMICALS-672100	672100	1,46,545.00		2,68,633.16
17 Oct 2024	17 Oct 2024	CHEQUE DEPOSIT--173649	TRANSFER TO 10583494998 / 173649		4,00,000.00	6,68,633.16
23 Oct 2024	23 Oct 2024	TO CLEARING-Chq No. 798811 AXS RE SUSTAINABILITY IWM SOL-798811	798811	1,11,309.41		5,57,323.75

Please do not share your ATM, Debit/Credit card number, PIN and OTP with anyone over mail, SMS, phone call or any other media. Bank never asks for such information.

**This is a computer generated statement and does not require a signature.



Account Name : ASIAN PAINTS LIMITED

Address : 6 A SHANTINAGAR, VAKOLA PIPE
LINE ROAD, SANTACRUZ(EAST)
SANTACRUZ(E) MUMBAI-400055
6 A SHANTINAGAR, VAKOLA PIPE

Date : 2 Dec 2024

Account Number : 00000037888950027

Account Description : CA-GOLD-PUB-OTH-ALL-INR

Drawing Power : 0.00

Interest Rate(% p.a.) : 0.0000

MOD Balance : 0.00

CIF No. : 80569381844

IFS Code : SBIN0000829

MICR Code : 607002004

Nomination Registered : No

Balance as on 1 Nov 2024 : 5,57,323.75

Account Statement from 1 Nov 2024 to 30 Nov 2024

Txn Date	Value Date	Description	Ref No./Cheque No.	Debit	Credit	Balance
5 Nov 2024	5 Nov 2024	TO CLEARING-Chq No. 798812 AXS RE SUSTAINABILITY IWM SOL-798812	798812	1,01,618.89		4,55,704.86
11 Nov 2024	11 Nov 2024	CHEQUE WDL-CHEQUE TRANSFER TO-798813	TRANSFER FROM 10583473230 / 798813	2,20,361.00		2,35,343.86
26 Nov 2024	26 Nov 2024	CHEQUE DEPOSIT-173660	TRANSFER TO 10583494998 / 173660		4,00,000.00	6,35,343.86
27 Nov 2024	27 Nov 2024	CHEQUE WDL-CHEQUE TRANSFER TO-798815	TRANSFER FROM 10583473230 / 798815	1,81,866.00		4,53,477.86
27 Nov 2024	27 Nov 2024	CHEQUE WDL-CHEQUE TRANSFER TO-798816	TRANSFER FROM 10583473230 / 798816	1,60,095.00		2,93,382.86

Please do not share your ATM, Debit/Credit card number, PIN and OTP with anyone over mail, SMS, phone call or any other media. Bank never asks for such information.

**This is a computer generated statement and does not require a signature.



Account Name : ASIAN PAINTS LIMITED

Address : 6 A SHANTINAGAR VAKOLA PIPE
LINE ROAD, SANTACRUZ(EAST)
SANTACRUZ(E) MUMBAI-400055
6 A SHANTINAGAR VAKOLA PIPE

Date : 2 Jan 2025

Account Number : 00000037888950027

Account Description : CA-GOLD-PUB-OTH-ALL-INR

Drawing Power : 0.00

Interest Rate(% p.a.) : 0.0000

MOD Balance : 0.00

CIF No. : 80569381844

IFS Code : SBIN0000829

MICR Code : 607002004

Nomination Registered : No

Balance as on 1 Dec 2024 : 2,93,382.86

Account Statement from 1 Dec 2024 to 31 Dec 2024

Txn Date	Value Date	Description	Ref No./Cheque No.	Debit	Credit	Balance
27 Dec 2024	27 Dec 2024	CHEQUE DEPOSIT--173672	TRANSFER TO 10583494998 / 173672		8,00,000.00	10,93,382.86
31 Dec 2024	31 Dec 2024	CHEQUE WDL-CHEQUE. TRANSFER TO-798818	TRANSFER FROM 10583473230 / 798818	2,53,374.00		8,40,008.86

Please do not share your ATM, Debit/Credit card number, PIN and OTP with anyone over mail, SMS, phone call or any other media. Bank never asks for such information.

**This is a computer generated statement and does not require a signature.



STATEMENT OF ACCOUNT

ASIAN PAINTS LIMITED
6 A SHANTINAGAR, VAKOLA PIPE
LINE ROAD, SANTACRUZ(EAST)
SANTACRUZ(E) MUMBAI
Mumbai Suburban
Pin Code : 400055

Date of Statement : 01-02-2025
Time of Statement : 11:27:53
Cleared Balance : 4,00,974.86CR
Uncleared Amount : 0.00
+MOD Bal : 0.00
Limit : 0.00
Monthly Avg Balance : 0.00
Interest Rate : 0.00 % p.a.
Drawing Power : 0.00
Account Open Date : 20-08-2018

STATE BANK OF INDIA

ACB CUDDALORE O.T.
NO. 4, IMPERIAL ROAD, CUDDALORE OT
CUDDALORE DT TAMILNADU
Pin Code : 607003

Branch Code : 829
Branch Email : sbi.00829@sbi.co.in
Branch Phone : 297831

CIF No : 80569381844
Account No : 37888950027
Product : CA-GOLD-PUB-OTH-ALL-INR
IFSC Code : SBIN0000829
MICR Code : 607002004
Currency : INR
Account Status : OPEN
Nominee Name :
CKYC No : Not Available
Email : biju.rajana@asianpaints.com

Statement From : 01-01-2025 To 31-01-2025

Post Date	Value Date	Description	Cheque No/Reference	Debit	Credit	Balance
		BROUGHT FORWARD				8,40,008.86CR
01-01-2025	01-01-2025	CAS PRES CHQ Chq No. 798819 UBI CUDDALORE SIPCOT INDUSTRI	798819	13,019.00		8,26,989.86CR
16-01-2025	16-01-2025	CAS PRES CHQ Chq No. 798817 HDF SHRI JODHPUR LIME	798817	4,26,015.00		4,00,974.86CR
		CLOSING BALANCE				4,00,974.86CR

Statement Summary : 01-01-2025 To 31-01-2025

Brought Forward	Dr Count	Cr Count	Total Debits	Total Credits	Closing Balance
8,40,008.86CR	2	0	4,39,034.00	0.00	4,00,974.86CR

In Case Your Account Is Operated By A Letter Of Authority/Power Of Attorney Holder Please Check The Transaction With Extra Care.

Last transaction date and time appearing in this statement is 16-01-2025 & 07:25:47:57

*---END OF STATEMENT---



Account Name : ASIAN PAINTS LIMITED
Address : 6 A SHANTINAGAR, VAKOLA PIPE
LINE ROAD, SANTACRUZ(EAST)
SANTACRUZ(E) MUMBAI-400055
6 A SHANTINAGAR, VAKOLA PIPE
Date : 3 Mar 2025
Account Number : 00000037688950027
Account Description : CA-GOLD-PUB-OTH-ALL-INR
Drawing Power : 0.00
Interest Rate(% p.a.) : 0.0000
MOD Balance : 0.00
CIF No. : 80569381844
IFS Code : SBIN0000829
MICR Code : 607002004
Nomination Registered : No

Account Statement from 1 Feb 2025 to 28 Feb 2025

There is no financial transaction available for online display for the selected date range.

Please do not share your ATM, Debit/Credit card number, PIN and OTP with anyone over mail, SMS, phone call or any other media. Bank never asks for such information.

****This is a computer generated statement and does not require a signature.**



STATEMENT OF ACCOUNT

ASIAN PAINTS LIMITED

6 A SHANTINAGAR, VAKOLA PIPE

LINE ROAD, SANTACRUZ(EAST)

SANTACRUZ(E) MUMBAI

Mumbai Suburban

Pin Code : 400055

Date of Statement : 02-04-2025
Time of Statement : 10:32:30
Cleared Balance : 1,80,467.20CR
Uncleared Amount : 0.00
+MOD Bal : 0.00
Limit : 0.00
Monthly Avg Balance : 0.00
Interest Rate : 0.00 % p.a.
Drawing Power : 0.00
Account Open Date : 20-08-2018

STATE BANK OF INDIA

ACB CUDDALORE O.T.

NO. 4, IMPERIAL ROAD, CUDDALORE OT

CUDDALORE DT TAMILNADU

Pin Code : 607003

Branch Code : 829
Branch Email : sbi.00829@sbi.co.in
Branch Phone : 297831

CIF No : 80569381844
Account No : 37888950027
Product : CA-GOLD-PUB-OTH-ALL-INR
IFSC Code : SBIN0000829
MICR Code : 607002004
Currency : INR
Account Status : OPEN
Nominee Name :
CKYC No : Not Available
Email : biju.rajana@asianpaints.com

Statement From : 01-03-2025 To 31-03-2025

Post Date	Value Date	Description	Cheque No/Reference	Debit	Credit	Balance
		BROUGHT FORWARD				4,00,974.86CR
12-03-2025	12-03-2025	AC KEEPING FEES		649.00		4,00,325.86CR
26-03-2025	26-03-2025	CAS PRES CHQ Chq No. 798820 UBI CUDDALORE SIPCOT INDUSTRI	798820	12,090.00		3,88,235.86CR
29-03-2025	29-03-2025	CAS PRES CHQ Chq No. 798828 IOB M S SMK CONSTRUCTION E	798828	2,07,768.66		1,80,467.20CR
		CLOSING BALANCE				1,80,467.20CR

Statement Summary :

01-03-2025 To 31-03-2025

Brought Forward	Dr Count	Cr Count	Total Debits	Total Credits	Closing Balance
4,00,974.86CR	3	0	2,20,507.66	0.00	1,80,467.20CR

In Case Your Account Is Operated By A Letter Of Authority/Power Of Attorney Holder Please Check The Transaction With Extra Care.

Last transaction date and time appearing in this statement is 29-03-2025 & 07:14:28:41

*---END OF STATEMENT---

Annexure 12
GREEN BELT & TREE PLANTATIONS



**ASIAN PAINTS
LIMITED
KURUNGADUGAL
2024-2025**

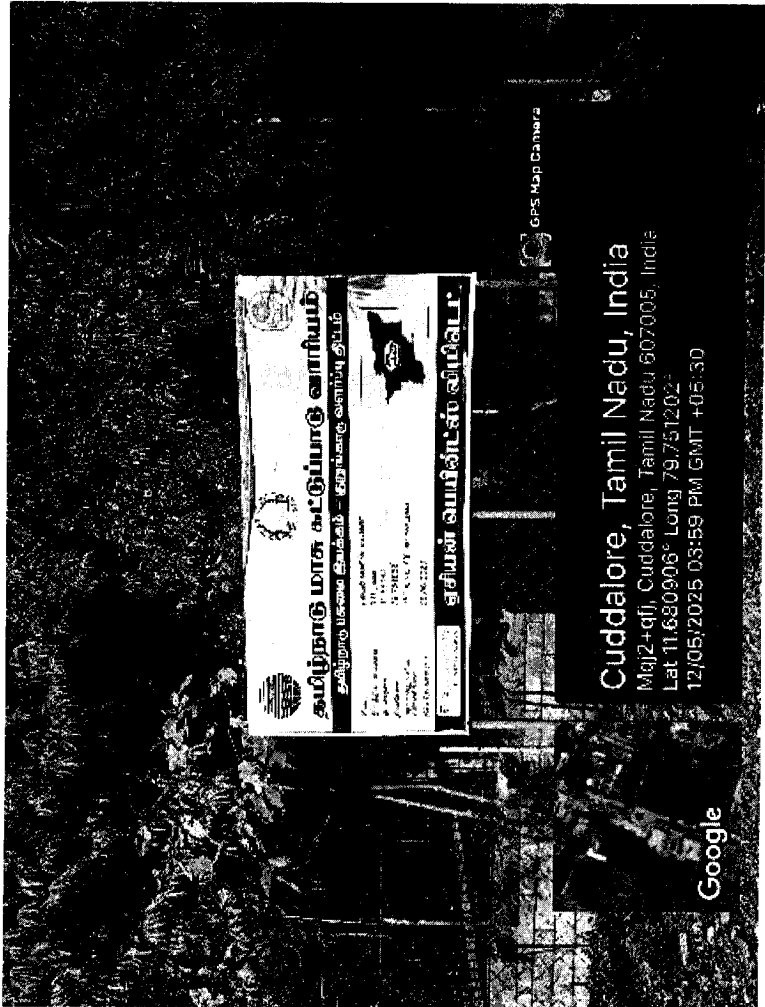


Asian Paints Limited, Penta Division – Kurungadugal Tree Plantation Details

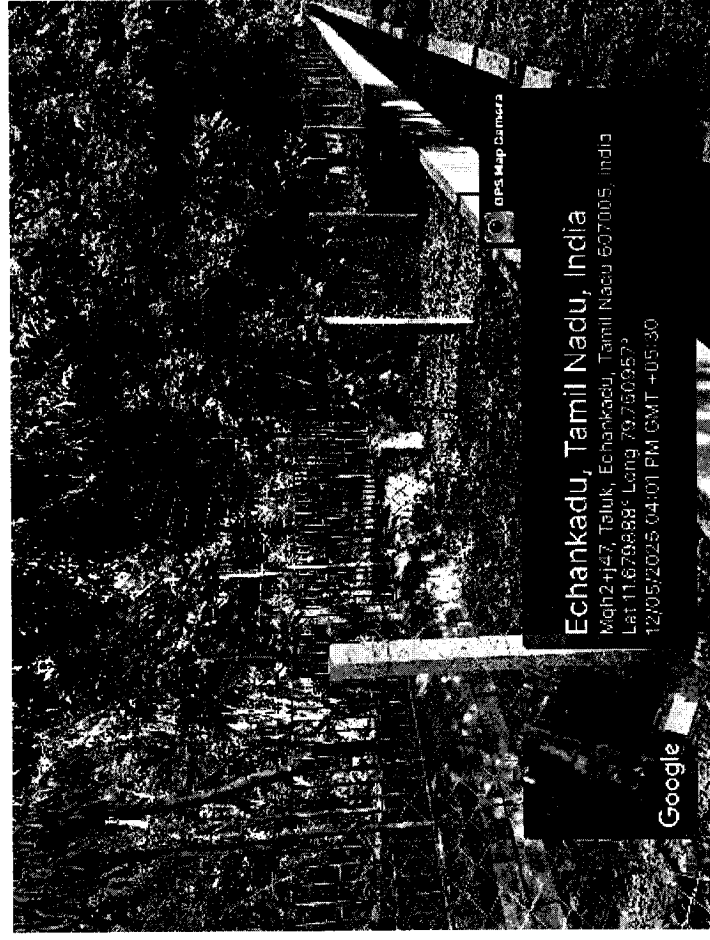
Month	Type & No of Trees
April	Poovarasu – 14 Mahogany – 25
May	Teak - 370 Poovarasu - 80 Pungai – 30
June	Teak - 140 Pungai - 100 Neermaruthu – 60
	Coconut - 40 Neem - 41 Rain tree - 41
July	Neem - 80 Neermaruthu - 48 Naval - 230 Ficus – 40
August	Naval - 145
September	Neem - 100

Month	Type & No of Trees
October	Neermaruthu - 95 Neem - 10 Ficus - 65 Kadamba - 30 Naaval - 49
November	Neermaruthu – 60 Neem - 40
December	Poongam - 47
January	Mahogany, Coconut - 32
February	Neermaruthu - 10 Mahogany – 10
March	Naval - 30
Total - 2062	
Total Tree plantation Area – 8500 Sq.m / 2.1 Acre	

Beyond the fence



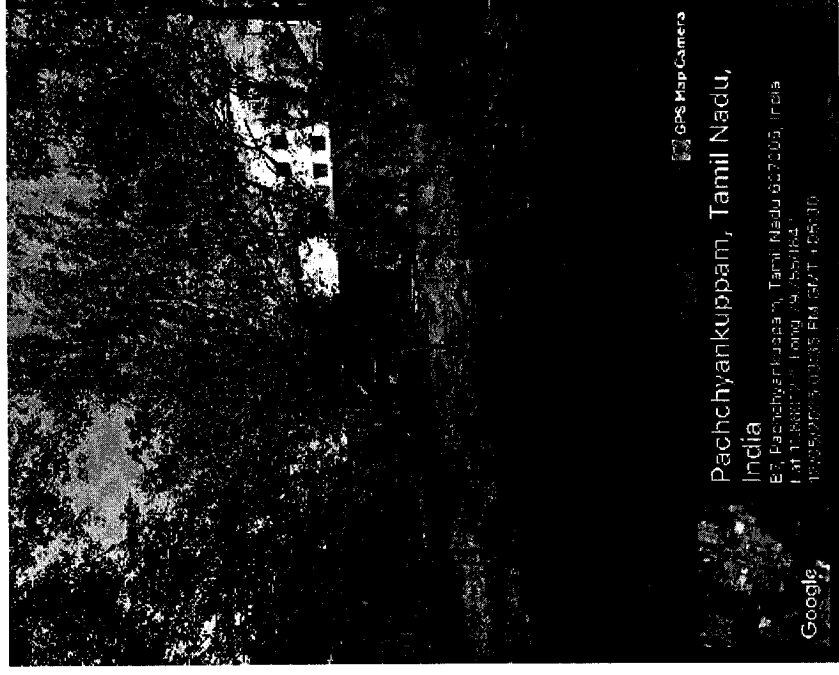
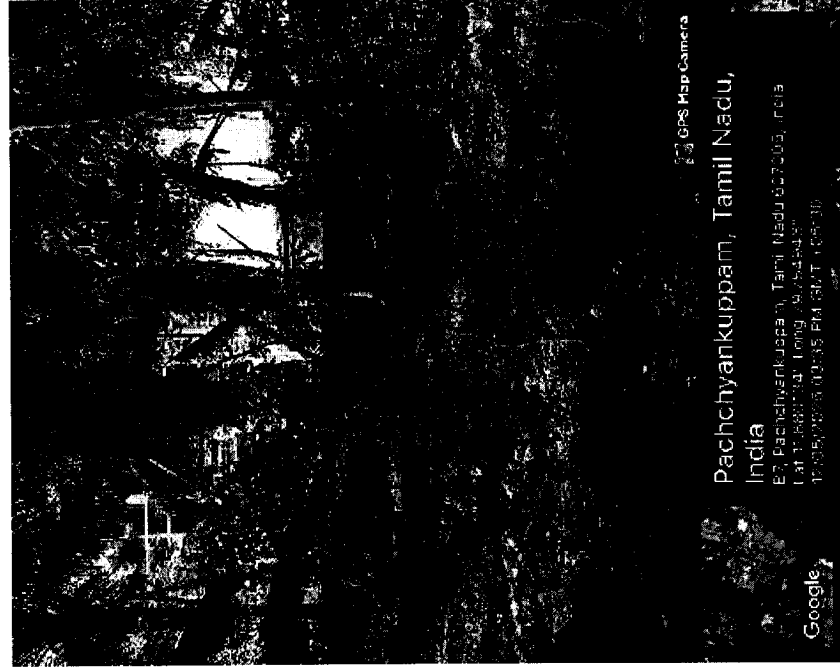
Beyond the fence



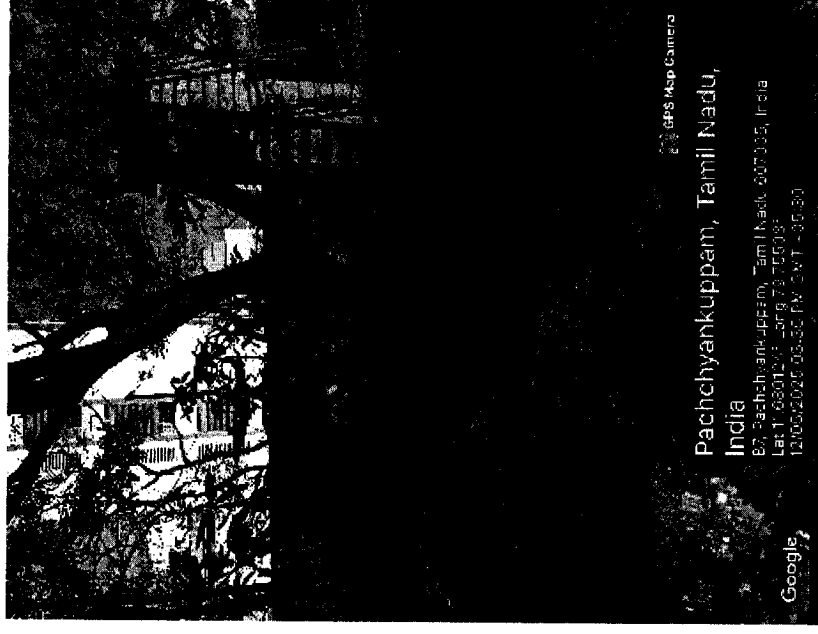
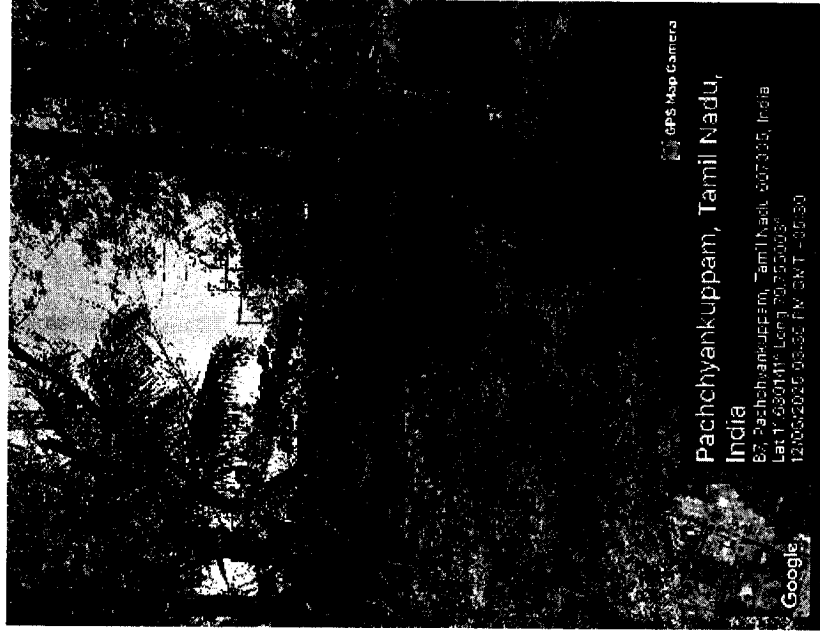
Beyond the fence



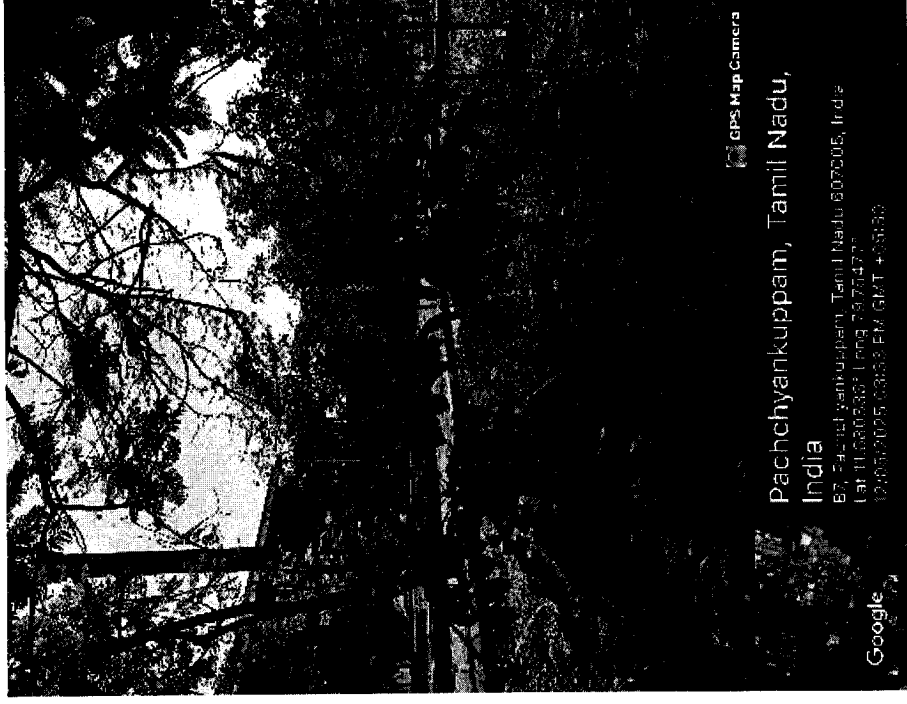
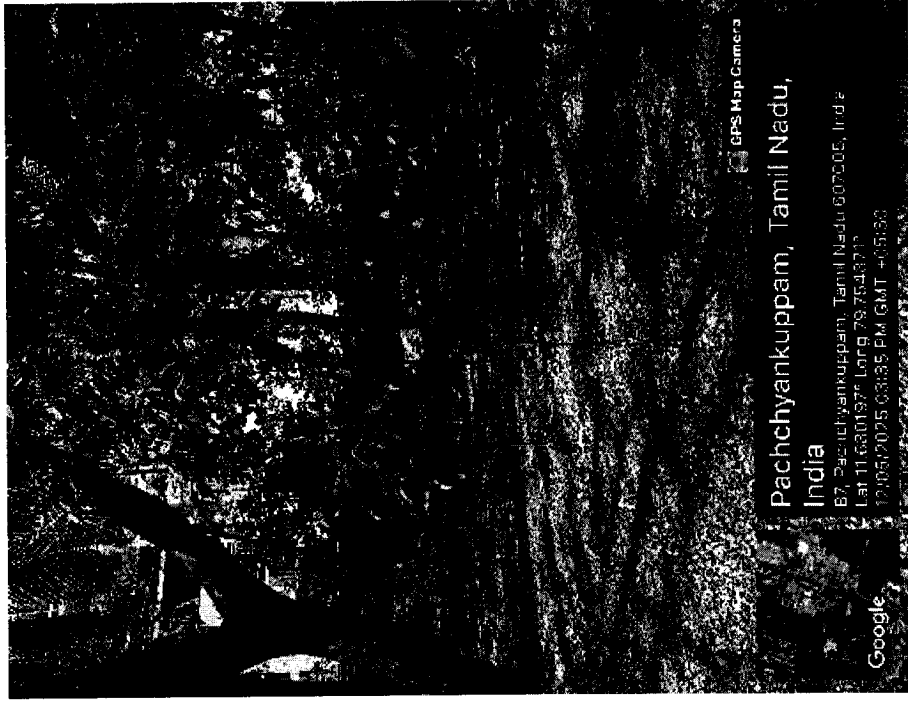
Within the campus – Near Coal yard area



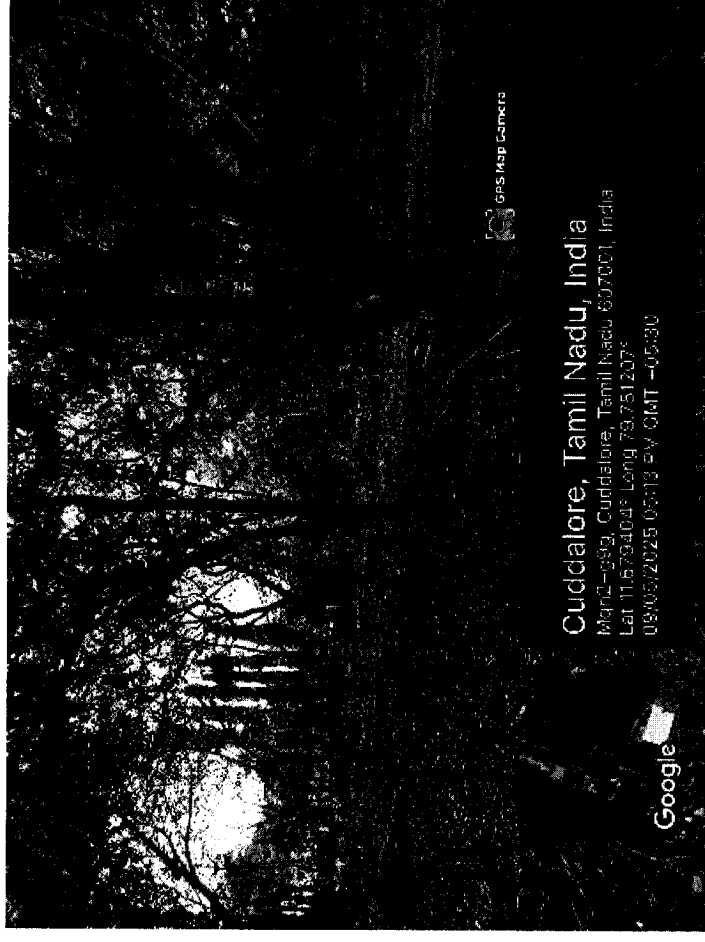
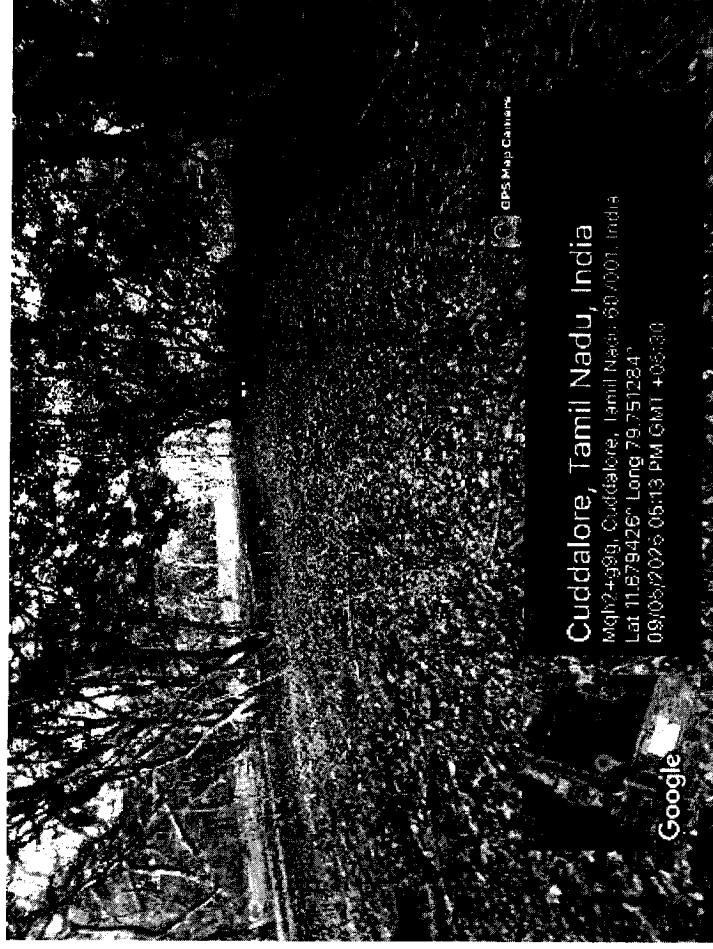
Within the campus – Near Coal yard area



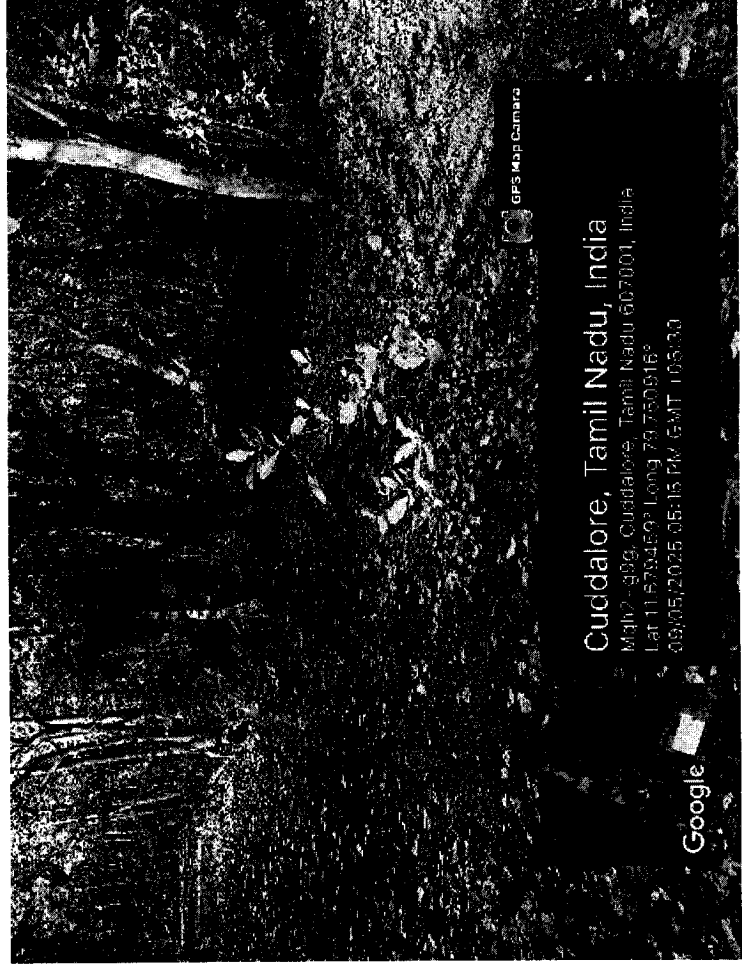
Within the campus - Near Coal yard area



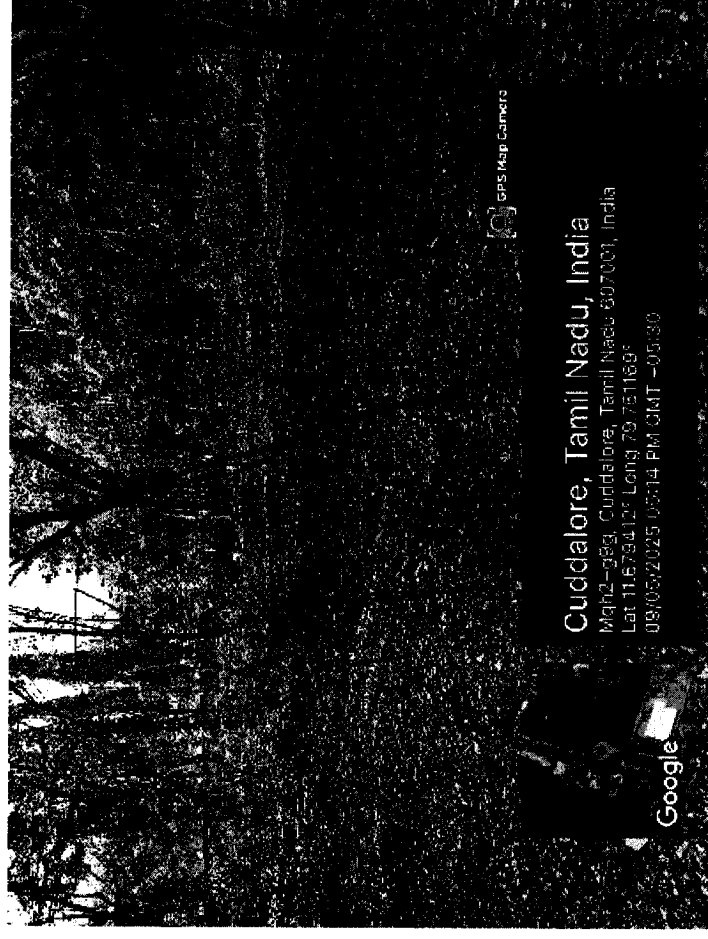
Within the campus - Near scrap yard



Within the campus – Second main gate back side



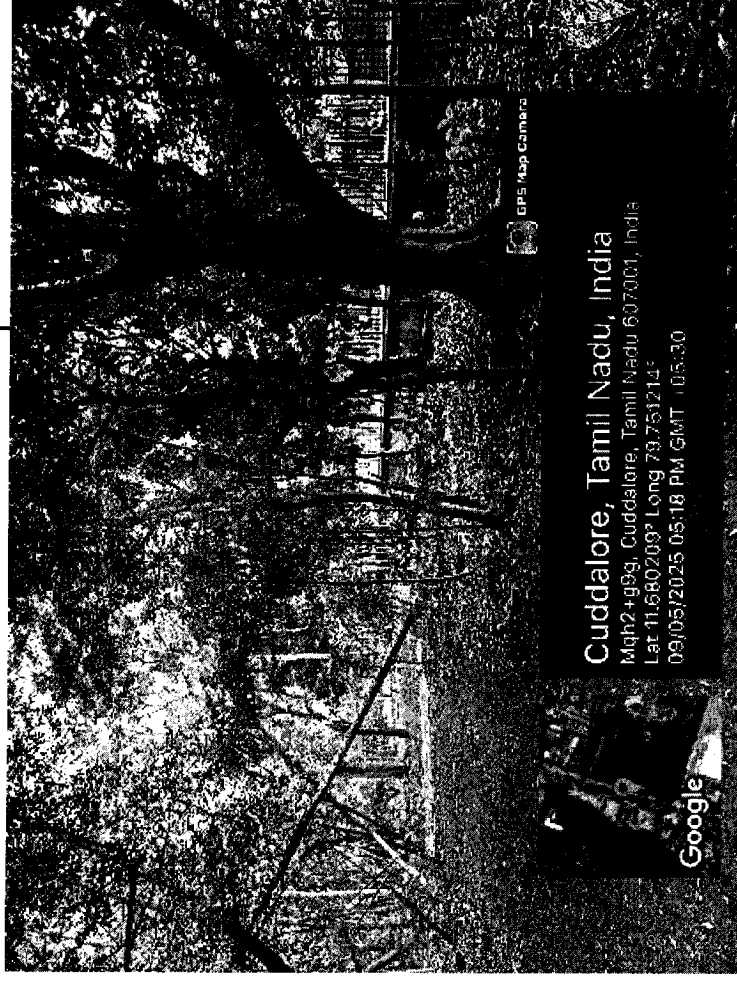
Within the campus - Near scrap yard



Within the campus – Second main gate back side



Within the campus – Second main gate back side



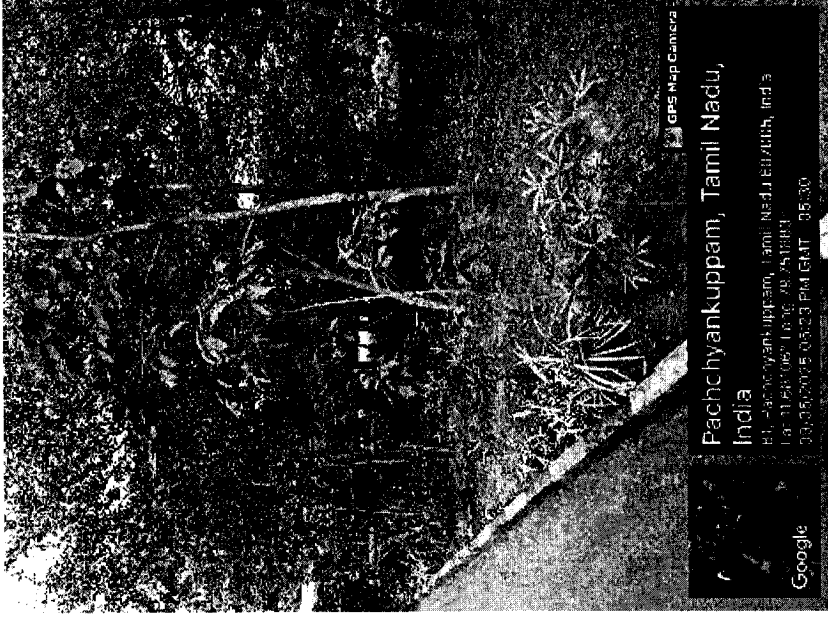
Within the campus - Near Bike shed opposite



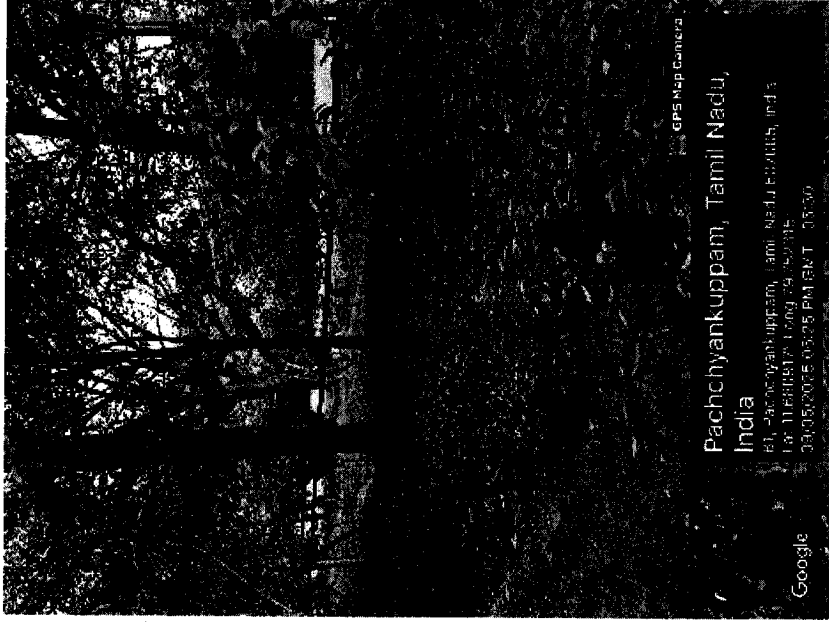
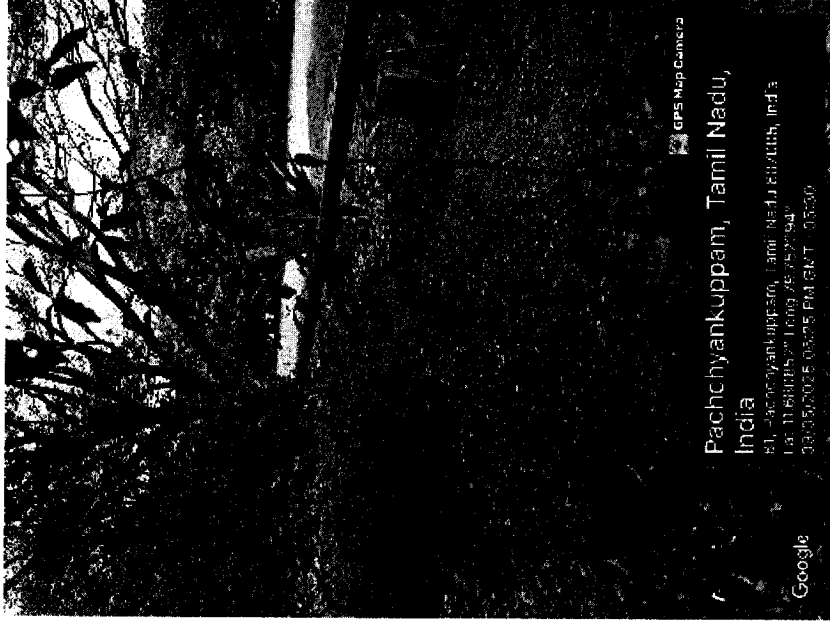
Within the campus - Near Bike shed opposite



Within the campus - Near Bike shed opposite



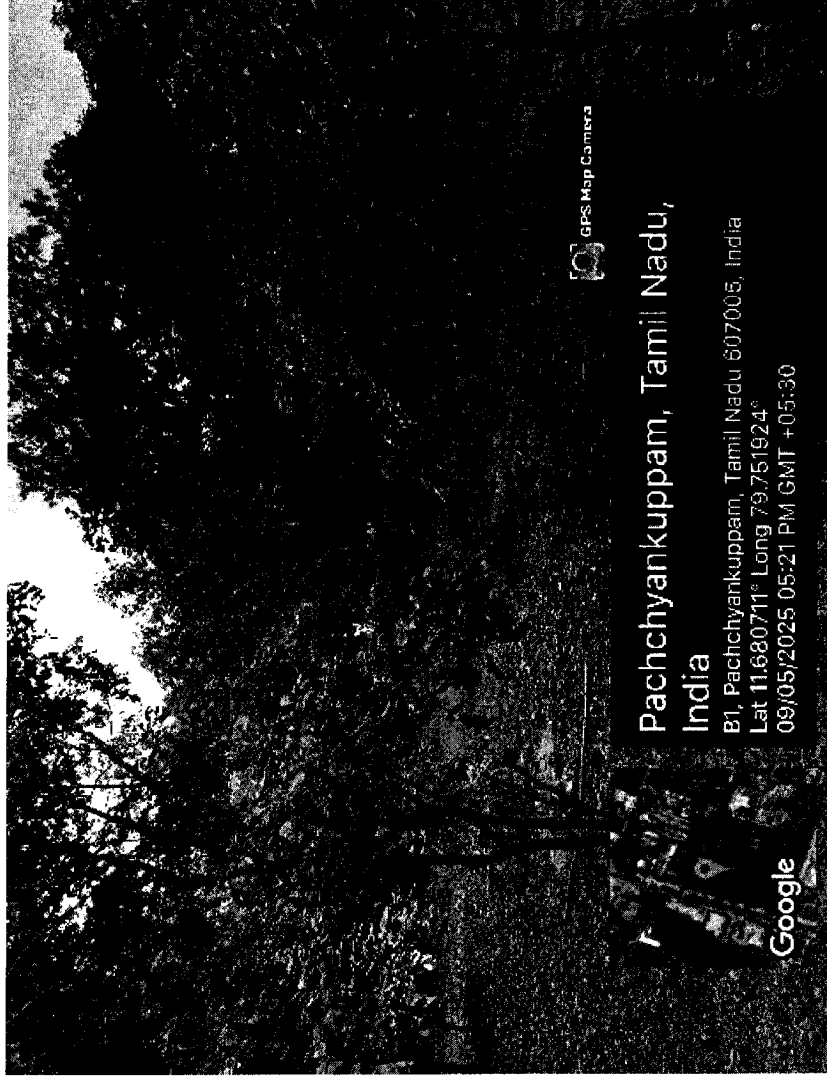
Within the campus - Near Bike shed opposite



Within the campus - Near Bike shed opposite



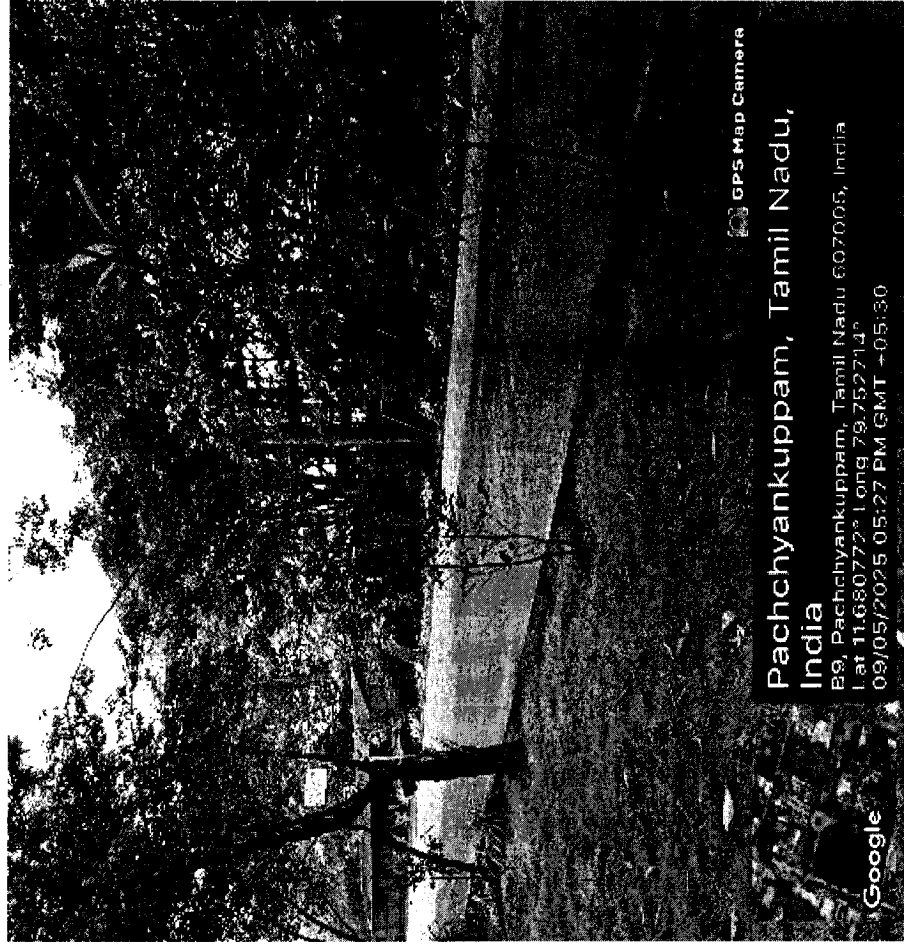
Within the campus - Near Bike shed opposite



Within the campus – Bike parking opposite side



Within the campus – Entrance Main road



THANK YOU

Annexure 13

On site emergency, Mockdrill, Fire hydrant layout

Fire Protection System

Asian Paints Limited

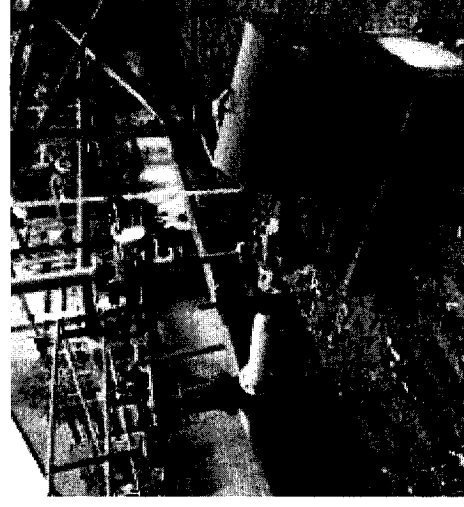
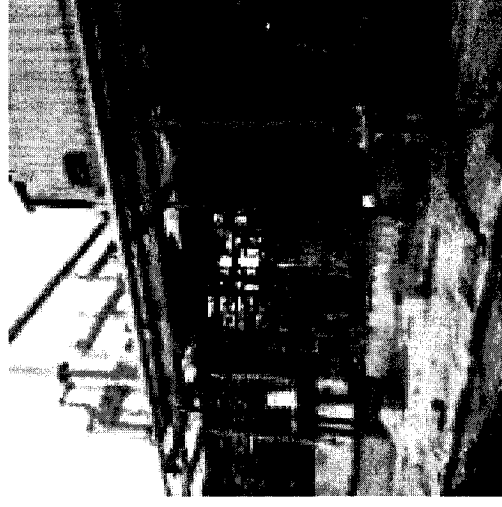
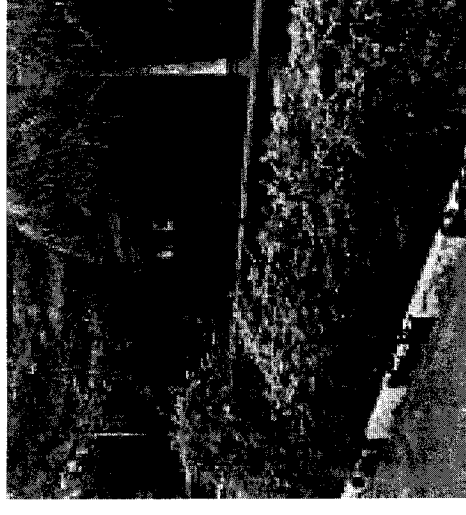
Penta Division

B5-B10, Sipcot

Cuddalore-607005

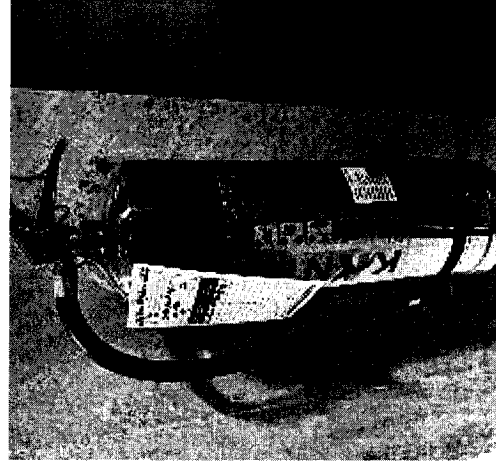
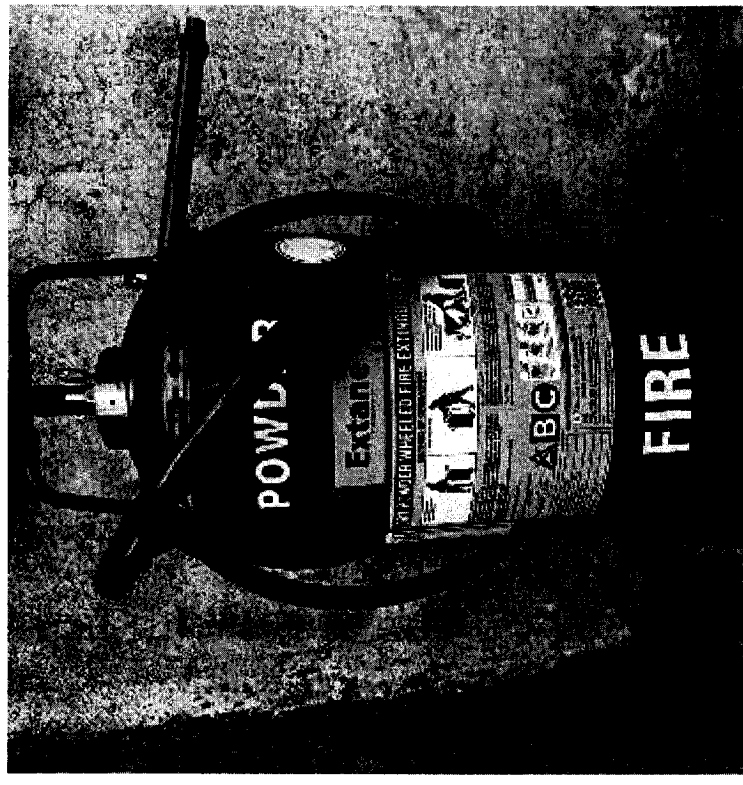
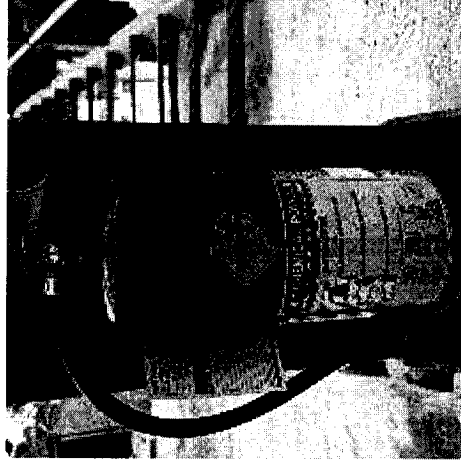
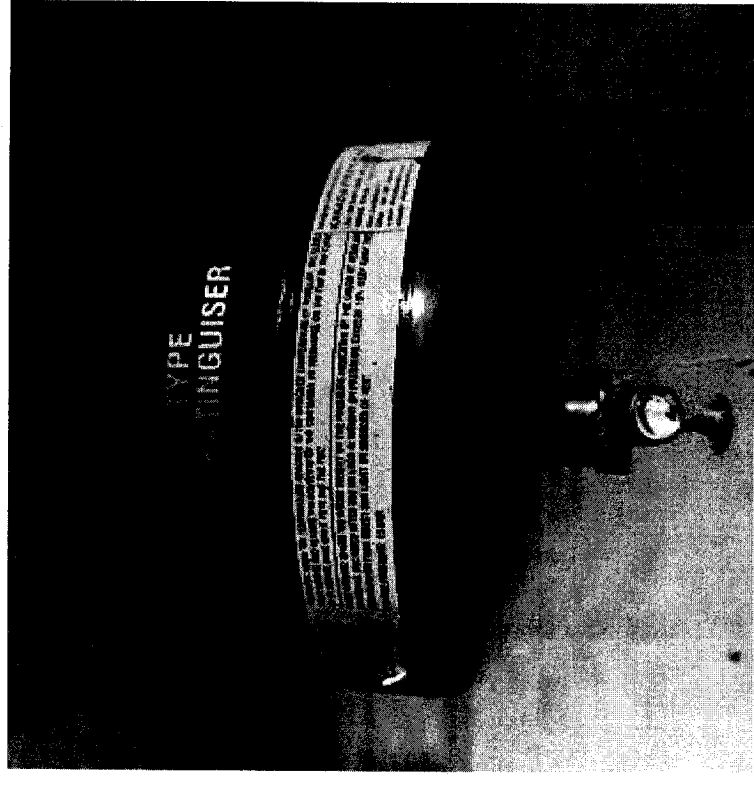
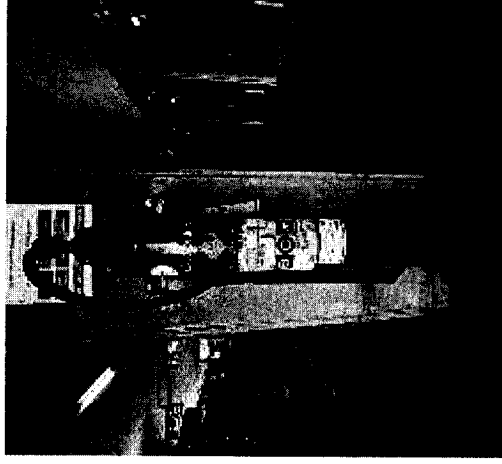
Fire protection system

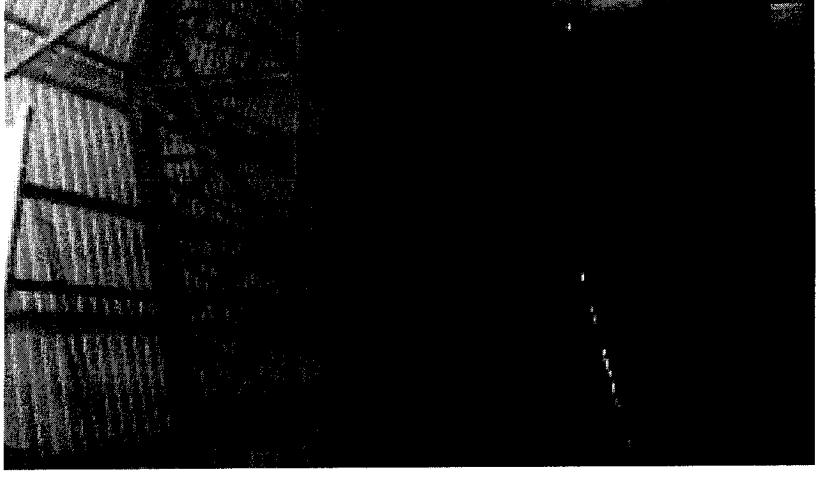
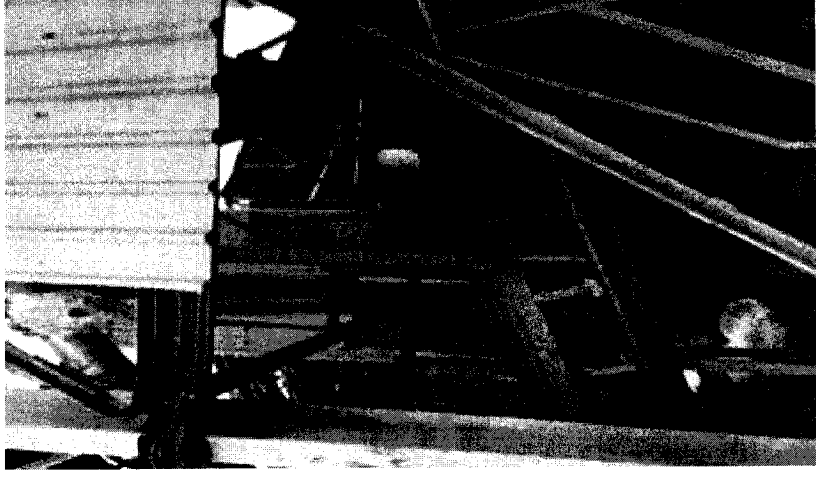
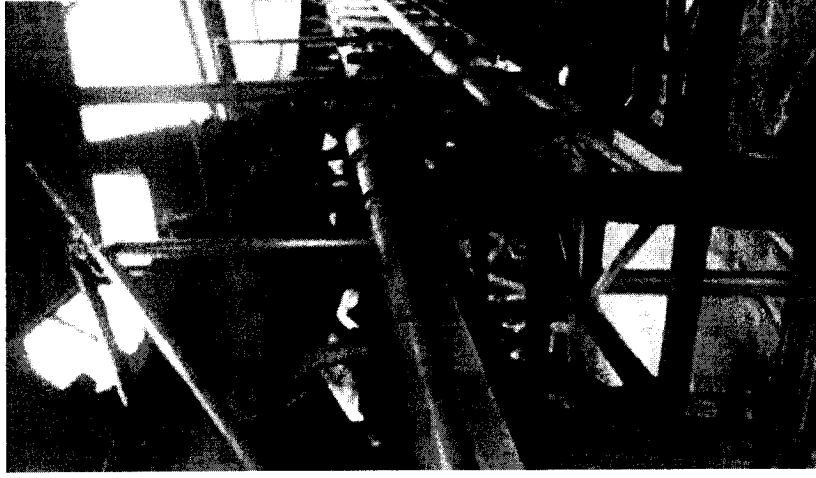
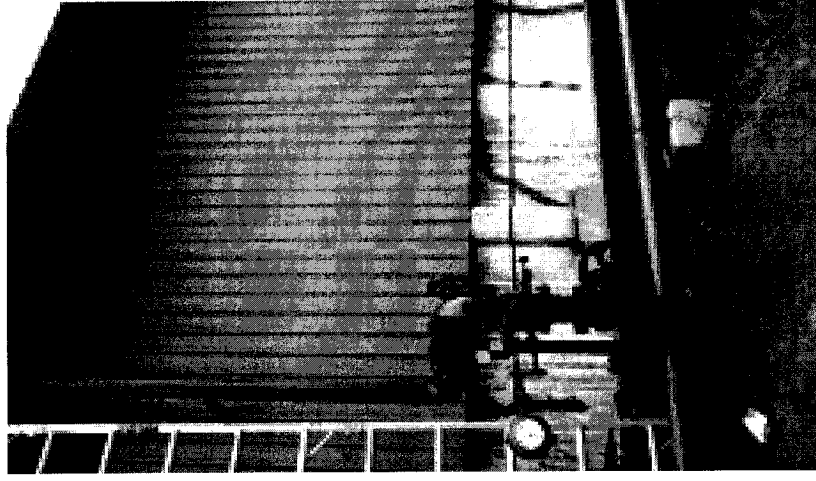
- Fully equipped Fire Hydrant system available with following facilities
 - Fire water reservoir of (1400 KL)
 - Electrically driven FH Jockey pump(15 m³/hr)-2 nos
 - Electrically driven FH main pumps(273 m³/hr) -1 no
 - Diesel driven pump(273 m³/hr)-1 no
 - Electrically driven FH main pumps(171 m³/hr) -1 no



Fire protection system

Fire Extinguishers of
type CO2, ABC
powder, Mechanical
foam, Water CO2 and
MAP Modular type
installed throughout
the plant





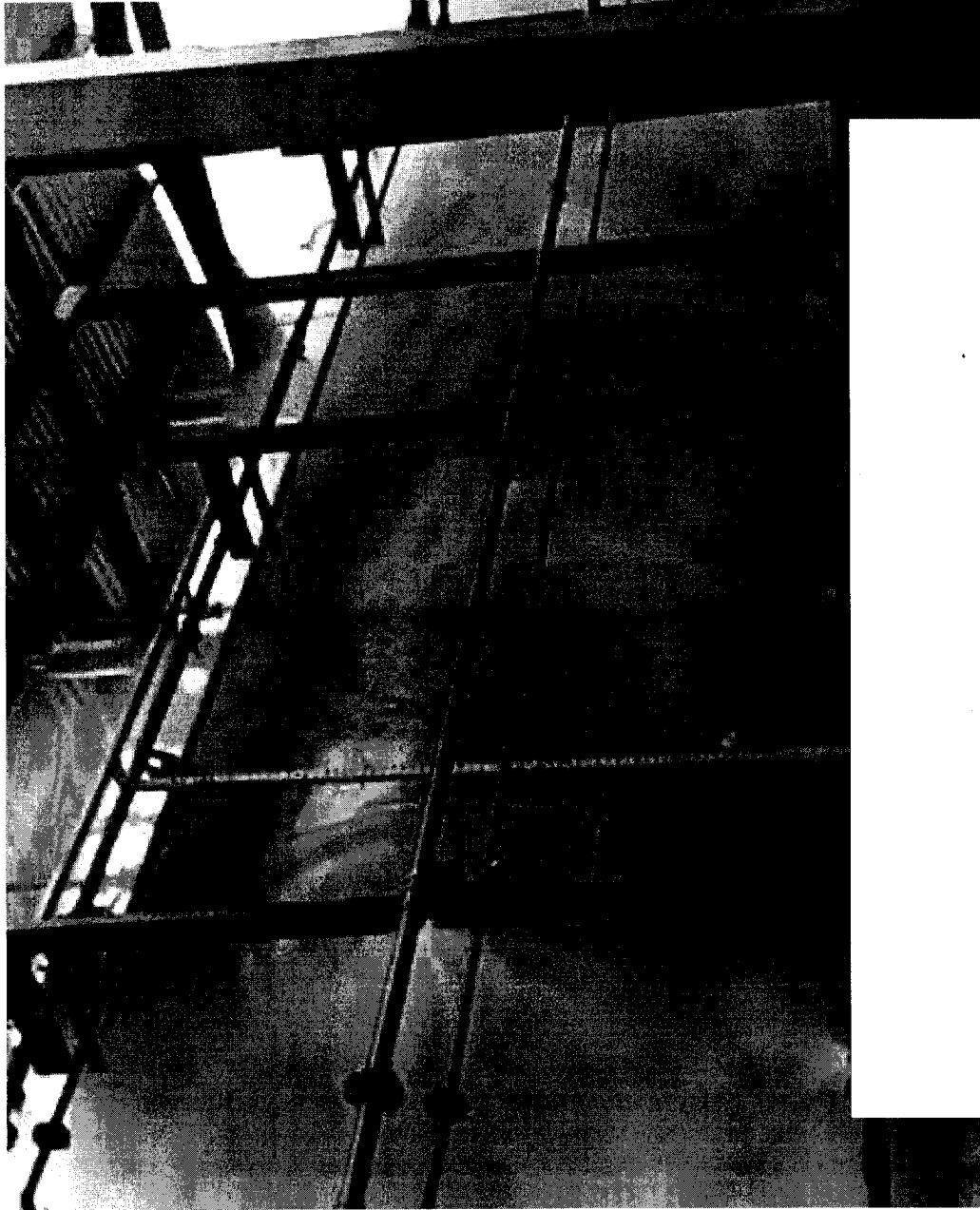
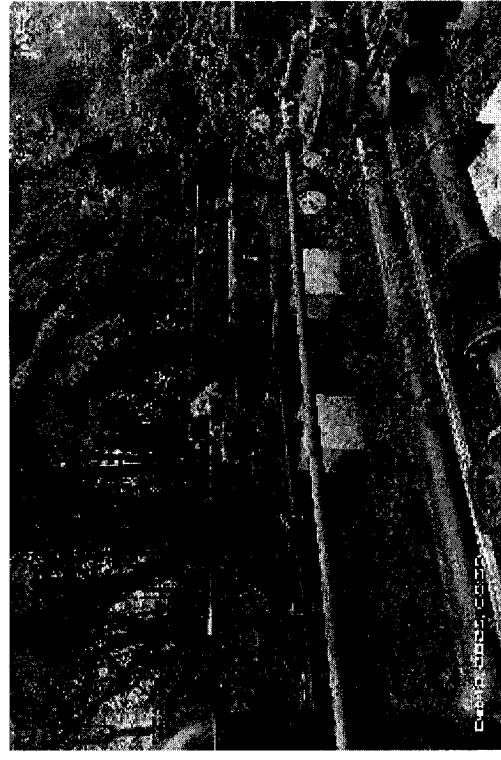
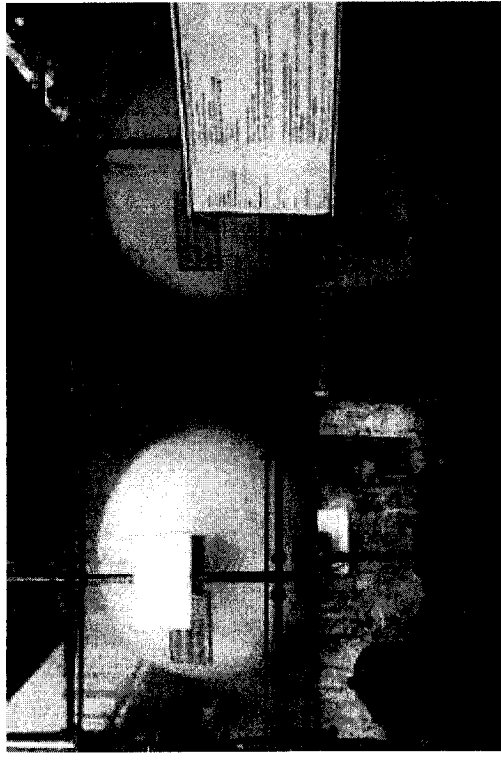
Fire protection system

- Automatic water sprinkler system in coal yard
- Automatic water sprinkler system available in Coal conveyors

Fire protection system

- Automatic water sprinkler system in FG storage warehouse





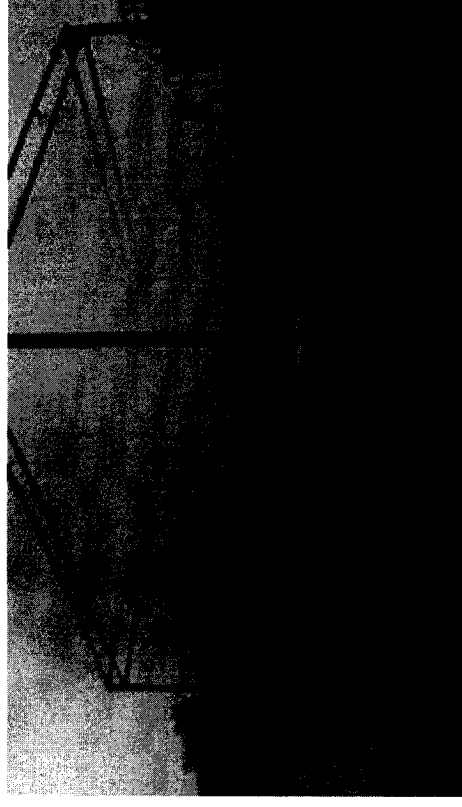
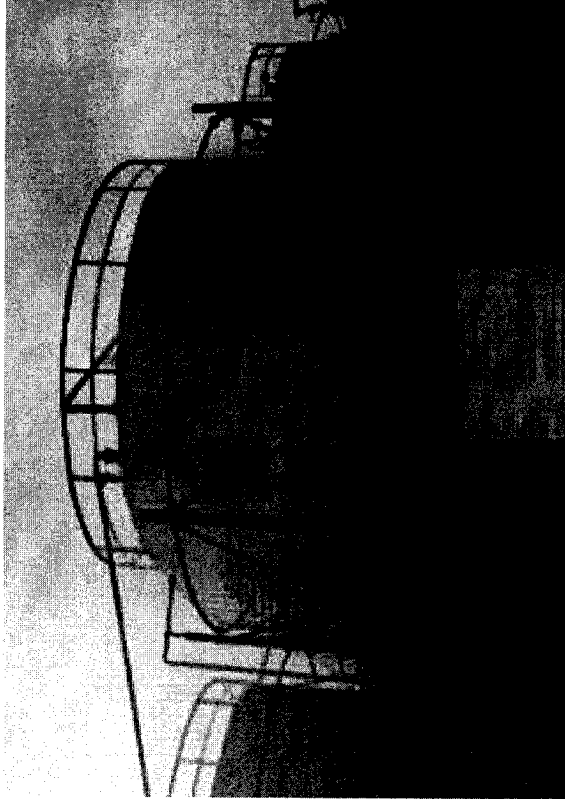
Automatic water sprinkler
system available in
Acetaldehyde bullet

Fire
protection
system



Fire protection system

**MVWS system and Foam pourer system
available in Methanol storage tank and tanker
unloading area**



Fire protection system

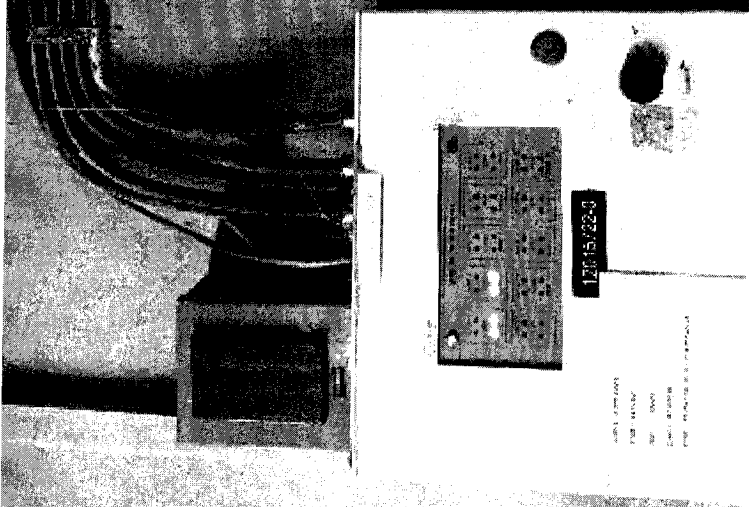
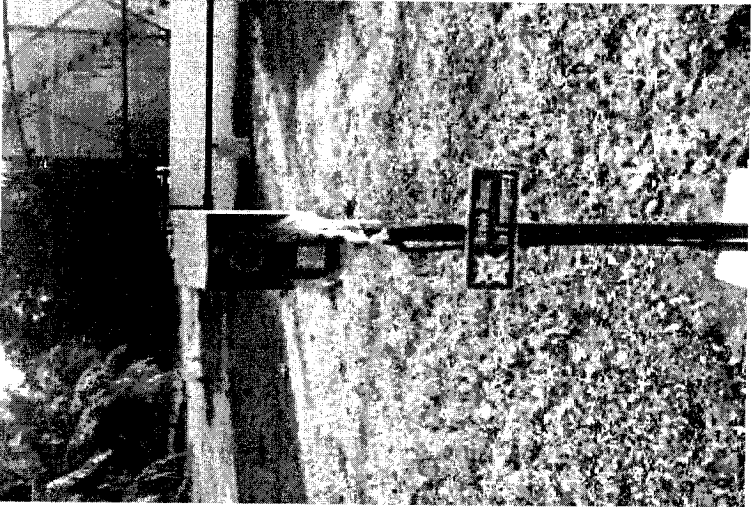
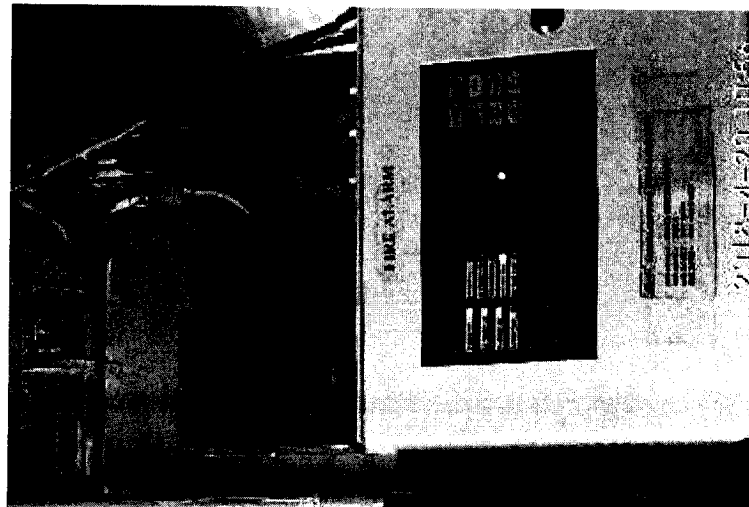
- Fire cum Foam pourer system available in Methanol storage tank and Acetaldehyde storage bullet

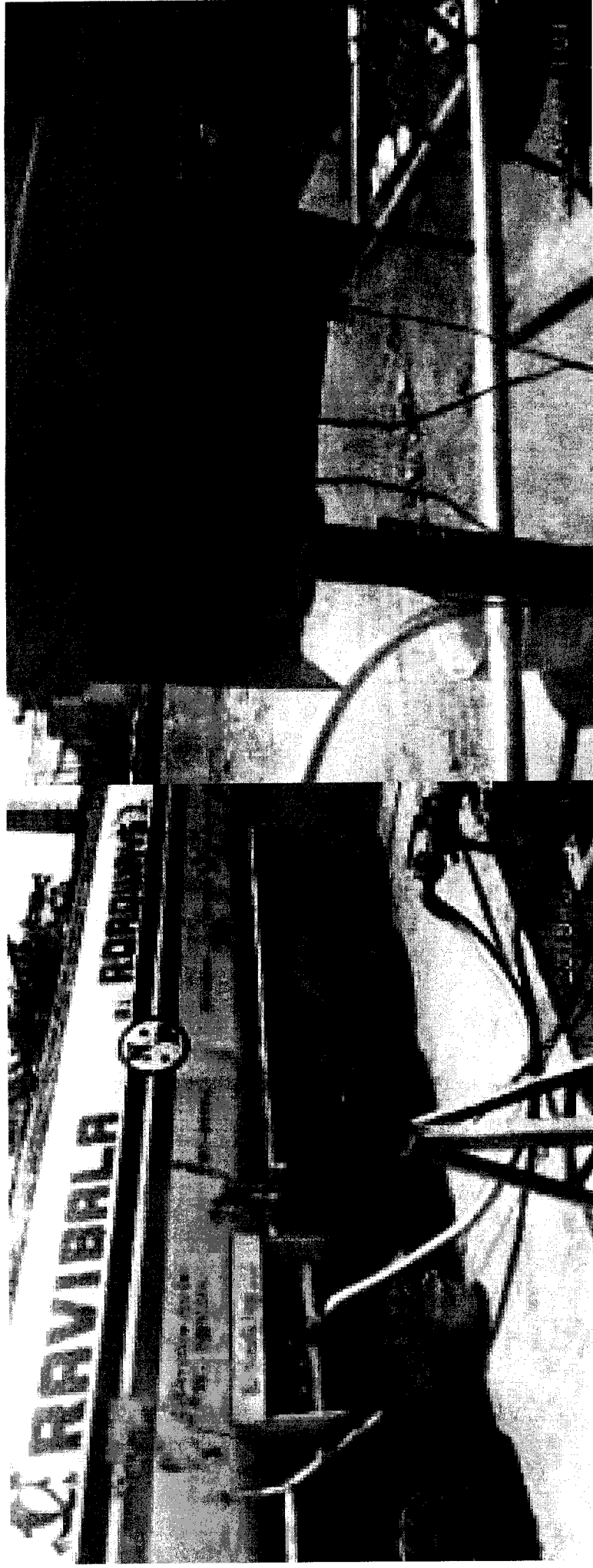
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Fire protection system

- Fire alarm system with manual call points and hooter available



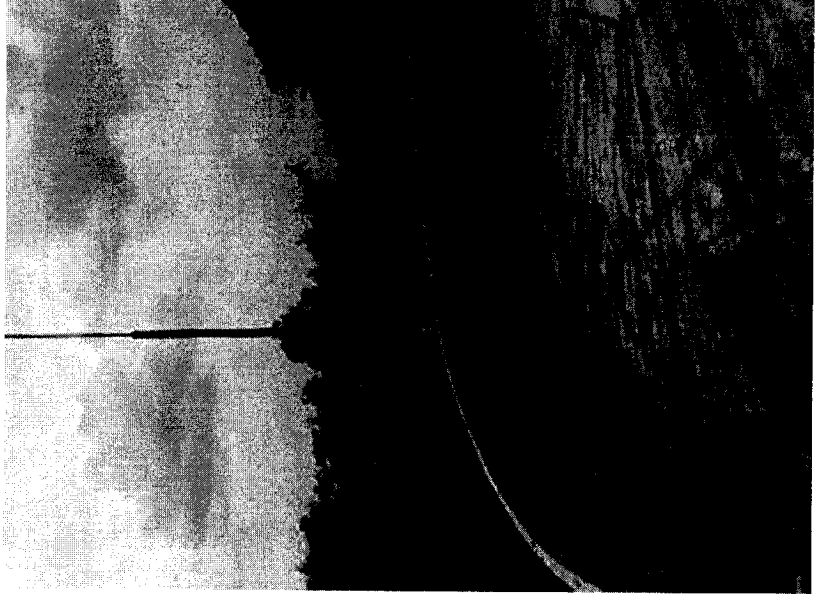
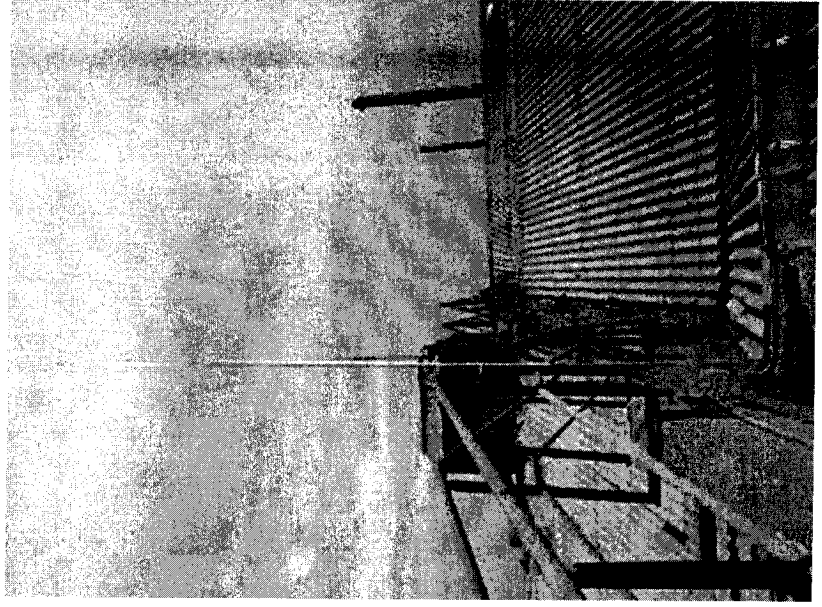


Fire prevention system

- Earthing interlock available for all Raw material unloading operations
- Flame proof electrical fittings available in Acetaldehyde, Methanol, Formaldehyde plant and FG bagging area
- Earthing continuity clamps available in Acetaldehyde and Methanol unloading lines
- Fire alarm system with Smoke detectors and Manual call points available

Fire prevention system

- Lightning arrestor provided in the following areas
 - RM storage,
 - RM parking area,
 - Penta plant
 - Ware house



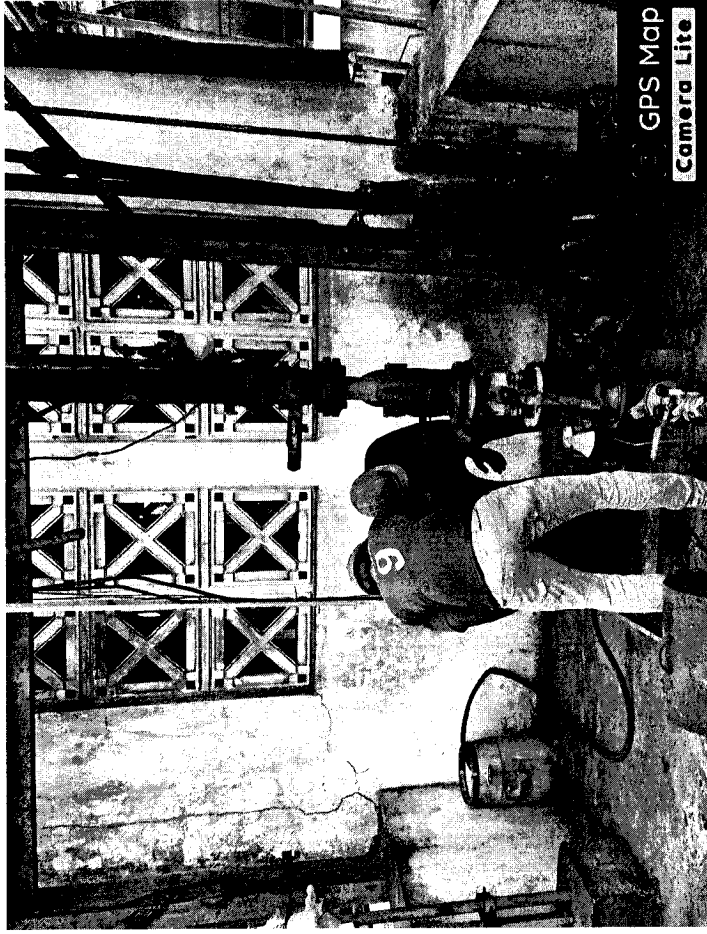
MOCK DRILL

DATE-25-02-2025

TIME-4.52 PM

AREA-ACETALDEHYDE BULLET TO DAY TANK PUMP AREA

SCENARIO-ACCIDENTAL LEAK OF ACETALDEHYDE FROM THE PUMP DISCHARGE
PRESSURE GAUGE POINT



GPS Map
Camera Lite

Unnamed Road, Tamil Nadu 607005, India

Latitude

11.679298114031553°

Longitude

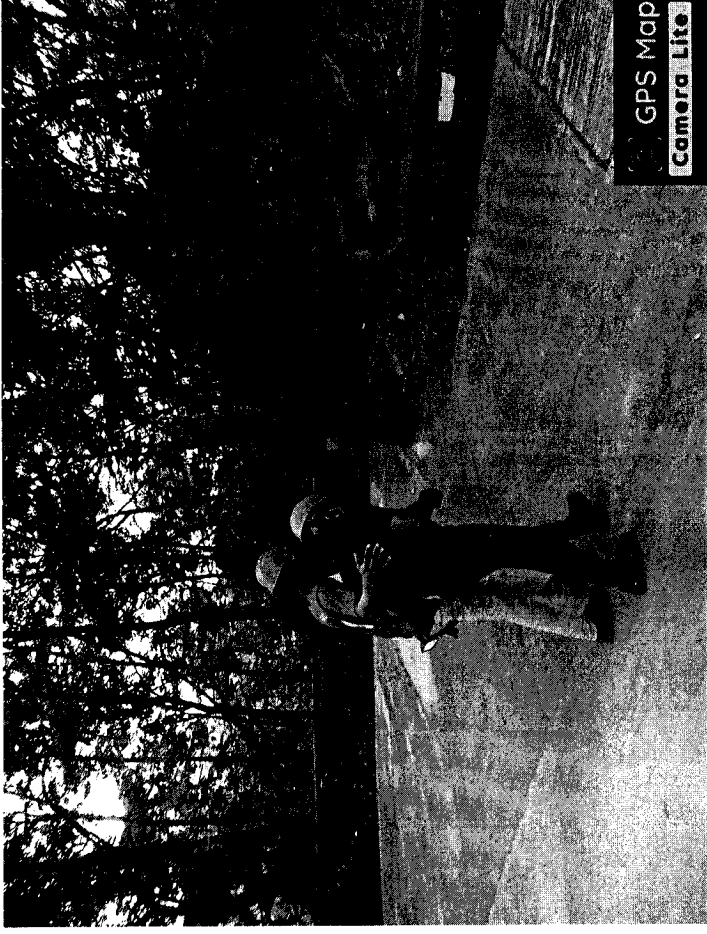
79.75311348214746°

Local 04:52:34 PM

Altitude 6 meters

Tuesday, 25.02.2025

Contract Employee engaged in Maintenance Work



GPS Map
Camera Lite

Unnamed Road, Tamil Nadu 607005, India

Latitude

11.679370324127376°

Longitude

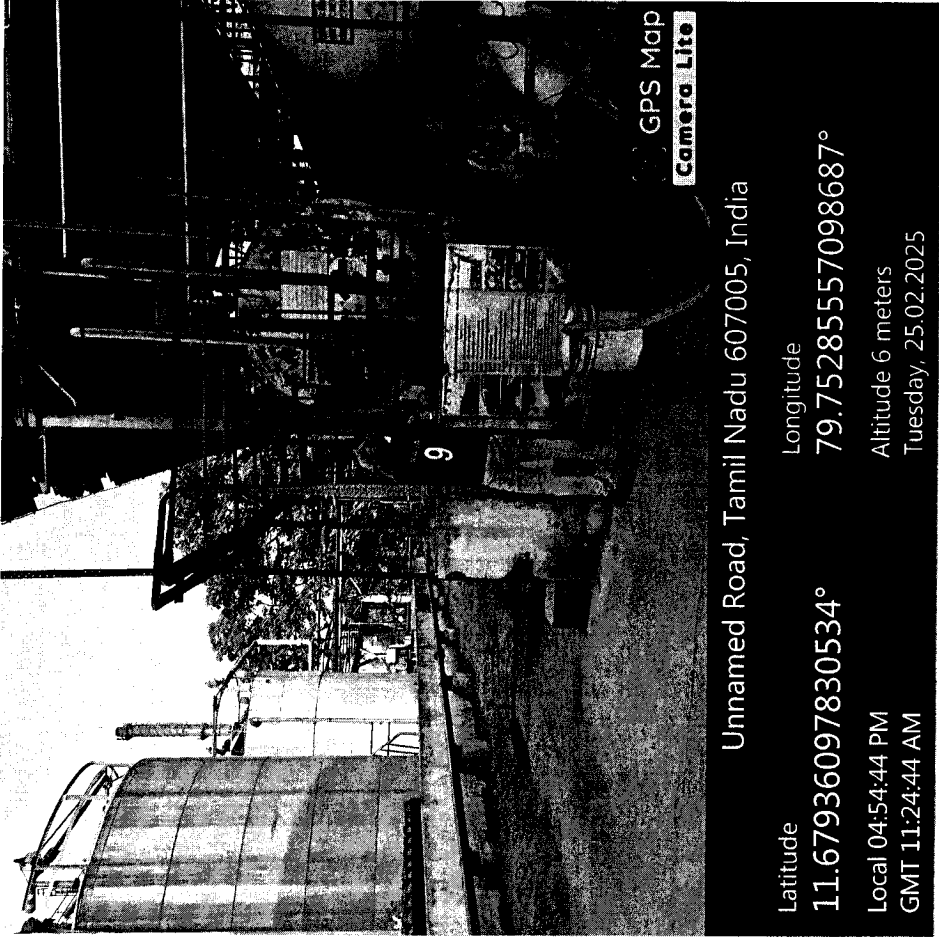
79.75284408777952°

Local 04:54:22 PM

Altitude 6 meters

Tuesday, 25.02.2025

Shifting of the affected employee to a safe location



GPS Map
Camera Lite

Unnamed Road, Tamil Nadu 607005, India

Latitude

11.67936097830534°

Longitude

79.75285557098687°

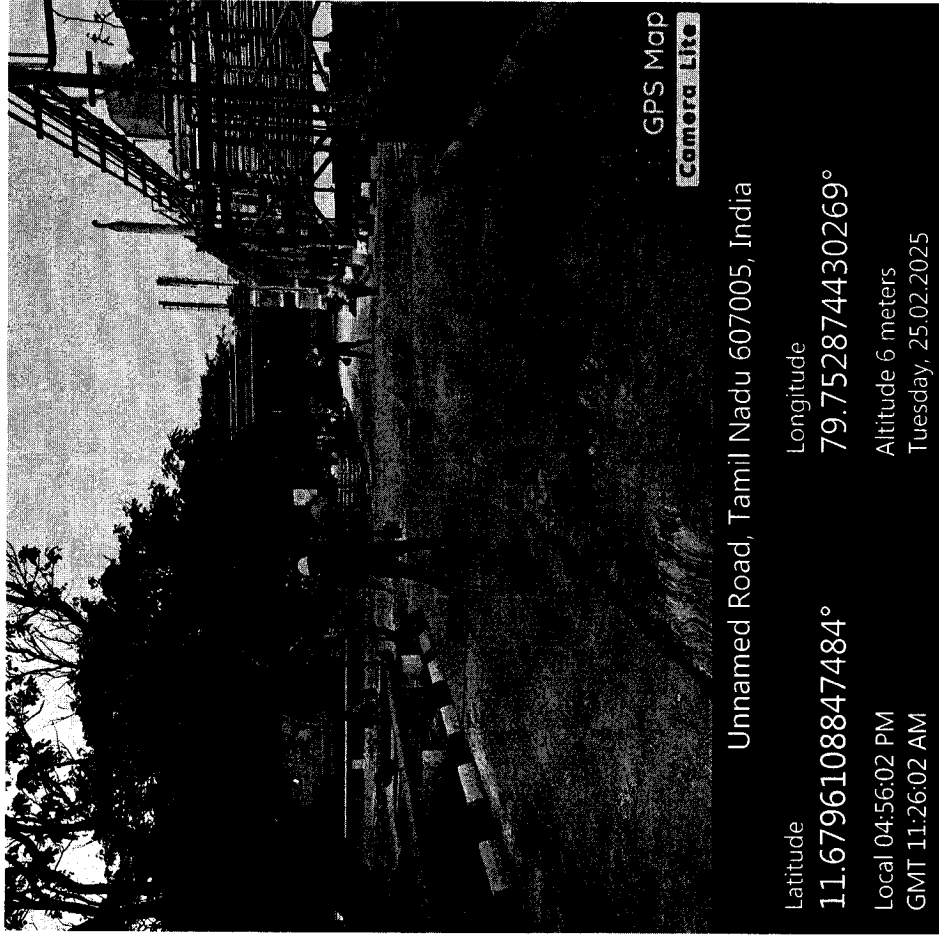
Local 04:54:44 PM

GMT 11:24:44 AM

Altitude 6 meters

Tuesday, 25.02.2025

Activation of the Manual Call Point



GPS Map
Camera Lite

Unnamed Road, Tamil Nadu 607005, India

Latitude

11.6796108847484°

Longitude

79.752874430269°

Local 04:56:02 PM

GMT 11:26:02 AM

Altitude 6 meters

Tuesday, 25.02.2025

Arrival of shift in charge to the site



GPS Map
Camera Lite

Unnamed Road, Tamil Nadu 607005, India

Latitude

11.679612561129034°

Longitude

79.75287518464029°

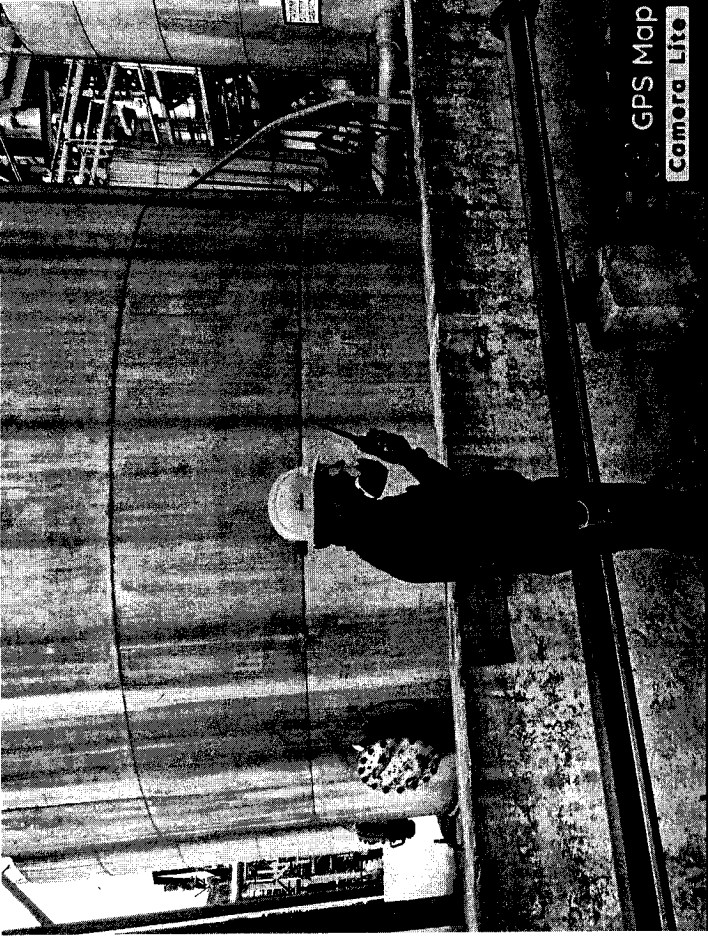
Local 04:56:09 PM

GMT 11:26:09 AM

Altitude 6 meters

Tuesday, 25.02.2025

Shift in charge assessing the condition of the affected
person



GPS Map
Camera Lite

Unnamed Road, Tamil Nadu 607005, India

Latitude

11.679344424046576°

Longitude

79.75300451740623°

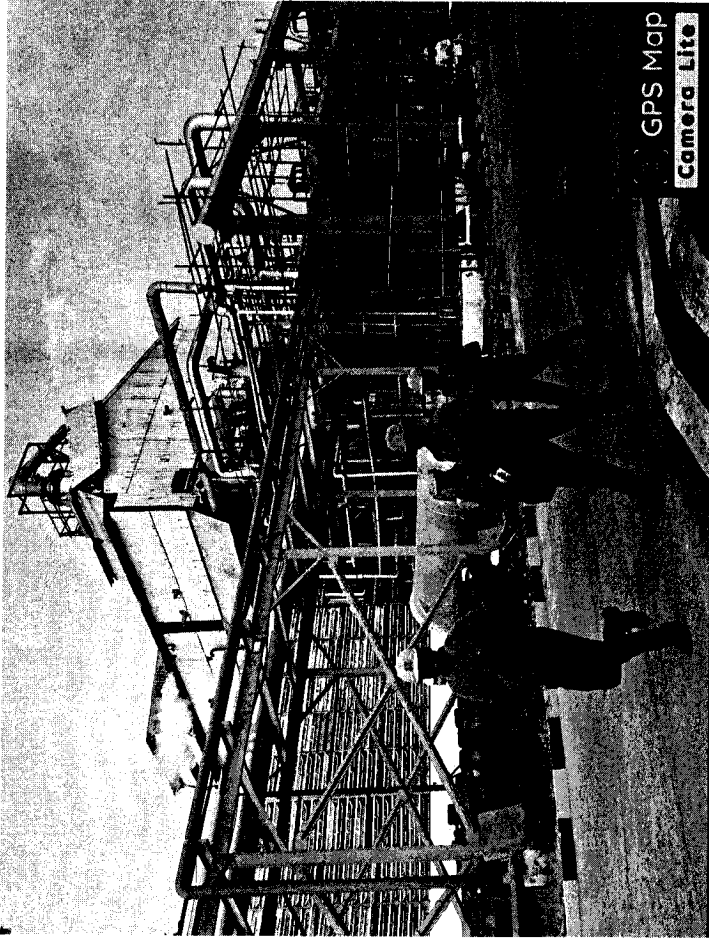
Local 04:56:44 PM

GMT 11:26:44 AM

Altitude 6 meters

Tuesday, 25.02.2025

Shift in charge assessing the site condition and declaring
emergency



GPS Map
Camera Life

Unnamed Road, Tamil Nadu 607005, India

Latitude

11.679731416516006°

Longitude

79.75292455404997°

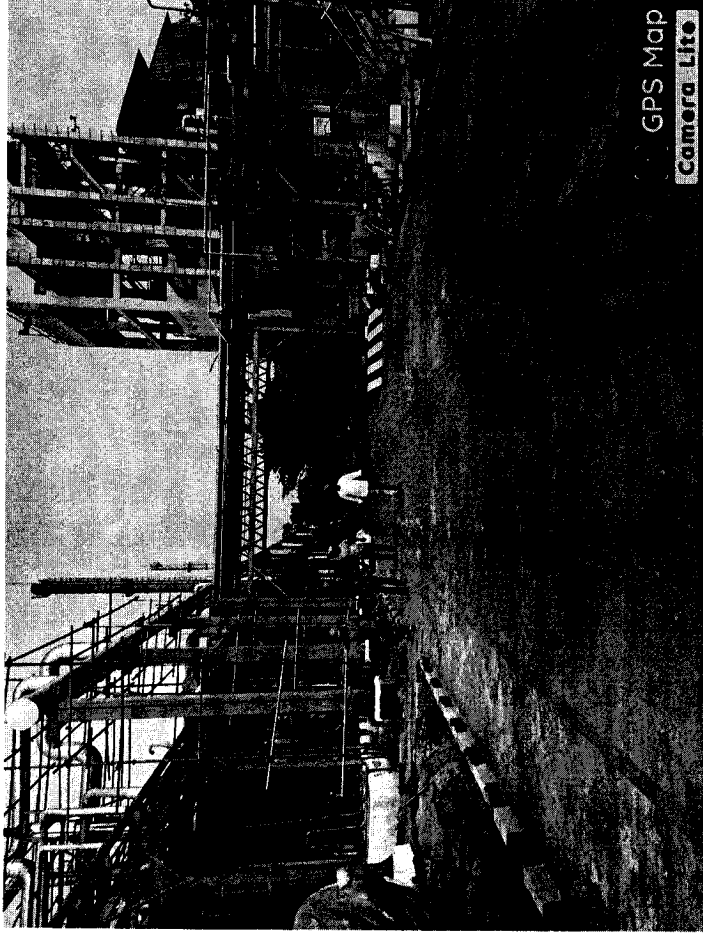
Local 04:57:42 PM

Altitude 6 meters

Tuesday, 25.02.2025

GMT 11:27:42 AM

Emergency response team arrival at the site



GPS Map
Camera Life

Unnamed Road, Tamil Nadu 607005, India

Latitude

11.679804339073598°

Longitude

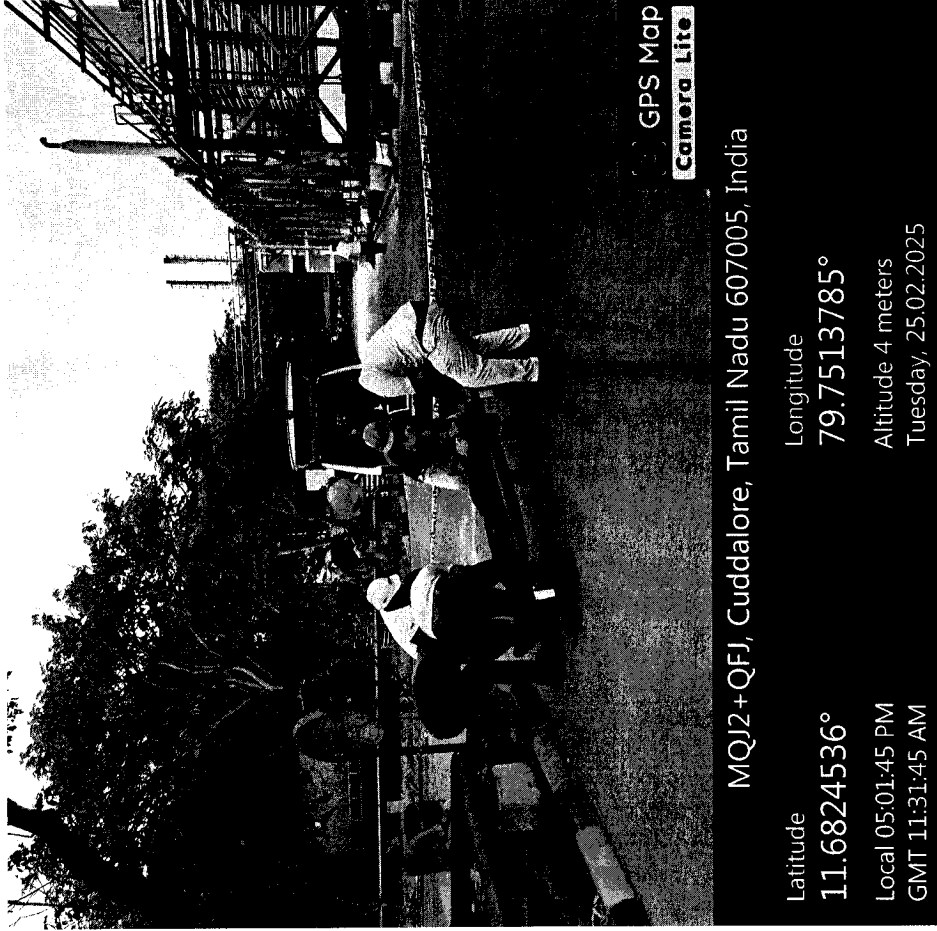
79.75297551602125°

Local 04:57:49 PM

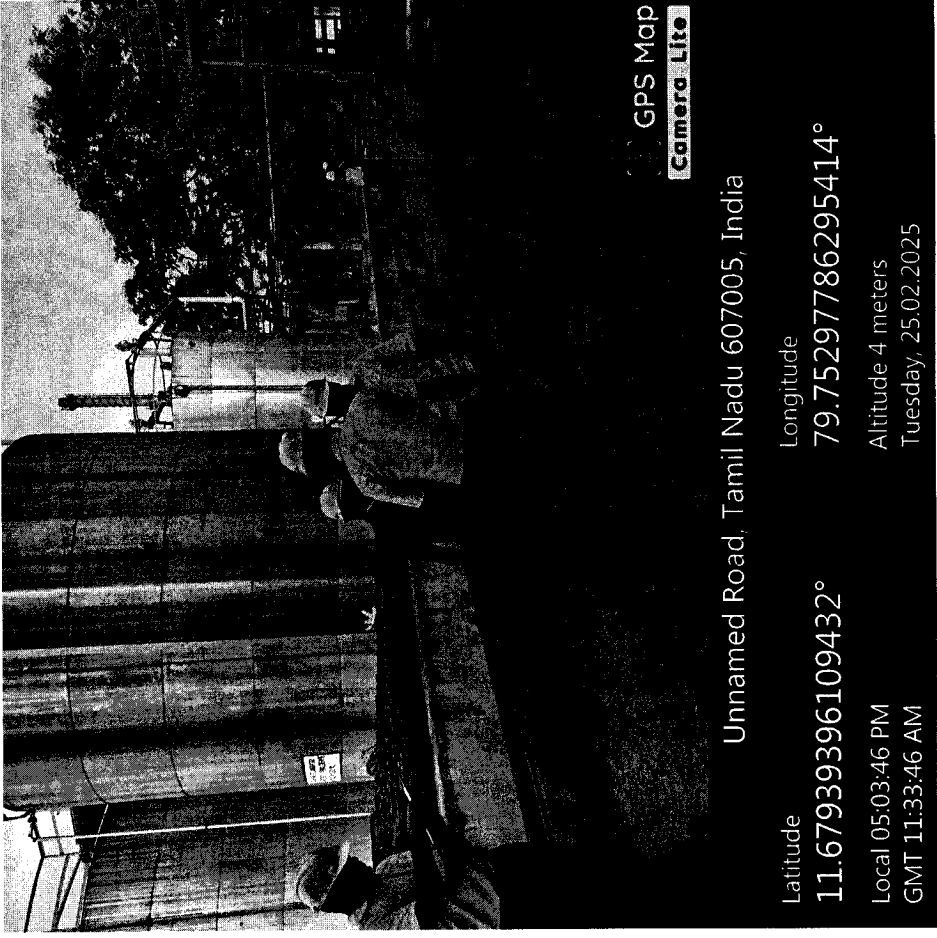
Altitude 6 meters

Tuesday, 25.02.2025

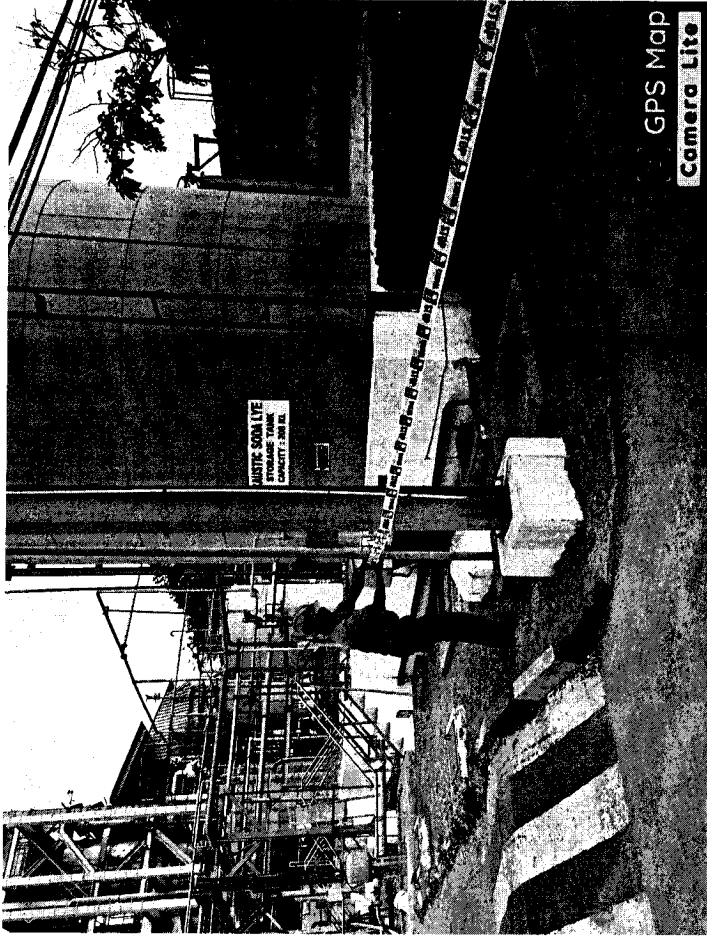
Employees moving towards Emergency assembly point



Shifting of the affected person to OHC in Ambulance



Assessment of the Site by the Incident Controller and Safety Coordinator



GPS Map
Camera Lite

Unnamed Road, Tamil Nadu 607005, India

Latitude

11.679749856702983°

Longitude

79.7529232967645°

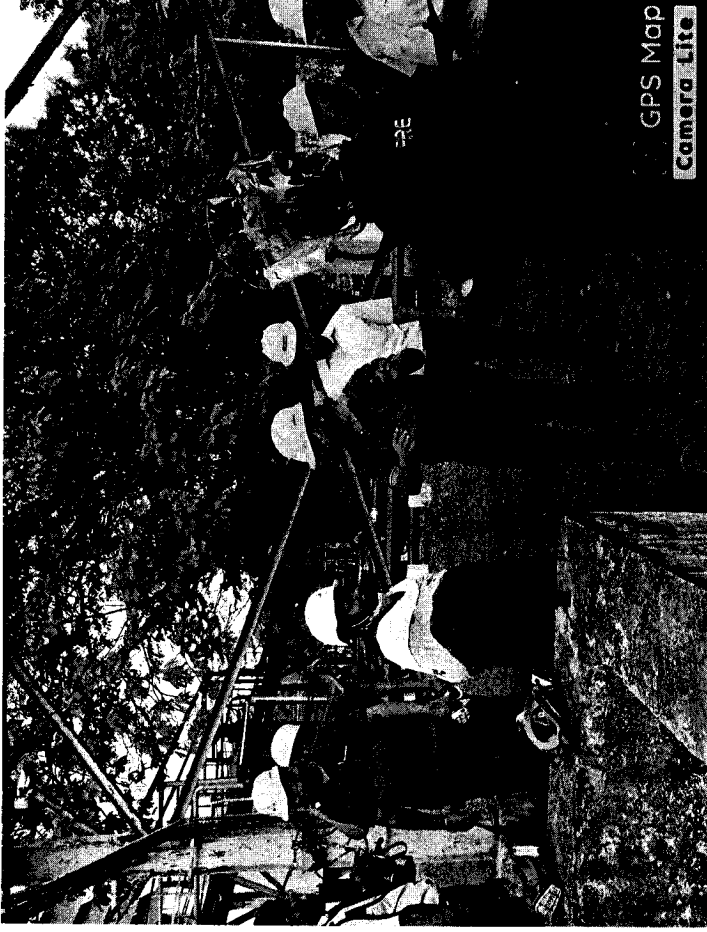
Local 04:58:18 PM

Altitude 6 meters

Tuesday, 25.02.2025

GMT 11:28:18 AM

Emergency site cordoned off



GPS Map
Camera Lite

Unnamed Road, Tamil Nadu 607005, India

Latitude

11.679315129294991°

Longitude

79.75316779688°

Local 05:10:26 PM

Altitude 6 meters

Tuesday, 25.02.2025

JDISH assessing the usage of ELBA



GPS Map
Camera Lite

Unnamed Road, Tamil Nadu 607005, India

Latitude

11.67931068688631°

Longitude

79.75315564312041°

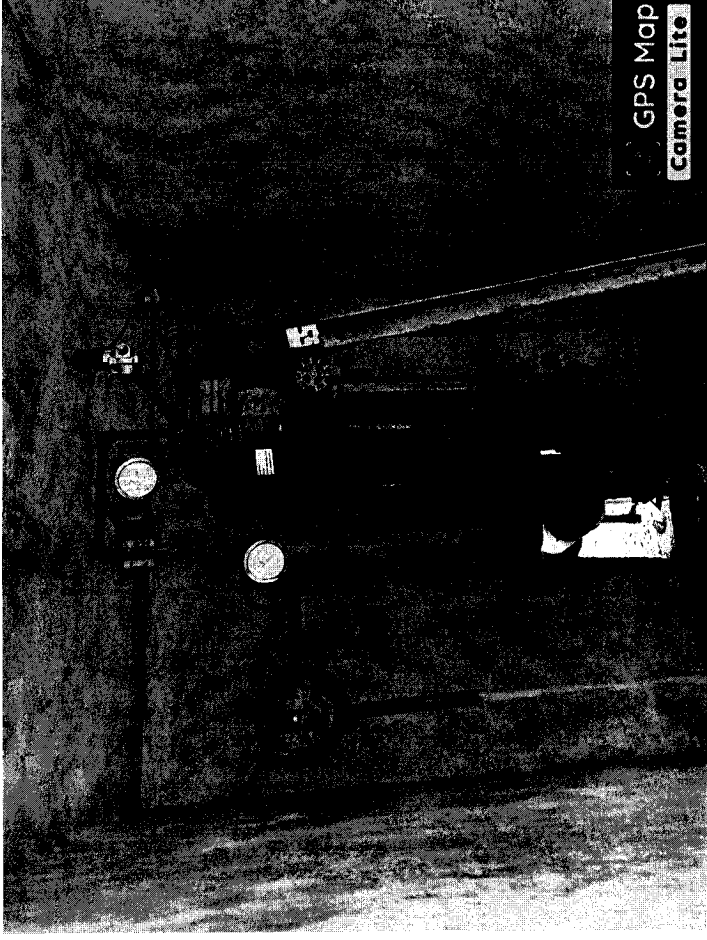
Local 05:08:34 PM

Altitude 6 meters

GMT 11:38:34 AM

Tuesday, 25.02.2025

Incident Controller explaining the Emergency scenario to
JDISH



GPS Map
Camera Lite

Unnamed Road, Tamil Nadu 607005, India

Latitude

11.679250923916698°

Longitude

79.7532425634563°

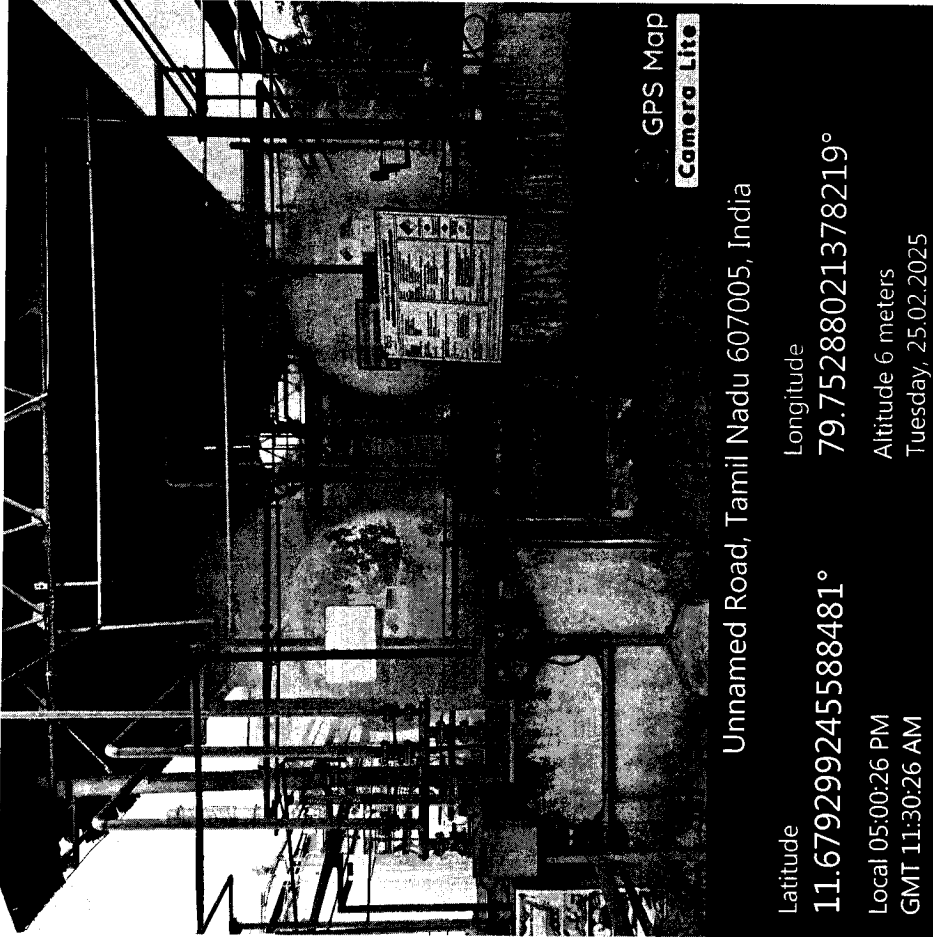
Local 04:59:47 PM

Altitude 6 meters

GMT 11:29:47 AM

Tuesday, 25.02.2025

Activation of Medium Water sprinkler system

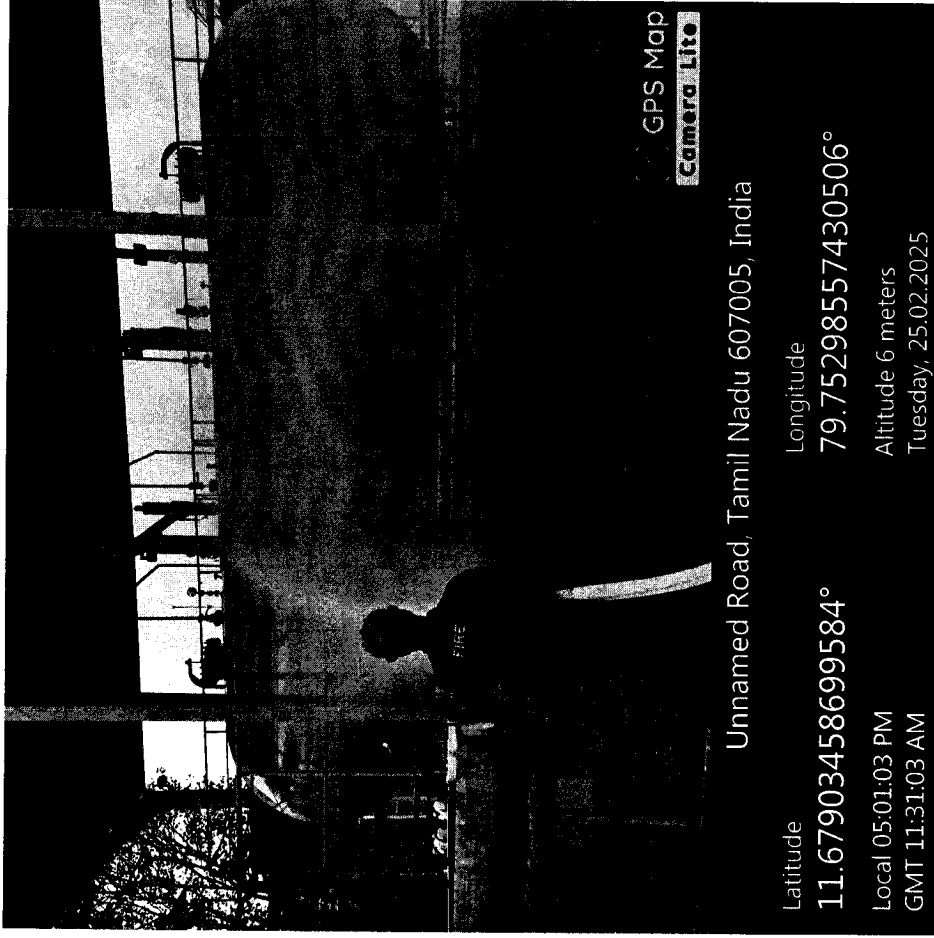


GPS Map
Camera Lite

Unnamed Road, Tamil Nadu 607005, India

Latitude	Longitude	Altitude
11.679299245588481°	79.75288021378219°	6 meters
Local 05:00:26 PM	Tuesday, 25.02.2025	
GMT 11:30:26 AM		

Medium Velocity Water sprinkler system operation in Bullet-1&2



GPS Map
Camera Lite

Unnamed Road, Tamil Nadu 607005, India

Latitude	Longitude	Altitude
11.67903458699584°	79.75298557430506°	6 meters
Local 05:01:03 PM	Tuesday, 25.02.2025	
GMT 11:31:03 AM		

Cooling of the Bullet-3



GPS Map
Camera Lite

Unnamed Road, Tamil Nadu 607005, India

Latitude

11.679042633622885°

Longitude

79.75291315466166°

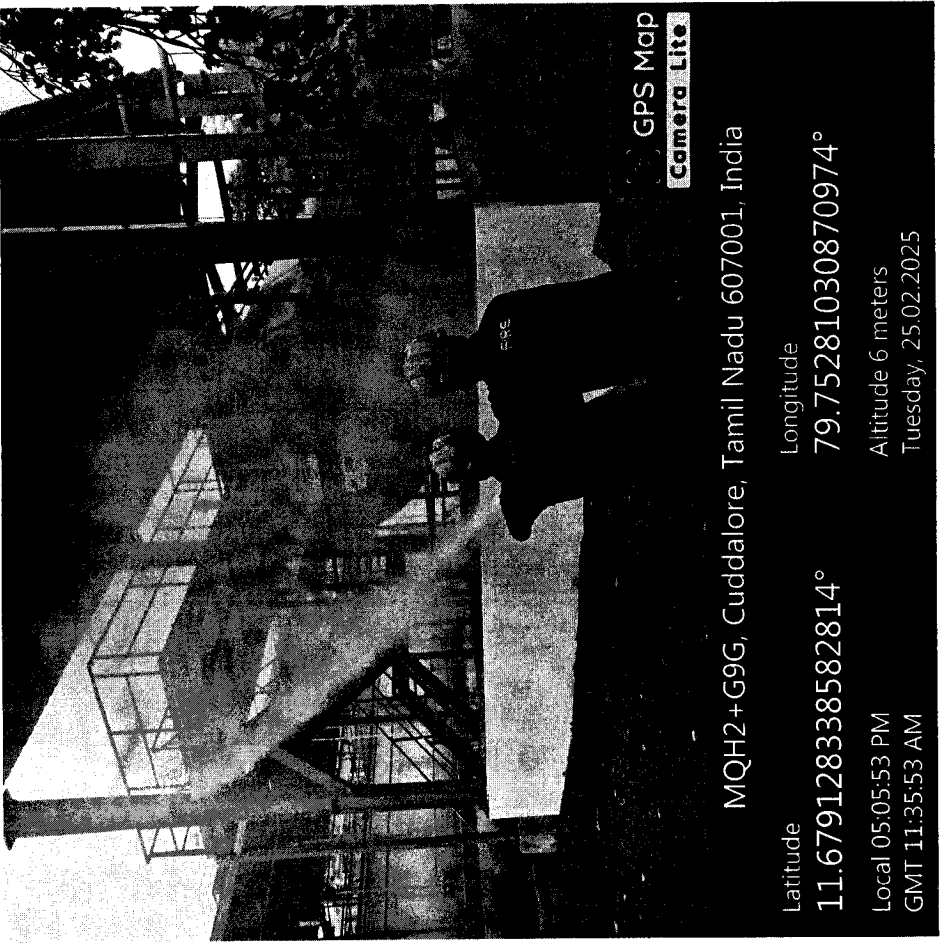
Local 05:00:52 PM

GMT 11:30:52 AM

Altitude 6 meters

Tuesday, 25.02.2025

Multi nozzle Fire sprinkler operation in sprinkler mode



GPS Map
Camera Lite

MQH2+G9G, Cuddalore, Tamil Nadu 607001, India

Latitude

11.679128338582814°

Longitude

79.75281030870974°

Local 05:05:53 PM

GMT 11:35:53 AM

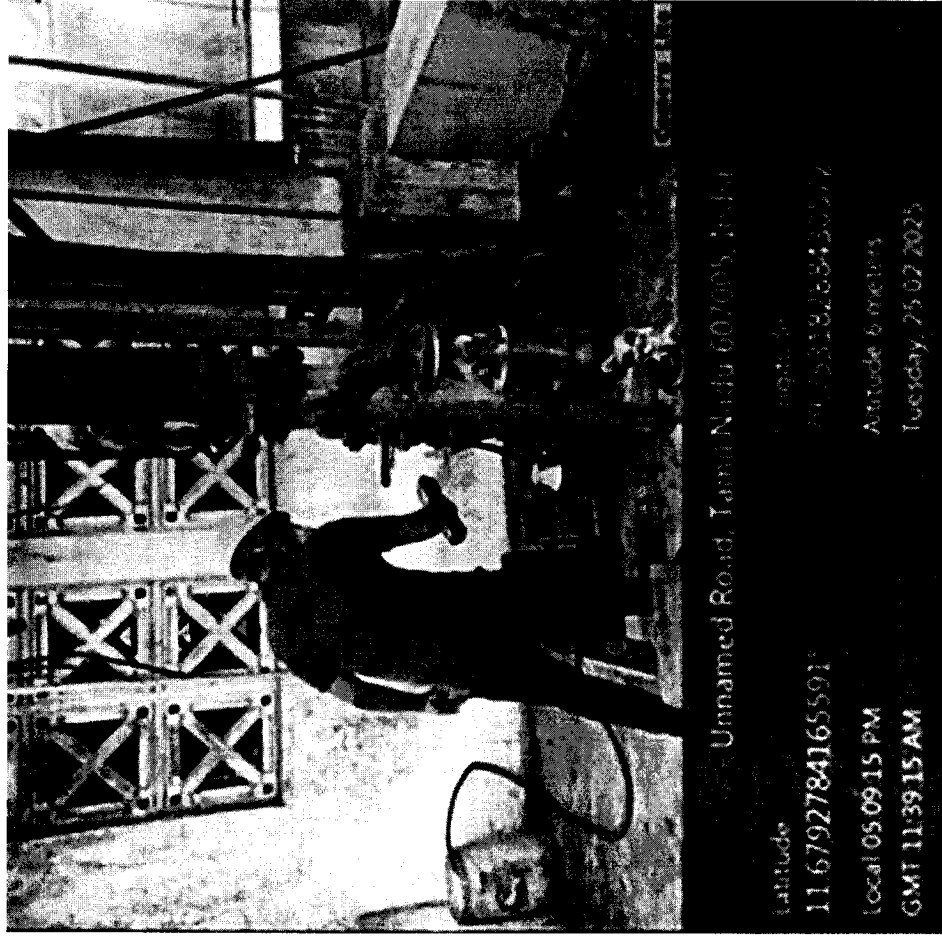
Altitude 6 meters

Tuesday, 25.02.2025

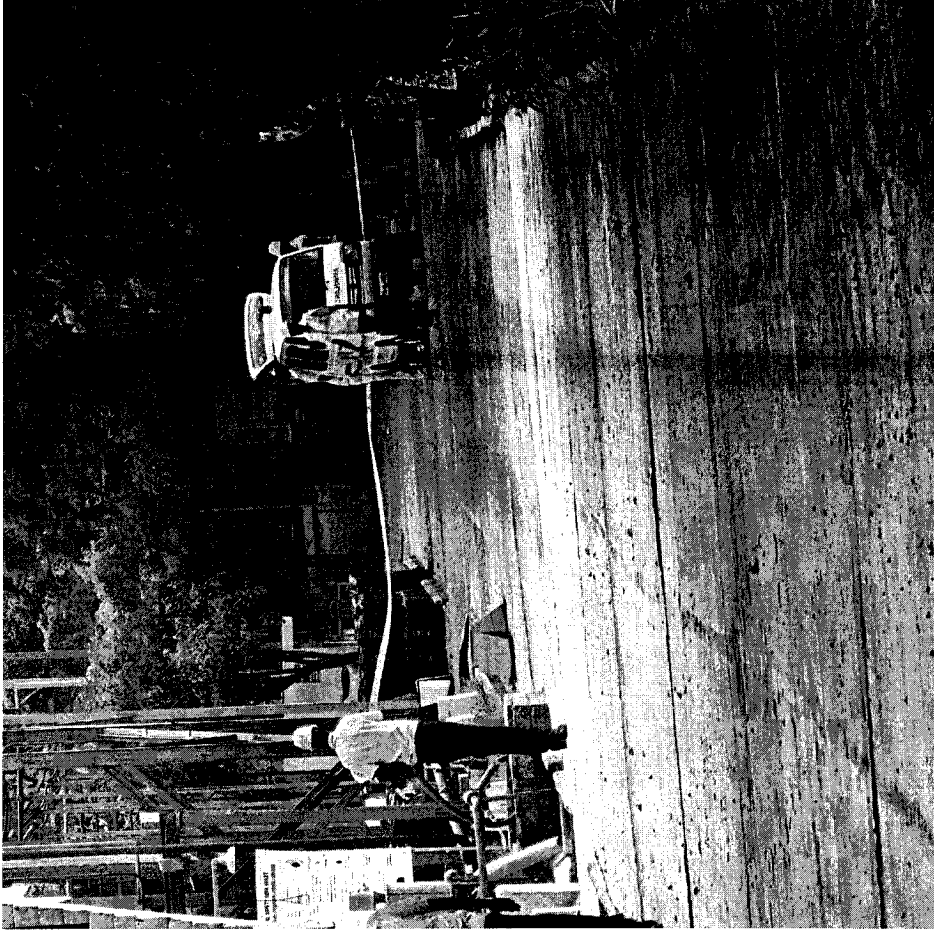
Multi nozzle Fire sprinkler operation in hydrant mode



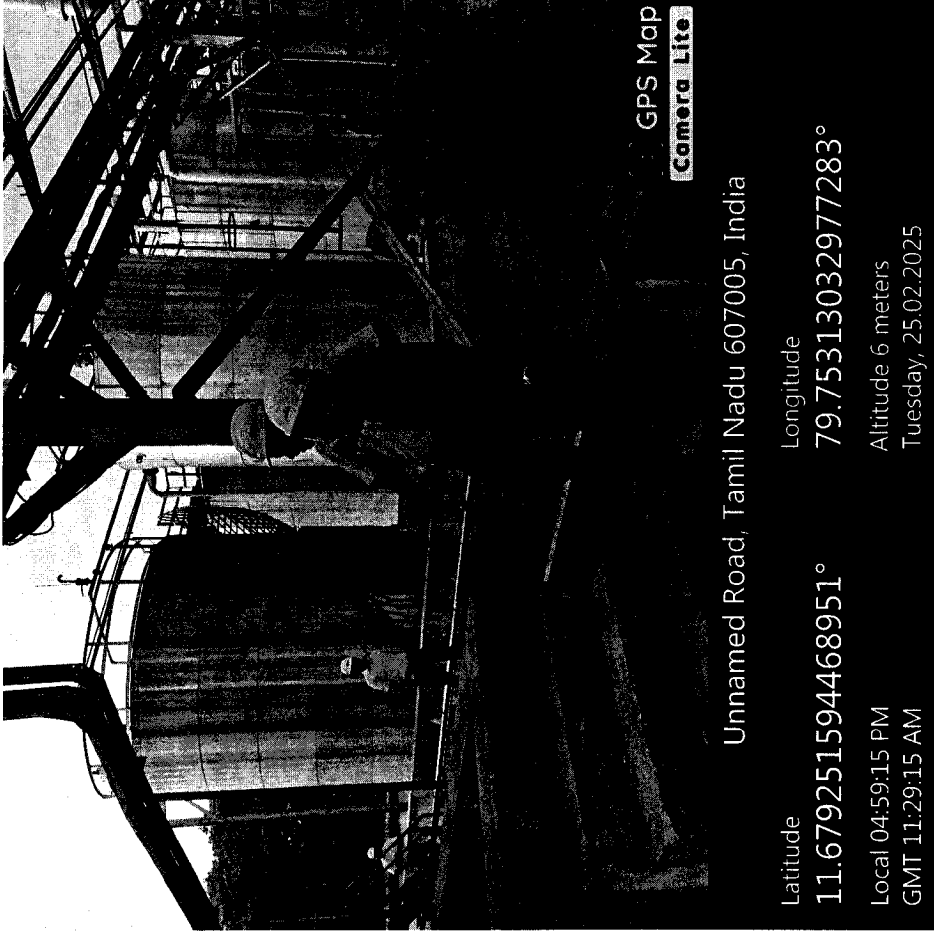
Fitter arresting the Acetaldehyde leak wearing SCBA(Self Contained Breathing Apparatus)



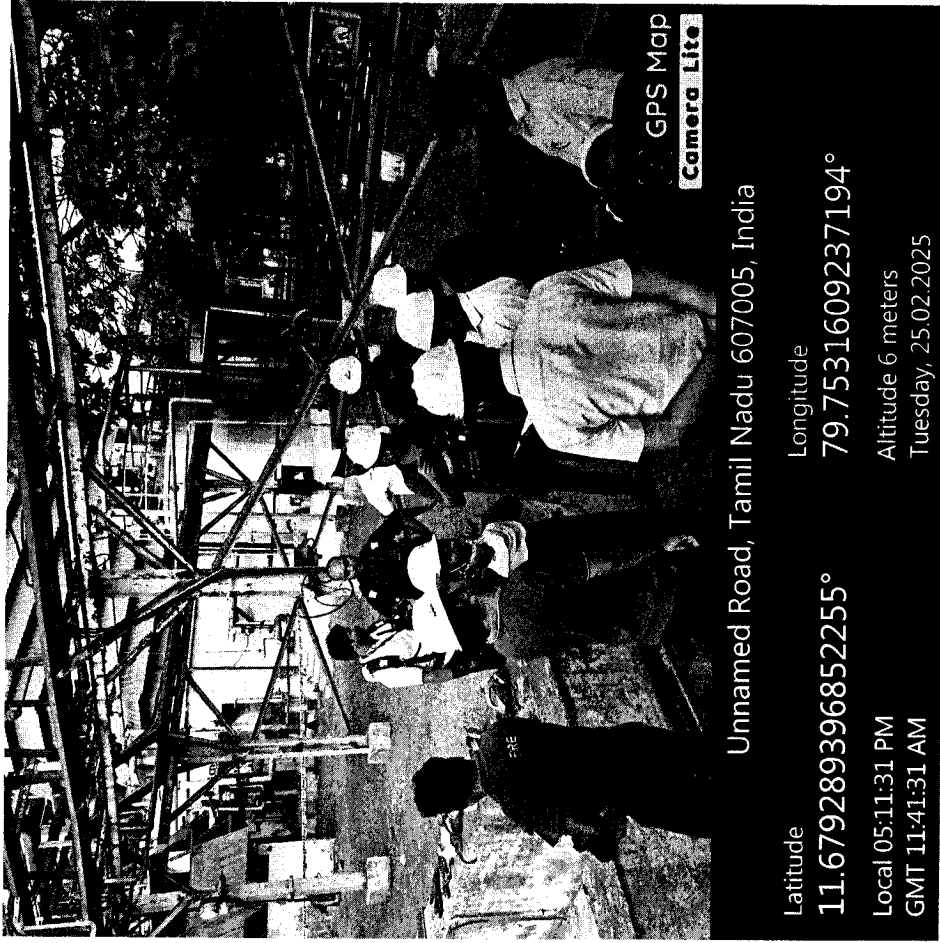
Assessment of the area for presence of Acetaldehyde using a portable VOC sensor



Ambulance at the site to carry any affected persons



Assessment of the area for presence of Acetaldehyde using a portable VOC sensor

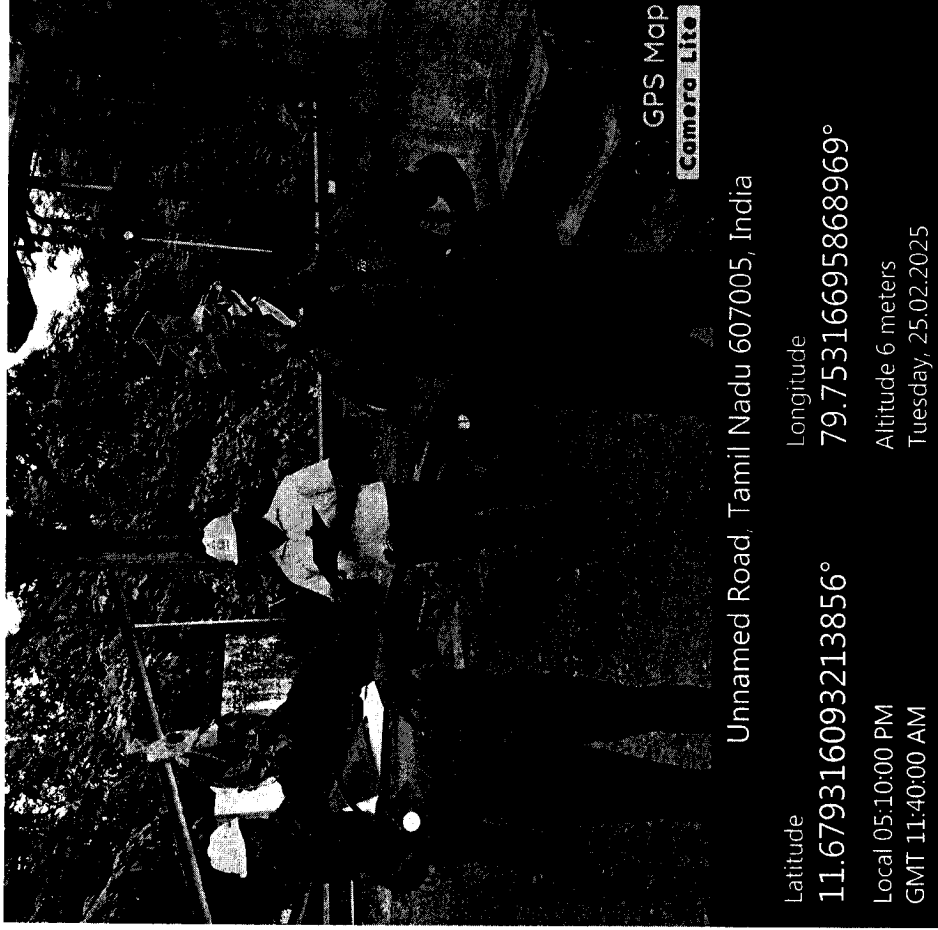


GPS Map
Camera Lite

Unnamed Road, Tamil Nadu 607005, India

Latitude
11.679289396852255°
Longitude
79.7531609237194°
Altitude 6 meters
Local 05:11:31 PM
GMT 11:41:31 AM
Tuesday, 25.02.2025

Assessment of the area by Incident controller along with
Safety Coordinator after arresting the Acetaldehyde leak



GPS Map
Camera Lite

Unnamed Road, Tamil Nadu 607005, India

Latitude
11.679316093213856°
Longitude
79.75316695868969°
Altitude 6 meters
Local 05:10:00 PM
GMT 11:40:00 AM
Tuesday, 25.02.2025

Emergency Response Team(ERT) with ELBA to handle
rescue operations



Unnamed Road, Tamil Nadu 607005, India

Latitude

11.679360433481634°

Longitude

79.75272766314447°

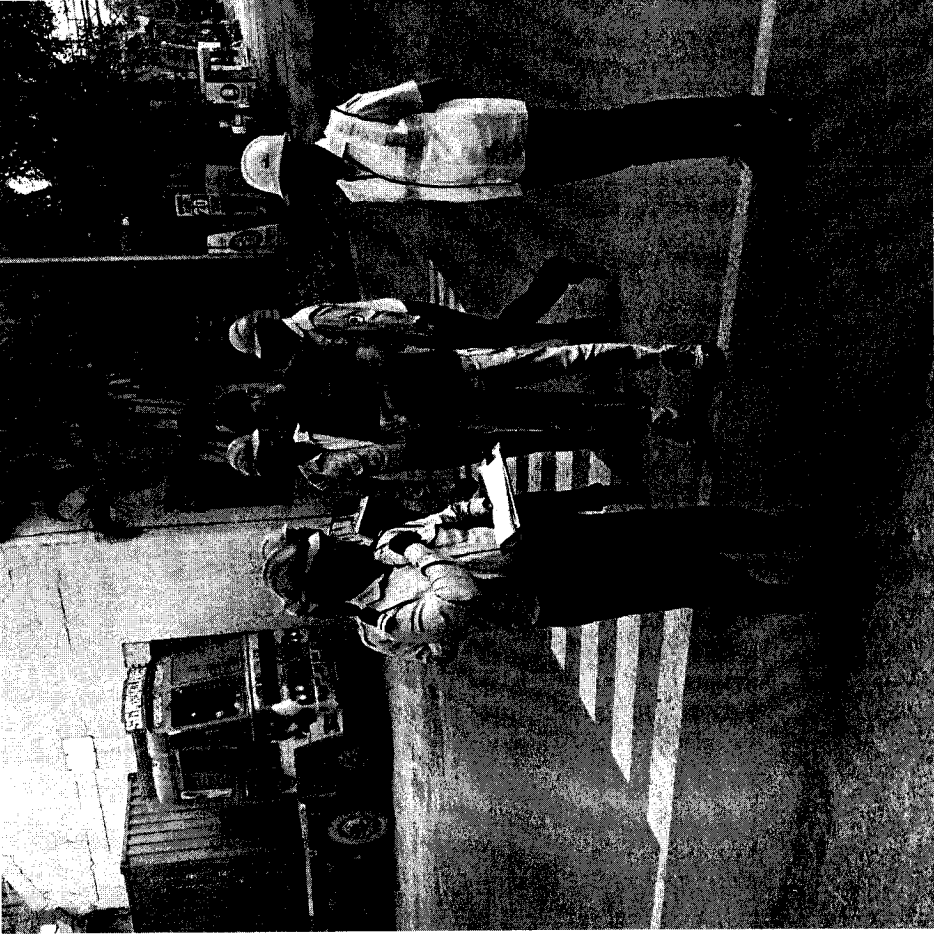
Local 05:01:36 PM

GMT 11:31:36 AM

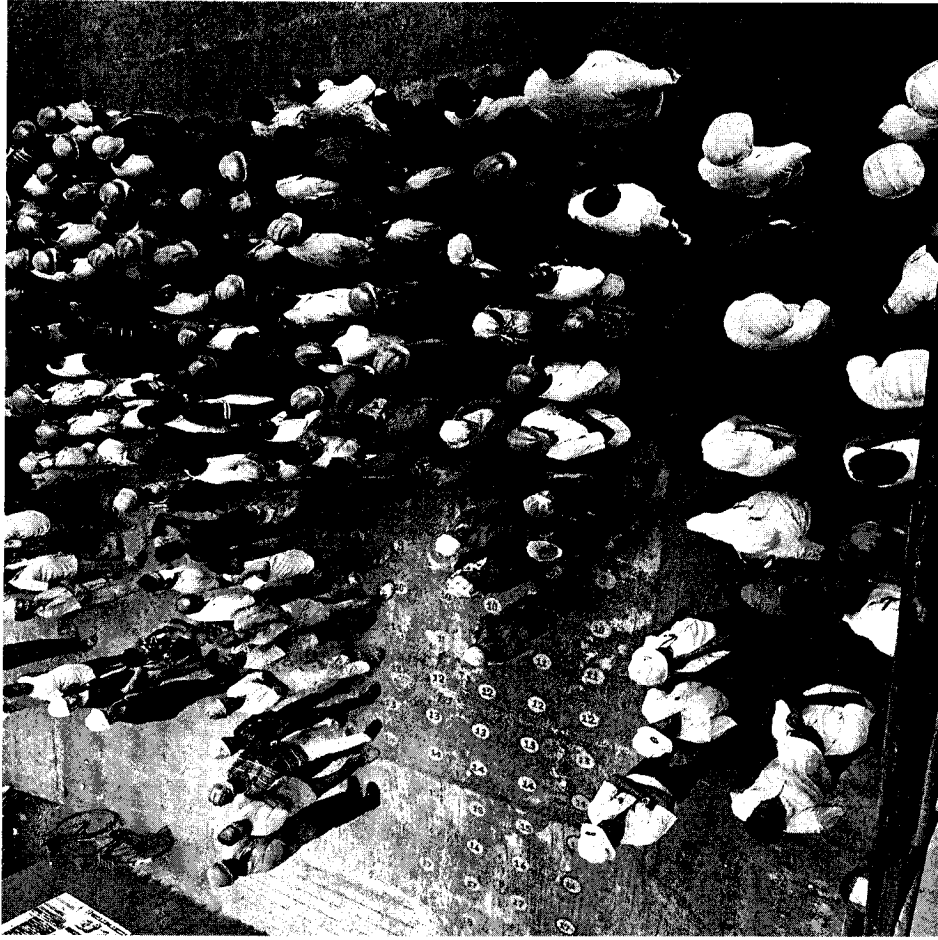
Altitude 6 meters

Tuesday, 25.02.2025

Chief Emergency Controller assessing the site



Chief Emergency Controller assessing the Head Count at
Emergency Assembly point



Employees assembled at Emergency Assembly Point



Head count in progress at Emergency Assembly point



GPS Map
Camera Lite

MQJ3+W8P, Cuddalore, Tamil Nadu 607001, India

Latitude

11.68038466013968°

Longitude

79.75309529341757°

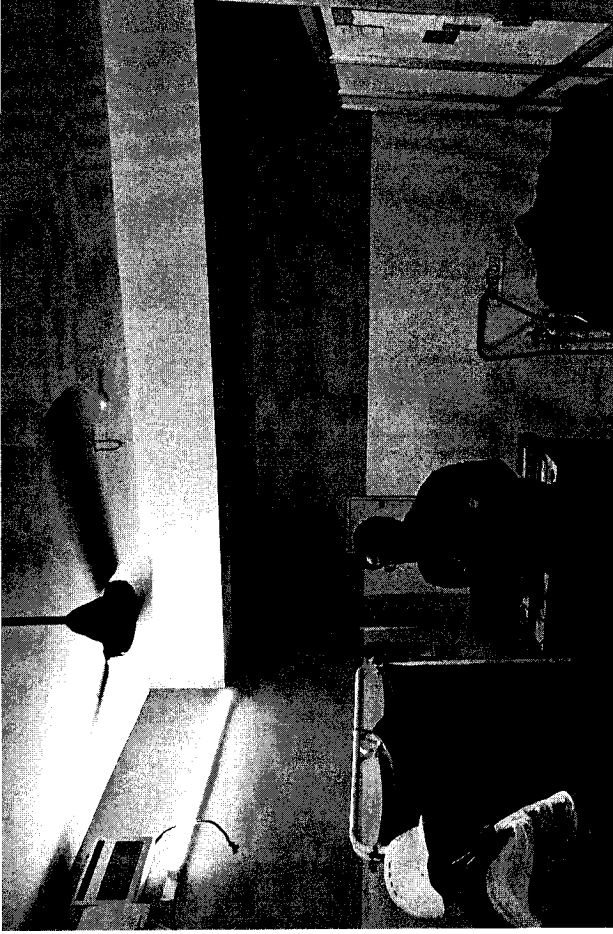
Local 05:15:18 PM

GMT 11:45:18 AM

Altitude 6 meters

Tuesday, 25.02.2025

JDISH assessing the Emergency Control Center



GPS Map
Camera Lite

MQJ3+W8P, Cuddalore, Tamil Nadu 607001, India

Latitude

11.680809832178056°

Longitude

79.75336711853743°

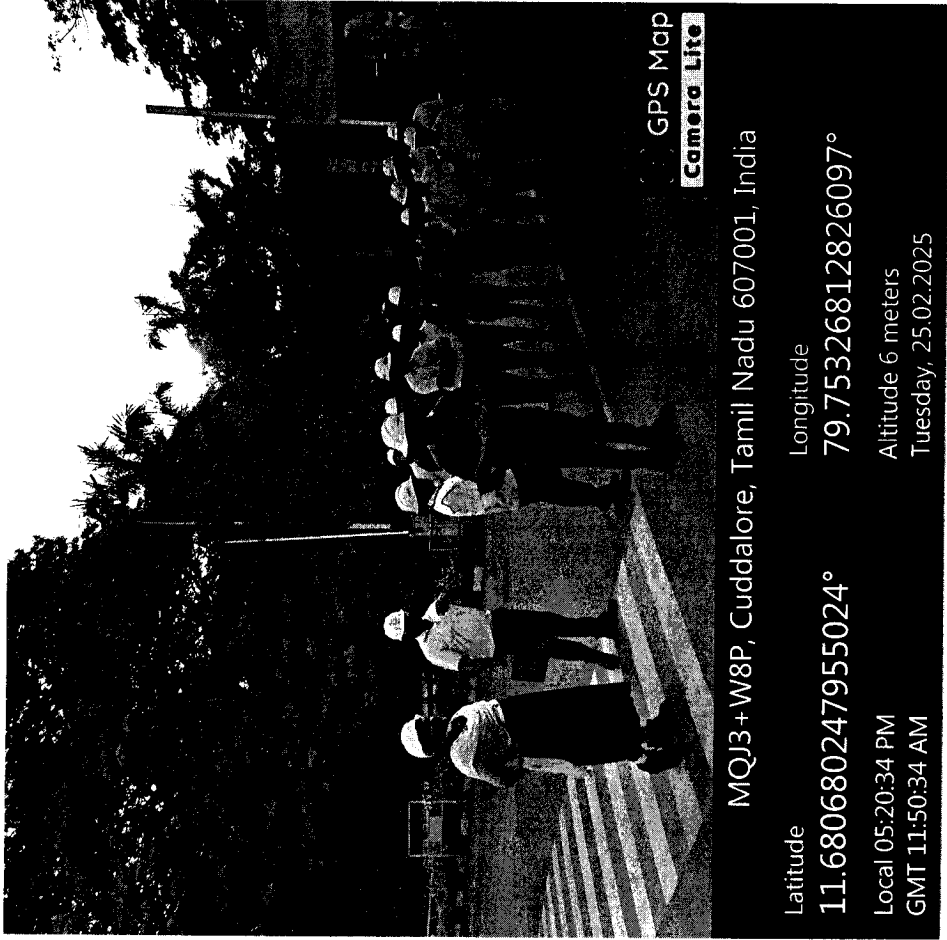
Local 05:16:56 PM

GMT 11:46:56 AM

Altitude 7 meters

Tuesday, 25.02.2025

JDISH assessing the victim status at OHC



MQJ3+W8P, Cuddalore, Tamil Nadu 607001, India

Latitude 11.680680247955024° Longitude 79.75326812826097°
Local 05:20:34 PM Altitude 6 meters
GMT 11:50:34 AM Tuesday, 25.02.2025

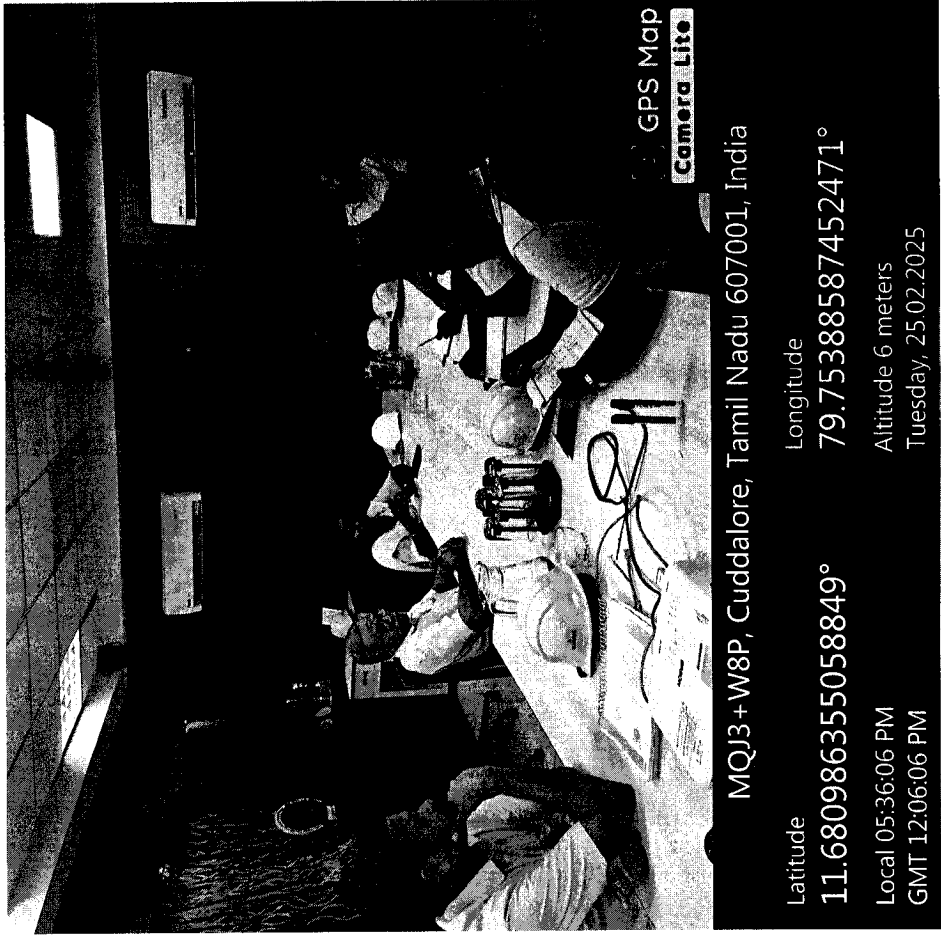
JDISH addressing the employees at Emergency assembly point



MQJ3+W8P, Cuddalore, Tamil Nadu 607001, India

Latitude 11.680630752816796° Longitude 79.75322915241122°
Local 05:19:39 PM Altitude 6 meters
GMT 11:49:39 AM Tuesday, 25.02.2025

Post emergency briefing for the employees at Emergency assembly point



Post emergency meeting to discuss the improvement points



ANNEXURE-4[EHS] [28] [MOC DR]

REPORT ON MOCK DRILL

A Mock drill was conducted in Acetaldehyde storage bullet to Reactor pump as per Onsite Emergency Plan in presence of Smt. Chitra, The Joint Director, Industrial Safety and Health, Cuddalore

DETAILS:

- Date of conducting the Mock Drill – 25-02-2025
- Time – 4.52 PM

THE INCIDENT:

- Leak in Acetaldehyde bullet to Reactor line.

DESCRIPTION:

At the site:

At 4.52 PM Contract employee Parthiban and Saravanan were working in the Acetaldehyde bullet to Reactor transfer line. During working Saravanan accidentally hit the pressure gauge point and Acetaldehyde started to leak heavily from that point. He was exposed to Acetaldehyde vapours and suffered congestion due to leak. Parthiban took Saravanan to a safe location. At 4.54 PM he immediately activated the Manual Call point by breaking the glass near the Acetaldehyde unloading pump area.

At Control room:

Fire alarm got activated in the Control room. On observing the fire alarm in the panel shift in charge Boobalan rushed to the site along with Officer Abinash with PPEs like Full face mask. He assessed the situation and decided that the leak was heavy. He informed the Officer Muthukumar in Control room through Walkie Talkie to activate the Emergency Siren. He activated the siren. He also informed about the nature of emergency through phone to the Chief Emergency controller B. Rajendra Babu, Site controller R. Rajesh and Communication controller Thamizhselvan.

At Fire hydrant pump house:

Siva (WTP operator) rushed to the fire hydrant room immediately after hearing the emergency siren. He ensured the running of fire hydrant pumps at a discharge pressure of 7 bar.

At OHC

Victim was assessed by the factory Medical Officer. He was given oxygen support for 5 mins and kept under continuous monitoring. After the condition of the victim improved, oxygen support removed. Doctor informed the medical coordinator Thamizhselvan about the stable condition of the victim through communication carriers.

At the site:

Ambulance arrived at the site and stationed before the cordoned area. Affected victim Saravanan was shifted to OHC through the Ambulance for first aid.

Chief Emergency controller B. Rajendra Babu, Incident controller Rajesh and Fire safety controller S. Senthil Kumaran reached the site. Incident controller took over the charges from shift in charge and assessed the situation.

Incident controller advised contract workers and Visitors to assemble at the Emergency Assembly point near the Administration building based on the wind direction, which was blowing towards the south direction. Incident controller instructed the communication carrier to arrange for the Ambulance near the site.

Safety coordinator instructed to Cordon off the area near old accounts office to restrict the entry. Incident Controller instructed the Officer Abinesh to activate the water sprinkler system to the Bullets-1&2.

Upon instruction from Shift in charge, Officer closed the pump suction valve wearing all PPEs. Leak did not stop as the valve was passing. He immediately called the fitter to the site wearing SCBA.

With the instruction of Safety coordinator Officer Abinesh activated Sprinkler system for bullet 1 & 2. Fire coordinator instructed fire guards to lay the fire hose from nearby fire hydrant point and activate the water cum foam monitor as a precautionary measure to cool the bullet-3.

Safety coordinator instructed the Fire guards to wear the Emergency Lifesaving apparatus (ELBA) as a precautionary measure to prevent them from exposure to Acetaldehyde vapours.

Fitter Anbarasan reached the site with the SCBA (Self-contained breathing apparatus) and non-sparking tools to arrest the leak. He arrested the leak by fixing a new nipple point at the pressure gauge location. Incident controller after discussion with Chief controller informed Officer Abinesh to monitor the leak through portable VOC sensor. Officer Abinesh monitored the leak and within 5 mins he informed the Incident controller and Chief Controller that the leak was completely arrested.

After ensuring that the leak was arrested and the temperature and pressure conditions of the bullet are in normal condition, Chief controller instructed the communication carrier to check on the status of the head count at the Emergency assembly point.

At Emergency Assembly point:

Communication controller Thamizhselvan reached the Emergency control centre located at Time office. Simultaneously Emergency response team comprising of Fire guards, first aid team and communication carriers reached the Emergency control centre, and they were directed to the site by the communication coordinator Thamizhselvan.

Communication carrier Durai kannan & Vinoth from Instrumentation Department and First aiders Karthikeyan and Dhanasekaran from QA Lab reported to Communication coordinator Thamizhselvan. Communication carrier Vinod was sent to the emergency spot by Thamizhselvan (Communication Controller) to get feedback on the situation.

After ensuring the leak was arrested Chief controller reached the Assembly point to check the status of head count. After tallying the head count and discussions with the Communication coordinator, he instructed the Incident controller to raise the emergency clear siren and call off emergency.

Officer Muthukumar raised emergency clear siren, and the emergency was called off.

Post Mock drill debriefing conducted at Emergency assembly point. Chief Controller, Safety coordinator and Smt. Chitra, Joint Director, Industrial Safety and Health, Cuddalore briefed the situation to the employees assembled at the emergency assembly point.

At the Conference Hall:

In Conference Hall, Observations from the spot observers were discussed. The positive points and the areas which need to be further improved were highlighted in the meeting.

SEQUENTIAL ACTIVITIES OF ON-SITE EMERGENCY:

TIME	ACTIVITY
4.52.34	Parthiban and Saravanan engaged in maintenance work in Acetaldehyde bullet to reactor transfer pump
4.54.22	Saravanan exposed to accidental leak of Acetaldehyde from the pressure gauge point at the pump discharge. He was shifted to a safe location by Parthiban.
4.54.44	Parthiban activated the Manual Call point.
4.56.02	Shift In charge reached the site.
4.56.09	Shift In charge checked the status of the victim
4.56.44	Shift in charge assessed the situation and informed control to declare emergency by raising the siren
4.56.50	Emergency siren raised
4.57.42	Chief Controller, Incident Controller and ERT team reached the site
4.58.00	Ambulance reached the site
4.58.18	Site cordoned off
4.59.16	Incident controller instructed to activate sprinkler system
4.59.47	Bullet-1 and 2 Sprinkler system activated
5.00.52	Bullet-3 cooling started by opening the fire water monitors
5.01.45	Victim shifted to the OHC
5.01.45	All employees assembled at Emergency assembly point
5.03.46	Incident controller instructed to call the fitter with SCBA
5.07.46	Fitter with SCBA reached the site
5.09.15	After attending the leak officer assessed the site using portable VOC meter and cleared there is no leakage
5.10.00	Fire guard was ready with the ELBA in case of need for rescue
5.15.26	Head count was completed
5.15.50	Chief controller instructed the incident controller to raise emergency clear siren
5.16.22	Emergency clear siren raised, and emergency called off

TIMING TAKEN FOR CRITICAL ACTIVITIES FROM THE MOMENT OF DECLARATION OF SIREN

S. No	Activity	Timing
1	Arrival of shift in charge to the site	1 m 8s
2	Declaration of emergency	42 s
3	Arrival of ERT team	52 s
4	Arrival of ambulance	1 m 10 s
5	Shifting of the victim to OHC	4 m 2 s
6	Activation of sprinkler system	2 m 26 s
7	Arrival of the fitter	11 m
8	Attending the leak	1 m 30 s
9	Completion of head count	4 m 55 s
10	Emergency clear siren	19 m 32 s

POSITIVE POINTS OBSERVED:

1. Usage of Walkie Talkie for communication was effective.
2. Usage of SCBA (Self Contained Breathing Apparatus) and ELBA (Emergency Life Saving Apparatus) was good.
3. Wind direction noticed and pathway to incident site informed to all the crew members accordingly.
4. Healthiness of sprinkler system was good.

SHORT COMINGS AND ACTION PLAN:

SI. NO	OBSERVATION	ACTION PLAN	TIMELINES FOR COMPLETION	RESPONSIBLE DEPARTMENT	STATUS
01	Difficulty faced in laying of the fire hydrant hoses	Training of fire guards will be improved by refresher training	10-03-2025	Safety	
02	The tools were carried by the fitter in bare hand	Bags will be provided for carrying the tools	31-03-2025	Engineering	
03	Most of the crew members were not wearing the PPEs	Refresher training on emergency plan will be conducted	10-03-2025	Safety	
04	Shifting of the affected victim to OHC took more time	Refresher training on emergency plan will be conducted. Importance of Personal safety over equipment safety will be addressed.	10-03-2025	Safety	
05	Calling and arrival of the fitter to the site took more time	Emergency procedure will be revised to include the fitter as a ERT member so that they can be available at the site immediately after the siren	10-03-2025	Safety	

06	Fire hydrant main pump-2 pumping started after priming	Foot valve will be inspected, and abnormalities will be corrected	26-02-2025	Safety	Completed
07	Area around the bullet was having gravels which can cause trip incidents and injuries during emergency	Pathways around the bullet will be provided with PCC flooring	30-04-2025	Engineering	
08	Acetaldehyde bullet area to be provided with Gate control to prevent unauthorized entry	Acetaldehyde bullet area will be provided with fencing	30-6-2025	Engineering	
09	Walkie Talkies to be used instead of Communication carriers	Additional Walkie Talkies will be purchased	30-06-2025	Engineering	
10	Ramp in the unloading area to be painted with zebra crossing for easy identification during emergency which otherwise can cause trip incidents	Ramp will be painted with Zebra markings	02-03-2025	Engineering	
11	Mike and Speaker to be used for addressing the employees assembled at assembly point effectively	Mike and Speaker will be purchased to address the meeting	30-06-2025	HR	

On Site Emergency Plan & Off Site Emergency Guidelines 2022



**Asian Paints Limited (Penta Division)
B5-B10, SIPCOT Industrial Complex
Kudikadu Village, Cuddalore
Tamilnadu - 607005**

PROCEEDINGS OF THE DIRECTOR OF INDUSTRIAL SAFETY AND HEALTH (FAC)
CHENNAI

PRESENT: THIRU.K.JAGATHESAN, M.E.,

ABSTRACT

The Factories Act 1948 and the Tamil Nadu Factories Rules 1950 – The Tamil Nadu Control of Industrial Major Accident Hazardous Chemicals Rules 1989 - On Site Emergency Plan of **Asian Paints Limited (Penta Division), B-5 to B-10 Sipcot Industrial Complex, Kudikadu Village, Cuddalore-607 005 (CDR 00674)** – Recorded.

R.Dis H2/6106/2022

Dated:01.07.2022

Read: Letter received from the Management Dated: 09.03.2022

ORDER:

The Management of **Asian Paints Limited (Penta Division), B-5 to B-10 Sipcot Industrial Complex, Kudikadu Village, Cuddalore-607 005 (CDR00674)** has prepared an 'On-Site Emergency preparedness plan' pertaining to their factory and submitted to this office.

Taking into consideration of the information furnished by the management in the 'On-Site Emergency Plan' and in exercise of the power conferred under section 41 B (4) of the factories Act 1948 and the Rule 13 (1) of Tamil Nadu control of Industrial major Accident hazardous chemicals Rules 1989 (as amended in 1994 and 2000) the Director of Industrial Safety and Health, Chennai hereby records the On-Site Emergency preparedness plan of the above said factory subject to the following conditions:

1. The On-Site Emergency Plan submitted by the management is recorded only for the conditions prevailing on the date of receipt of the On-Site Emergency Plan.
2. If there is any change in the layout of machinery, plant, process or any other modification are carried out a fresh On-Site Emergency Plan in accordance of such modifications should be prepared and submitted again for approval.

3. Full Scale On-Site Emergency mock drill should be conducted once in 6 months, involving the officials from the Directorate of Industrial Safety and Health, Fire and Rescue services department, Medical Department, Pollution Control Board and the adequacy of the emergency response measures, shall be assessed and the outcome of the mock drill shall be periodically reported to the Director office.
4. Site plan showing the following details shall be enclosed in the On-site Emergency Plan.
 - i) Location of entry / emergency exit.
 - ii) Location of hazardous chemicals storage area.
 - iii) Location of Emergency Control Centre.
 - iv) Location of Occupational Health Centre.
 - v) Location of Coal Yard Storage area.
5. Emergency Control Centre shall have a copy of TOPO Plan, On-site Emergency Plan, a set of fire proximity suit and details in this regard shall be furnished in the On-site Emergency Plan.
6. Workers in Coal Bunker area shall be subjected to periodical Medical Examination. Also Pulmonary Function Test shall be carried out to the workers and the record of examination carried out shall be entered in the certificate.
7. Adequate lighting system shall be provided in Coal Yard.
8. Roles and responsibilities shall be assigned to key persons and alternate key persons to combat any emergency.
9. Emergency Safety Shower and eye wash fountain shall be provided near HCL, H_2SO_4 and NAOH storage area.
10. Societal Risk has been calculated and the corresponding F-N Curve provided with red and yellow line and in between these two lines green line i.e. the risk curve move towards the Acceptable region which would be possible only after taking proper control measures, the societal risk would come down. As stated in the Risk analysis report, the control measures that would be taken to reduce the societal risk to acceptable level shall be clearly stated in the On-site Emergency Plan.
11. As highly flammable chemical substances are handled in this factory, a specific work permit system shall be established based on the nature of work / efficiency of the workmen / Risk involved / facility to eliminate the risk / authorized person for handling the emergency. Details of permit

system established and a specimen copy of such system shall be furnished in the On-site Emergency Plan.

12. Material Safety Data Sheet of all chemicals stored in the factory shall be circulated to all employees.

13. Accident reporting system shall be developed including near miss incident and periodical review on these incidents shall be carried out to avoid recurrence of such incidents.

14. Management shall take up the full responsibility of procuring and supplying the required Personal Protective Equipment conforming to BIS Standards to all the workers including Contract Workers.

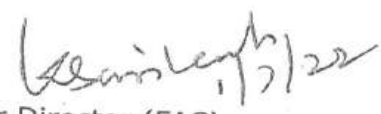
(S/d.K.Jagathesan)
Director (FAC),
Industrial Safety and Health,
Chennai-32.

To
The Occupier,
Asian Paints Limited (Penta Division),
B-5 to B-10 Sipcot Industrial Complex,
Kudikadu Village,
Cuddalore-607 005.

Copy to:

1. The Joint Director, Industrial Safety & Health, Cuddalore.
(He is requested to monitor the compliance of the conditions by the Management during his regular inspection)
2. Additional Director, Industrial Safety & Health, Trichy.
3. Spare Copy.
4. Stock File.

//Forwarded by Order//


for Director (FAC),
Industrial Safety and Health,
Chennai -32.

(S)
01/07/2022



asianpaints
ASIAN PAINTS LIMITED
PENTA DIVISION
AN ISO 9001
ISO 14001 &
OHSAS 18001 UNIT

Corporate Identification Number (CIN) : L24220MH1945PLC004598
For Shares related queries, email to investor.relations@asianpaints.com
For Customer queries / complaints / Dealership enquiries,
email to customercare@asianpaints.com
For HR related queries, email to careers@asianpaints.com
For Media related queries, e-mail to proffice@asianpaints.com
Pan : AAACA3622K
GST No. 33AAACA3622K1Z2

Asian Paints Limited
B-5 to B-10 Sipcot
Industrial Complex,
Kudikadu Village,
Cuddalore - 607 005.
Tamil Nadu
Tel.No-04142-239248
www.asianpaints.com

Ref: APL/CDL/OEP/02

Date: 09/03/2022

To

Director – Industrial Safety & Health,
31A, Water Works Road,
Thiru Vi Ka Industrial Estate,
SIDCO Industrial Estate,
Guindy, Chennai,
Tamil Nadu 600032


Dear Sir,

Sub: Submission of Onsite Emergency Plan as per Schedule 11 of Import, Export, Handling of Hazardous Chemicals Rules 1989 with required annexure – Reg


We Asian Paints Limited (Penta Division), B5-B10, SIPCOT Industrial Complex, Cuddalore, Tamilnadu – 607005, Manufacture of chemicals viz various grades of Pentaerythritol, Sodium Formate and Formaldehyde. We herewith submit Two copies of Onsite emergency plan with all the necessary supporting documents, Escape Route plan, Location of Hazardous Storage, TOPO plan Etc.,

Kindly record our onsite emergency plan and Guidelines of off-site emergency plan and acknowledge the receipt of the same.

For Asian Paints Limited (Penta Division)


Associate General Manager Cum
Factory Manager

சென்னை தொழிலகம் பாதுகாப்பு மற்றும்
செயல்பாட்டுத் துறைகளில் உற்பத்தி
(உள்ளூர், வெளிநாடு)
பெற்றும் சென்னைப்பட்டு.
நாள் 11.03.22


Director

11.03.22



**[SCHEDULE -11]
[See Rule 13(1)]**

DETAILS TO BE FURNISHED IN THE ON-SITE EMERGENCY PLAN

**DETAILS TO BE FURNISHED IN THE ON-SITE EMERGENCY PLAN AS PER RULE 13(1) OF THE
MANUFACTURER OF HAZARDOUS CHEMICALS RULES 1989**

SL.NO	DESCRIPTION	DETAILS
1.	Name and address of the person furnishing the information.	B. Rajendra Babu Associate General Works Manager, APIL, B5-B10, SIPCOT Industrial Complex, Kudikadu, Cuddalore - 607 005
2	Key Personnel of the organization and responsibilities assigned to them in case of an emergency.	Provided in chapter No.17 of this plan
3	Outside organization in involved in assisting during on-site emergency.	Major fire & heavy leakage of raw material / collapse of chemical storage tanks. Fire fighting Providing assistance to evacuate the victims. Providing any other resources victims.
4	Details of liaison arrangements between the organization.	The safety in charge / the head of the organization are contacted at the time of emergency to get necessary help.
5	Information on the preliminary hazard analysis:	Possibility of fire, Explosion, Chemical spill & Health Hazards only Details discussed in on site plan.
	(a) Types of accidents	
	(b) System elements or events that can lead to a major accident	Unloading of solvents
	(c) Hazards	Spillage of Hazardous Material like Solvents, Oil, Diesel, etc.,
	(d) Safety relevant components	All the precautions adopted while installation of equipment. LEL & Oxygen detector is available. Chemical Spill Kit, Fire Fighting facilities, Personnel Protective Equipment etc. provided
6	Details about this site:	
	(a) Location of dangerous substances	Details are shown in a layout and enclosed
	(b) Site key personnel	Details are shown in a layout and enclosed
	(c) Emergency Control Room	Details are shown in a layout and enclosed
7	Description of hazardous chemicals at plant site	Details are provided in on site plan
	(a) Chemicals (Quantities and toxicological data)	

For ASIAN PAINTS LIMITED


RAJENDRABABU B
Associate General Manager.

CONFIDENTIAL 100

$\frac{1}{2} \left(\frac{1}{\lambda_1} + \frac{1}{\lambda_2} \right) = \frac{1}{2} \left(\frac{1}{\lambda_1} + \frac{1}{\lambda_2} \right) = \frac{1}{2} \left(\frac{1}{\lambda_1} + \frac{1}{\lambda_2} \right)$

	(b) Transformation if any which could occur	Details are provided in on site plan
	© Purity of hazardous chemicals	Details are provided in on site plan
8	Likely dangers to the plant	The plant could be totally damaged by fire if not extinguished immediately
9	Enumerate effects of (i) Stress and strain caused during normal operation	Stress & strain not caused during normal operation
	(ii) Fire and explosion inside the plant and effect if any, of fire explosion outside	Fire inside the plant can damage the plant machinery Fire outside the plant can cause air pollution damage to storage facilities & can lead to offsite emergency
10	Details regarding (i) Warning alarm and safety and security systems	Details are given in this plan
	(ii) Alarm and hazard control plans in live with disaster control and hazard control planning. Ensuing the necessary technical and organizational precautions.	System is checked once in a week.
	(iii) Reliable measuring instruments, control units and servicing of such equipment	Periodically serviced through preventive maintenance schedule
	(iv) Precautions in designing of the foundation and load bearing parts of the building.	Adequate care has been taken.
	(v) Continuous surveillance of operations	Operations are monitored by the concerned operations / shift in charges all 24 hours of the day.
	(vi) Maintenance and repair work according to the generally reorganized rules of good engineering practices	Being ensured.
11	Details of communication facilities available during emergency and those required for an off - site emergency.	Four external telephone lines are available with battery backup. Additional Email & Fax facilities are available.
12	Details of firefighting and other facilities available and those required for an off – side emergency.	Full-fledged fire protection system, Sprinkler, Hydrant, foam system, Fire Alarm system details and drawing provided in on site plan.
13	Details of first aid and hospital services available and its adequacy.	Adequate facilities are available, and details are given in on site plan.

For ASIAN PAINTS LIMITED


RAJENDRABABU B
Associate General Manager.

ASIAN PAINTS LIMITED

KALINGKARABADI
Associate General Manager

Preface

Emergencies can occur in any industry even though best efforts are put to prevent them, when they do take place in a chemical industry, they may cause loss of lives and damage to plant and property. In some cases the loss measured in human and monetary terms, has been severe. It is equally true that in many industries the loss has been greatly reduced. This was possible solely due to the existence of a well-planned and rehearsed emergency plan.

Industries handling hazardous chemicals have an onerous responsibility to preserve and protect the environment and ensure that whatever happens within their premises does not affect the surroundings.

It is in this perspective the regulatory body have made it mandatory that industries where hazardous materials are handled prepare a detailed "On- Site Emergency Plan". Based on this plan, necessary training and mock drills have been conducted at periodic intervals. With the experience gained from mock drills, the onsite emergency plan has been suitably revised.

It is sincerely hoped that this On-site emergency plan will help all employees of Asian Paints Ltd., Penta Division, B5- B10, SIPCOT Industrial complex, Cuddalore – 607 005. Phone no. (04142) 239247, 239248 (O) to prepare themselves to contain, mitigate and neutralise the consequences of any emergency that may arise.



B. Rajendra Babu
Associate General Manager





Asian Paints Limited
Asian Paints House
6A, Shantinagar
Santacruz (E)
Mumbai 400 055
T: (022) 6218 1000
F: (022) 6218 1717
www.asianpaints.com

Health and Safety Policy of Asian Paints Ltd

Asian Paints is committed to ensuring safety and protecting the health of its employees, service providers, visitors, neighboring communities, customers and assets.

Scope and applicability of the Policy:

This Health and Safety Policy is applicable to all the operating sites of Asian Paints, its subsidiaries, and joint ventures (where Asian Paints has Management Control). The operating sites include Plants, Research & Technology facilities, Offices, Distribution operations, Sales depots, Retail Sales & Services and Project Sales. This policy is applicable at work, travel between home and work of employees, business related travel including stay and all Company organized business events.

Objectives of the Company Management shall be to:

1. Comply with all applicable health and safety statutory regulations.
2. Move towards Zero Injuries, Zero Occupational illnesses and Zero incidents of Property Damage
3. Comply with the applicable Safety Manual to achieve its safety, health and wellbeing objectives.
4. Adopt and implement best practice standards of risk management to prevent and mitigate consequences arising out of major accident hazards

The Company Management shall:

1. Ensure compliance with all applicable health and safety legislations and relevant standards.
2. Integrate safety, health and wellbeing into all business processes.
3. Ensure that all activities across the value chain are conducted as per the defined health and safety procedures, including
 - a. selection and evaluation of suppliers, contractors and other service providers,
 - b. research leading to the development of new products and services
 - c. design, engineering, construction and commissioning of new projects,
 - d. adopting principles of inherently safe design,
 - e. operating and maintaining plants and other facilities in accordance with the designated safety criteria throughout their working life
 - f. distribution of products
 - g. technical service at customer sites and other consumer interfaces
4. Educate customers on the safe use of products.
5. Provide safe and healthy working conditions for the prevention of work-related injury and ill health of employees and service providers.



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6. Ensure that adequate resources, support and supervision are provided to employees and service providers to carry out their job safely and to continually upgrade health and safety standards.
7. Conduct risk assessments, safety audits and safety inspections at a prescribed frequency and take all remedial measures to eliminate hazards and reduce health and safety risks, arising out of operations. Risk registers are continuously reviewed and upgraded on a regular prescribed frequency.
8. Implement Behavior-Based Safety Program in order to inculcate safety as a personal value
9. Maintain a comprehensive On-Site Emergency Plan and related facilities to handle emergencies.
10. Assess the competence of individuals in the area of safety during recruitment and career advancement.
11. Define roles and responsibilities of employees in the safety organization of the plant/facility/operations.
12. Keep employees and service providers informed, educated, trained and retrained on safety, health and wellbeing to ensure the safe conduct of their jobs.
13. Establish mechanisms for consultation with employees and their representatives, contractors, suppliers, customers, local communities, neighbors and regulators to promote safety and build a safe work culture.
14. Establish mechanisms for the participation of employees and service provider's representatives wherever applicable.
15. Ensure that each employee including contractors and visitors comply with all safety rules and regulations framed for the operation.
16. Extend all possible help to industries /depots/offices around Asian Paints Operations in case of emergencies.
17. Provide a resume of health and safety performance in the Company annual report.

The Company shall ensure the effectiveness of this policy through:

1. Setting goals and objectives on safety, health and wellbeing and reviewing these periodically to ensure that these are being met.
2. Analysis of health and safety incidents, identification of root causes and implementation of corrective and preventive actions (CAPA).
3. Appropriate action, in case of a violation by an employee, as per rules and procedures framed for the purpose.
4. Review of this policy annually or on significant changes in the business.
5. Periodic review of the safety, health and wellbeing standards for their continued appropriateness and effectiveness.

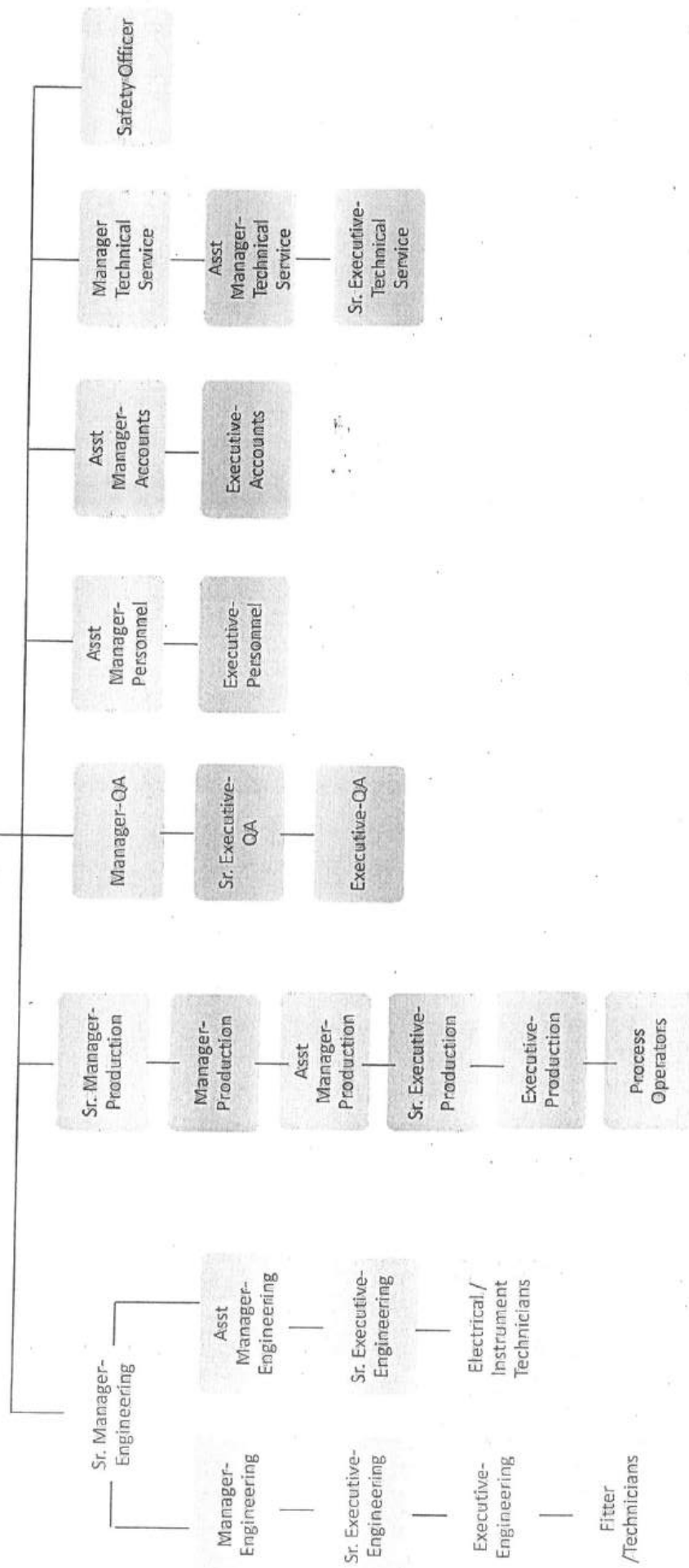
Amit Syngle
Managing Director & CEO

AMIT SYNGLE
Digitally signed
by AMIT SYNGLE
Date: 2022.01.17
14:06:35 +05'30'

14th Jan 2022

Organization Structure-Asian Paints Limited, Penta Division

Associate
General
Manager/Factory
Manager



Asian Paints Limited, Penta Division, Cuddalore
On-Site Emergency Plan & Off Site Emergency Guidelines



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-

Asian Paints Limited, Penta Division, Cuddalore
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1 INTRODUCTION

1.1 INTRODUCTION TO ON SITE PLAN

Emergencies can hit at anytime, anywhere and to anyone. Emergency Preparedness is dependent on good preplanning. It is the achieved readiness condition of an organisation to respond to any emergency situation with confidence, efficiency, and effectiveness. As the Boy Scout motto suggests, "Be Prepared!" An event often becomes an emergency because it is unexpected. It can become a crisis if there is inadequate preparation to respond appropriately, and in a timely manner.

This on Site & off Site Emergency preparedness Plan is of two sections. This first explains Basic Requirements, Definitions, Objectives, Hazard Identification, Preliminary Hazard Analysis and Organizational Set Up, Communication System, Actions on Site, Training Aspects, Rehearsals and Records.

The second section is given as annexure section containing useful annexure. These annexure are designed to provide specific information referred to in first section.

Ready information in all these annexure will considerably save time in initiating all actions at the time of emergency. It will also be useful to surrounding factories as a "Mutual Aid" and to the Government in preparing OFF SITE emergency (Contingent) plan. It reveals strengths and weaknesses in the plan and suggests residual preparedness, if any.

A separate chapter is given to pay attention on Off Site effects of an emergency, the duties and functions to control it and its link with On Site emergency plan.

1.2 ABOUT ASIAN PAINTS – PENTA DIVISION

M/s Asian Paints limited, Penta Division located at plot no B5 – B10 SIPCOT Industrial Complex, Kudikadu Village and Cuddalore is engaged in manufacturing of Pentaerythritol and Sodium Formate. The proposed expansion project is establishing at a capital cost of Rs 4.8 Crores. Asian paints limited is the India's largest paint company and is amongst the top 10 decorative paint manufacturing companies in the world with operations across 22 countries and 30 manufacturing plants. The company has an enviable reputation for world class EHS practices with corporate philosophy to much beyond environmental compliance. Penta division of Asian Paints at Cuddalore has been accredited with ISO 9001, 14001 and OHSAS 18001 certifications.

Asian Paints is India's leading paint company with a consolidated turnover of 15,841.70 Crores (158.4 billion). Asian Paints along with its subsidiaries have operations in 22 countries across the world with 30 paint manufacturing facilities, servicing consumers in over 65 countries through Berger International, SCIB Paints – Egypt, Asian Paints, Apco Coatings, Taubmans and Kadisco.

Asian Paints has also marked its foray into the Home Improvement and Decor space in India with the acquisition of sleek group – a kitchen solutions provider and Bathroom Products - a prominent player in the bath and wash segment in India. Asian Paints Limited is headquartered in Mumbai, Maharashtra.

Asian Paints is India's largest and Asia's fourth largest paints company (mentioned in Coatings world – 2016 top companies report (July 2016). As of 2016, it is the leading paint company in India (mentioned in Cyber Media Research Limited).

1.3 LOCATION OF THE PROJECT

The activity will be carried out within the existing plant located in SIPCOT industrial complex, Kudikadu Village, Cuddalore District, Tamil Nadu. The site is at a distance of about 0.5 Km from National highway 45A. The coordinates of the site is $11^{\circ} 38' 49.67''$ N and $79^{\circ} 44' 22.50''$ E, the mean average of the site is ranging from 5 to 8 meters above MSL.

2 OBJECTIVES & PURPOSE

2.1 RECORD OF AMENDMENT

This document shall be reviewed and updated to assure consistency with evolving capability & procedures. The Human Resource Department is expected to be responsible for maintaining this document and assuring that all personnel involved in emergency response are familiar with the procedure described herein.

2.2 OBJECTIVES & PURPOSE

- The main object of the Onsite Emergency Plan is to improve preparedness for handling various types of emergencies / disaster within the shortest possible time by using available resources.
- To define the hazards, assess the risks and identify the Maximum Credible Loss Scenario (MCLS)
- To outline the responsibilities and functions of the key members of the emergency response team, to safeguard other employees, and environment.
- To inform authorities and mutual aid centers to come for help.
- To effect rescue and treatment of casualties and injured.
- To identify and list any fatal accident.
- To inform and help relatives.
- To secure the safe rehabilitation of affected areas and to restore normalcy.
- To preserve records, equipment etc., and to organize investigation into the cause of the emergency and preventive measure to stop its recurrence.

2.3 PURPOSES

This plan is developed to:

Address the wide range of issues that need to be dealt with, in order to ensure effective emergency handling, i.e., the actions that should be taken by M/s. Asian Paints Limited

- Government Authorities, Communities and other neighboring Industries to minimize the likelihood of accident that may occur.

Asian Paints Limited, Penta Division, Cuddalore
On-Site Emergency Plan & Off Site Emergency Guidelines



- (Prevention); to mitigate consequences of accidents through emergency planning, land-use planning and risk communication (preparedness/mitigation); and to limit the adverse consequences to health, the environment and property in the event of an accident
- (Response).It also includes actions that are needed to be done from the learning / experience of past accidents and other unexpected events (follow-up) in order to reduce future incidents (prevention).

3. DESCRIPTION OF FACTORY

3.1. DETAILS OF THE FACTORY

Asian Paints Ltd., Penta Division is located about 10 Kms from Cuddalore on Cuddalore – Chidambaram highways in the village Kudikadu, It is located in Cuddalore District and the factory comprises of a total area of 29 Acres of Land. The key personnel are as under:

3.2. NAME AND ADDRESS OF THE PERSON FURNISHING THE INFORMATION

Shri. B.Rajendra Babu
Associate General Manager
Asian Paints Ltd.,
Penta Division,
B5- B10, SIPCOT Industrial complex,
Cuddalore – 607 005.
Phone no. (04142) 239247, 239248 (O)
(04142) 221383 (R)
Cell no. 8903136100
Fax no. (04142) 239234

3.3 NAME AND ADDRESS OF THE SAFETY INCHARGE

Mr.P.Jayakanthan
Sr.Manager-Production
48, Rajakavi Nagar,
Kondur post Cuddalore-2
Phone no. (04142) 290844(R)
Mobile No-9488026114.

Mr.S.Saravanan
Manager-Production
No 40, LIC nagar, Koothapakkam
Cuddalore-2
Phone no-(04142) 287799(R)
Mobile No-9442209025

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Mr.Devaganesh-Safety Officer

No 29/1, Subburayalu Nagar extension,

Srinivasan Nagar,

Cuddalore-2.

Mobile No: 9940358163

3.4 NUMBER OF SHIFTS

There are four shifts in our Factory namely A Shift, B Shift, C Shift and General Shift. The timings of the Shifts are as follows:

Sl.No	Name of the Shift	Duration
1	A Shift	06.00 a.m to 02.00 p.m
2	B Shift	02.00 p.m to 10.00 p.m
3	C Shift	10.00 p.m. to 06.00 a.m.
4	G Shift	09.00 a.m. to 05.30 p.m.

There are totally 29 Executives and 98 Workmen on the rolls of the company as on date.

3.5 GENERAL SITE LAYOUT

The design and operation of process equipment are arranged to achieve maximum safety at all times. Even in the early stages of the design and layout of this installation consideration is given to facilities like material handling and access routes to reduce the number of employees who may be present in the potentially hazardous areas. Installations are laid out with adequate means of escape for personnel and with facilities for containing and fighting fire appropriate to the type and quantity of flammable liquid involved in any incident. There is no evolution of inflammable vapour to the atmosphere in Asian Paints Limited, coincidental with the presence of a source of ignition.

3.6 PERIMETER BOUNDARY

Operations with inflammable material from its transportation, is carried out only within a clearly marked perimeter boundary which securely excludes unauthorized persons.

For processes, each situation is assessed individually taking account of the quantities involved, their conditions of temperature and pressure and the nature of the operations. The exception for a small

quantity is permitted only if it is separated adequately from the perimeter by a fire resisting barrier, impermeable to flame vapours and of sufficient height to exclude source of ignition.

3.7 EXIT AND ENTRY POINTS

There are two main gates available for exit and entry. The Penta plant, the Formaldehyde plants and administration block have two staircases for emergency exit and entry.

3.8 PRINCIPLE ACTIVITY & MANUFACTURING PROCESS:

Manufacture of chemicals viz Pentaerythritol, Sodium Formate and Formaldehyde

3.9 NEAR BY INDUSTRIES

M/s Clariant Chemicals Limited

M/s DFE Pharma Pvt Limited,

M/s Solara Pharmaceuticals Limited,

M/s Tagros Chemicals Limited,

3.10. HOSPITALS:

Primary Health Centre-Kannarapettai-5KM

Primary Health Centre-Cuddalore OT -5KM

3.11. NEAREST RAILWAY STATION:

Capper Quarry Railway Station 400 meters west

3.12. NEAREST POLICE STATION

Cuddalore OT - 5km

3.13. NEAREST FIRE STATION

SIPCOT -0.1km

3.14. ARCHAEOLOGICAL MONUMENTS

The location does not have any archaeological monuments in the near vicinity of the plant.

3.15. BIOLOGICAL RESOURCES

It was found during study period that the location is devoid of any endangered flora and fauna in 5 km radius.

3.16. CULTURAL MONUMENTS

This unit will not affect any cultural monuments.

3.17. DEFENCE

There is no air force station near the vicinity of Cuddalore

3.18. EMPLOYMENT GENERATION

This unit generates the employment in the immediate surroundings of the people.

3.19. HIGHWAY

The Site situated on the Cuddalore – Chidambaram National High way. The factory will not harm the traffic and will not create unwanted settlement in the vicinity of highway.

3.20. GEOGRAPHY

The location is geographically suitable for setting up of industry, as the unit will not be disturbed by climatic and other geographical condition.

3.21. LAND USE AND AVAILABILITY

This unit is using the area, which is classified for industrial usage and with favorable climatic conditions for developing industries. The place does not come in catchments area.

3.22. METROLOGY

Both micro and macro metrology is found to be suitable for this unit.

3.23. NATURAL DISASTER

The area is devoid of natural disasters like earthquake, cyclone, landslides etc.

3.24. TOPOGRAPHY

The topography is plain and will not lead to disaster by accumulation of air pollutants.

4. MANUFACTURING DETAILS

The company manufactures Pentaerythritol of three grades namely Tech, Mono & Di and Sodium Formate and solutions of Pentaerythritol and Sodium Formate as byproduct using Formaldehyde, Acetaldehyde and Caustic Soda Lye as the main raw materials. While Acetaldehyde and Caustic Soda is purchased from outside, Formaldehyde is produced in the plant itself which uses Methanol as Raw material.

The plant was commissioned on 29.03.1987.

4.1 FINISHED PRODUCTS

- a) Technical Grade Pentaerythritol
- b) Mono Pentaerythritol
- c) Di Pentaerythritol
- d) Sodium Formate
- e) Formaldehyde &
- f) 25% Pentaerythritol solution
- g) 35% Sodium Formate solution

4.2 PROCESS DESCRIPTION

4.2.1 PENTAERYTHRITOL (TECHNICAL GRADE)

The reaction of Formaldehyde, Acetaldehyde and Caustic is carried out in water in there actor. The reaction mixture is fed to the stripper to strip off the excess Formaldehyde left after and the Methanol formed in the Cannizaro reaction. The Formaldehyde which has been stripped is used back in the reactor. The recovered methanol is used in the Formaldehyde Plant.

The Methanol Free and lean Formaldehyde reaction mixture is then filtered where by small quantities of Poly Pentaerythritol (PE) s are removed. The filtrate is fed continuously to the five effect evaporator. The concentrated mixture is then fed to crude Vacuum crystallizer which causes the Pentaerythritol (PE) product to precipitate. Subsequent to filtration separates the precipitated PE from the filtrate Crude Mother Liquor (CML) containing the bulk of Sodium Formate. The PE cake is reslurried and redissolved. The PE solution is then passed through the deionizer in order to reduce ash content and through Carbon column for color control. The solution is then transferred either Pure Vacuum Crystallizer or to the Tech Dissolver in the Mono and Di PE section of the plant. After

crystallization in PVC the Tech PE solids are further separated from their mother liquor (RCML) by filtration and are dried and packed

4.2.2 SODIUM FORMATE:

The filtrate from Crude Belt Filter (CBF) is fed continuously to the Sodium Formate Evaporator cum Crystallizer. The Sodium Formate crystals are further separated from their mother liquor by centrifuging and are dried and packed.

A portion of the filtrate from the Centrifuge is purged and treated to recover additional PE for recycle before the balance of the stream is discarded as waste. The balance of the filtrate is recycled to the Sodium Formate Crystallizer for reprocessing.

SODIUM FORMATE SOLUTION

A portion of the filtrate from the SF Crude Centrifuge is purged and treated to recover additional PE for recycle the mother liquor from the stream is further filtered and the clear liquid is adjusted for pH and packed in carboys and sold as Sodium Formate solution..

4.2.3 MONO & DI PENTAERYTHRITOL:

Pure Pentaerythritol Solution, which has been processed through filtration and deionization in the Technical PE portion of the plant is transferred batch wise to Tech Dissolver where it is boiled till super saturation and transferred to the Mono Di Crystallizer which forms Mono and Di PE Crystals which are of different sizes. These are then separated in a wet screening process. The Mono PE Crystals are further separated from their mother liquor by centrifuging and are dried and packed.

The Di PE rich solution from the wet screening operation is heated to dissolve Mono PE and thickened by gravity sedimentation and then filtered and washed. The Di PE cake from the filtration is dried, ground and packaged.

The various mother liquors are cooled and / or filtered to recover cakes whose solids are recycled back to the process for further PE recovery. A portion of the filtrate is used as carrier liquor for selected slurries in the Mono - Di PE process. The balance is purged and mixed with RCML from the

Technical PE plant for further treatment to separate Mono -Crystallizable organics. This stream on cooling and separation of any precipitated solids by centrifuging is disposed of as Pentaerythritol solution and stored in tanks and sold as Pentaerythritol solution.

4.2.4 FORMALDEHYDE

The feed stock consists of Methanol, which is mixed with air and water and oxidized to Formaldehyde in a specially designed Reactor where pure Silver granules are used as Catalyst. The formaldehyde and unreacted methanol vapors are absorbed in water in Absorption column. The absorbate solution is removed as bottom product. The solution is then fed to Distillation column to separate Formaldehyde as Bottom product and Methanol as Top product. The bottom product of distillation column is stored in main storage tank from where it is used in Penta plant.

5. HAZARD IDENTIFICATION AND RISK ANALYSIS

5.1 OVERVIEW OF RISK ASSESSMENT

Risk Assessment is proven valuable as a management tool in assessing the overall safety performance of the chemical process Industry. Although management systems such as engineering codes, checklists, and reviews by experienced engineers have provided substantial safety assurances, major incidents involving numerous casualties, injuries and significant damage can occur – as illustrated by recent world-scale catastrophes. Risk Assessment techniques provide advanced quantitative means to supplement other hazard identification, analysis, assessment, and control and management methods to identify the potential for such incidents and to evaluate control strategies. The underlying basis of risk Assessment is simple in concept. It offers methods to answer the following four questions:

What can go wrong?

What are the causes?

What are the consequences?

How likely is it?

This study tries to quantify the risks to rank them accordingly based on their severity and probability. The report should be used to understand the significance of existing control measures and to follow the measures continuously. Wherever possible the additional risk control measures should be adopted to bring down the risk levels.

5.2 RISK CONCEPT

Risk in general is defined as a “measure of potential economic loss or human injury in terms of the probability of the loss or injury occurring and magnitude of the loss or injury if it occurs”. Risk thus comprises of two variables:

- Magnitude of consequences and;
- The probability of occurrence.

The results of risk Assessment are often reproduced as Individual and groups risks and are defined as below. Individual Risk is the “probability of death occurring as a result of accidents at a plant, installation or a transport route expressed as a function of the distance from such an activity”. It is the frequency at which an individual or an individual within a group may be expected to sustain a given level of harm (typically death) from the realization of specific hazards. Such a risk actually exists only when a person is permanently at that spot (out of doors).

The exposure of an individual is related to:

The likelihood of occurrence of an event involving a release;

- Ignition of hydrocarbon;
- The vulnerability of the person to the event;
- The proportion of time the person will be exposed to the event (which is termed 'occupancy' in the QRA terminology).

The second definition of risk involves the concept of the summation of risk from events involving many fatalities within specific population groups. This definition is focused on the risk to society rather than to a specific individual and is termed as **Societal Risk**. In relation to the process operations, we can identify specific groups of people who work on or live close to the installation; for example, communities living or working close to the plant.

5.3 RISK ASSESSMENT PROCEDURE

Hazard identification and risk assessment involves a series of steps as follows:

Step 1: Identification of the Hazard

Hazard identification is a critical step in Risk Assessment. Many aids are available, including onsite visits, engineering codes, checklists, detailed process knowledge, equipment failure experience, hazard index techniques, What-if Analysis, Hazard and Operability (HAZOP) Studies, Failure Mode and Effects Analysis (FMEA) and Preliminary Hazard Analysis (PHA). In this phase all potential incidents are identified and tabulated. Site visit and study of operations and documents like drawings, process write-up etc. are used for hazard identification.

Step 2: Assessment of the Risk

Consequence estimation is the methodology used to determine the potential for damage or injury from specific incidents. A single incident (e.g. rupture of a pressurized flammable liquid tank) can have many distinct incident outcomes (E.g. Vapor Cloud Explosion (VCE), flash fire, etc.)

Likelihood assessment is the methodology used to estimate the frequency or probability of occurrence of an incident. Estimates may be obtained from historical incident data on failure frequencies, from failure sequence models, such as fault trees and event trees. In this study the historical data developed by software models and those collected by CPR-18E are used.

Risks arising from the hazards are evaluated for its tolerability to personnel, the facility and the environment. The acceptability of the estimated risk must then be judged based on IS-15656 criteria appropriate to the particular situation.

Step 3: Elimination or Reduction of the Risk

This involves identifying opportunities to reduce the likelihood and/or consequence of an accident where deemed to be necessary. Risk assessment combines the consequences and likelihood of all incident outcomes from all selected incidents to provide a measure of risk. The risk of all selected incidents is individually estimated and summed to give an overall measure of risk.

Risk-reduction measures include those to prevent incidents (i.e. reduce the likelihood of occurrence) to control incidents (i.e. limit the extent and duration of a hazardous event) and to mitigate the effects (i.e. reduce the consequences). Preventive measures, such as using inherently safer designs and ensuring asset integrity, will be used wherever practicable.

In many cases, the measures to control and mitigate hazards and risks are simple and obvious and involve modifications to conform to standard practice. The general hierarchy of risk reducing measures is:

- Prevention (by distance or design);
- Detection (E.g. fire and gas, Leak detection);
- Control (E.g. emergency shutdown and controlled depressurization);
- Mitigation (E.g. firefighting and passive fire protection);
- Emergency response (In case safety barriers fail).



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5.4 Overall Location Specific Individual Risk Contour:

Below table provides the risk levels for various worker groups/locations due to potential LOC scenarios identified during base case modelling.

#	Location	LSIR/ avg. year	IRPA (per avg. year)	Risk Level
1	Personnel inside Work shop & Engineering stores	3.41E-04	5.61E-05	ALARP
2	Personnel inside Electrical substation with DG set	2.68E-04	2.94E-05	ALARP
3	Personnel inside Security cabin (north)	1.00E-05	2.19E-06	ALARP
4	Personnel inside Security cabin (south)	1.01E-05	2.21E-06	ALARP
5	Personnel inside Research and Quality control lab	4.50E-04	9.87E-05	ALARP
6	Personnel inside Canteen	1.57E-04	2.57E-05	ALARP
7	Personnel inside Admin office	1.91E-04	4.18E-05	ALARP
8	Personnel inside H.T Sub station	3.29E-04	3.60E-05	ALARP
9	Personnel inside Contractor rest room	1.72E-04	1.88E-05	ALARP
10	Personnel inside Coal Shed	1.61E-04	3.52E-05	ALARP
11	Personnel inside Electrical Room	2.76E-04	3.03E-05	ALARP
12	Personnel inside OHC	3.13E-04	6.87E-05	ALARP
13	Personnel inside Penta Control Room	5.97E-04	1.31E-04	Unacceptable
14	Personnel inside FA Control Room	6.93E-04	1.52E-04	Unacceptable
15	Personnel inside Contractor shed - I	1.83E-05	2.01E-06	ALARP
16	Personnel inside Weighing Bridge Area	2.61E-05	5.73E-06	ALARP
17	Personnel near Acetaldehyde Storage Area	3.82E-03	6.29E-04	Unacceptable
18	Personnel near Formaldehyde Storage Area	4.29E-03	7.05E-04	Unacceptable
19	Personnel near Methanol Storage Area	7.43E-03	1.63E-03	Unacceptable
20	Personnel near Diesel Storage Area	2.34E-04	2.57E-05	ALARP

Legend:

Unacceptable	ALARP	Acceptable

Acceptability of Risk is provided as per UK HSE as follows:

- **Unacceptable Risk:** Risk greater than $1.00\text{E-}04$ per average year
- **ALARP Risk:** Between $1.00\text{E-}04$ and $1.00\text{E-}06$ per average Year
- **Acceptable Risk:** Risk less than $1.00\text{E-}06$ per average year

5.5 ANALYSIS – BASE CASE

The risk is unacceptable to the personnel working in Penta & FA Control Rooms, Methanol, Acetaldehyde and Formaldehyde Storage areas being MeOH storage area subjecting to higher risk followed by Formaldehyde, Acetaldehyde Storage, FA CR and Penta CR. This is due to the following reasons.

All the three (03) storage areas are falling in between $1\text{E-}02$ and $1\text{E-}03$ per avg. year LSIR contour among which $1\text{E-}02$ per avg. year LSIR contour is generating at MeOH storage area itself as higher number of unloading operations via hose is taking place for MeOH in comparison with Acetaldehyde & Formaldehyde.

Major contribution for $1\text{E-}02$ per avg. year LSIR is due to unloading (via hose) operations.

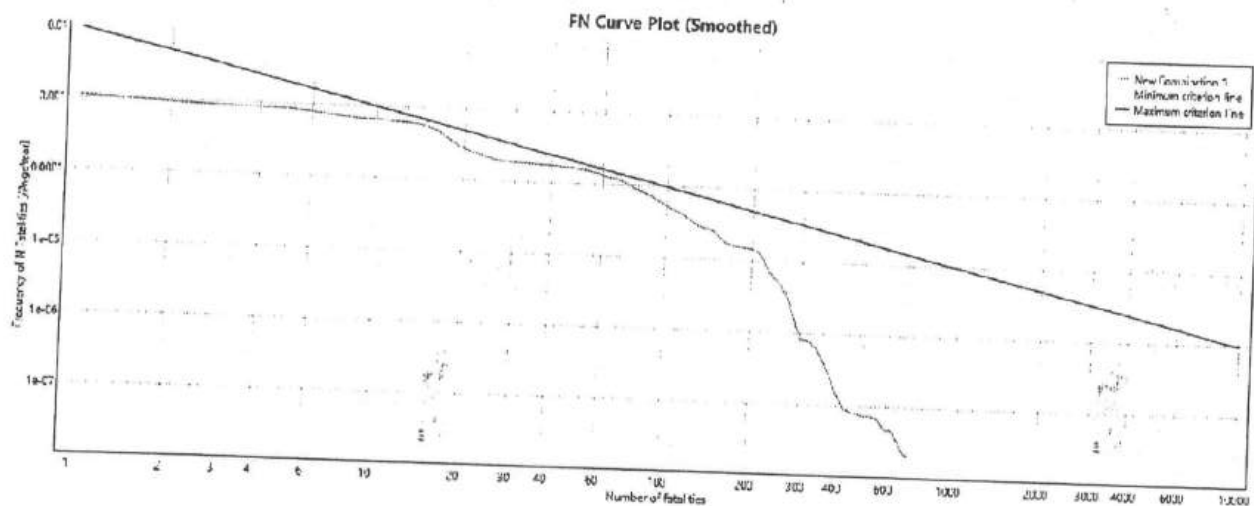
Unloading (via hose) and transfer operations + bulk storage of hazardous inventory at Tank Farm areas, FA Plant (where MeOH consumption is being taken place) are primary reasons $1\text{E-}03$ per avg. year LSIR contour. Hence, both Penta & FA Control Rooms are falling under $1\text{E-}03$ and $1\text{E-}04$ per avg. year LSIR region.

Above-mentioned reasons for $1\text{E-}02$ and $1\text{E-}03$ per avg. year LSIR + Penta Plant, Diesel scenarios altogether contributing for $1\text{E-}04$ per avg. year LSIR contour.

Top risk contributors with percentage contribution (relative) are provided in below table of the report. Also, risk to the personnel working in all other areas is found to be in **ALARP** region ranging from $1.88\text{E-}05$ to $5.73\text{E-}06$ per avg. year.

Societal Risk:

The F-N curve for the APL - Cuddalore Penta division is provided in below figure:



The FN curve is provided with two lines namely maximum criterion line (red line) and minimum criterion line (yellow line). The graph provided above mentions the risk acceptability with reference to the risk criteria specified by HSE, UK (*Reference: CCPS-Guidelines for developing Quantitative Safety Risk Criteria – Wiley – AIChE (2009)*).

It is observed that the green line starts from the area between red and yellow line with one (01) Fatality corresponding to the frequency of $1.10\text{E}-03$ per avg. year. Although, the risk curve moves towards the **Acceptable** region with three hundred and eighty (380) Fatalities corresponding to the frequency of $2.63\text{E}-07$ per avg. year, it is inferred that the societal risk (F-N curve) levels of the facility is in **ALARP** region for APL, Cuddalore which may further come down to **Acceptable** region after implantation of control measures.

5.6 Sensitivity Analysis

Based on the engineering judgement, safeguards (design/operating), operating experience of APL Penta Div. Cuddalore Site Team and discussions held amongst APL Management/Team & CMSRS, sensitivity analysis has been carried out to analyze the impact of safeguards on the risk posed by the plant. Factors accounted during sensitivity modelling are detailed in Chapter 7.1 of this report.

From the sensitivity results (**Table Below - IRPA Column**), it is evident that risk for personnel working in all the areas is reduced. However, risk for personnel at FA control room, Penta control room, MeOH/Acetaldehyde/FA Storage areas is reduced from **Unacceptable** to **ALARP** level whereas risk for personnel at Security Cabin (north & south), Contractor Shed-1 & Weighing Bridge areas is reduced from

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5.7 ALARP to Acceptable level.

#	Location	LSIR/ avg. year	IRPA (per avg. year)	Risk Level
1	Personnel inside Work shop & Engineering stores	2.62E-05	4.30E-06	ALARP
2	Personnel inside Electrical substation with DG set	2.01E-05	2.20E-06	ALARP
3	Personnel inside Security cabin (north)	5.04E-07	1.10E-07	Acceptable
4	Personnel inside Security cabin (south)	5.30E-07	1.16E-07	Acceptable
5	Personnel inside Research and Quality control lab	3.38E-05	7.41E-06	ALARP
6	Personnel inside Canteen	1.04E-05	1.71E-06	ALARP
7	Personnel inside Admin office	1.36E-05	2.97E-06	ALARP
8	Personnel inside H.T Sub station	2.48E-05	2.72E-06	ALARP
9	Personnel inside Contractor rest room	1.22E-05	1.33E-06	ALARP
10	Personnel inside Coal Shed	1.14E-05	2.50E-06	ALARP
11	Personnel inside Electrical Room	2.08E-05	2.28E-06	ALARP
12	Personnel inside OHC	2.41E-05	5.29E-06	ALARP
13	Personnel inside Penta Control Room	4.77E-05	1.05E-05	ALARP
14	Personnel inside FA Control Room	5.35E-05	1.17E-05	ALARP
15	Personnel inside Contractor shed - I	1.52E-06	1.66E-07	Acceptable
16	Personnel inside Weighing Bridge Area	8.10E-07	1.78E-07	Acceptable
17	Personnel near Acetaldehyde Storage Area	3.20E-04	5.25E-05	ALARP
18	Personnel near Formaldehyde Storage Area	4.23E-04	6.96E-05	ALARP
19	Personnel near Methanol Storage Area	1.78E-04	3.89E-05	ALARP
20	Personnel near Diesel Storage Area	1.74E-05	1.91E-06	ALARP

5.8 RISK CONTROL MEASURES SUGGESTED:

S.No.	Recommendations	Category
MeOH, FA & Acetaldehyde Unloading & Tank Farm Area		
1	Presence of personnel during unloading operation to be minimized in the vicinity and CCTV to be installed with motion detection covering the MeOH/FA/Acetaldehyde tankfarm areas in order to provide warning in case of deviation from any normal situation. This CCTV monitoring station should be provided in respective Penta & FA Control rooms where unloading & tank farm operations are being monitored.	Good to have
2	It is recommended to inspect/test the MeOH/FA/Acetaldehyde unloading hoses after 6 months of initial operation and subsequent testing to be done at three (03) months interval irrespective of the number of operations.	Critical
3	Ensure that MeOH/FA/Acetaldehyde tanker unloading area is provided with adequate sloping and draining arrangement (with water flow for diluting the MeOH/FA/Acetaldehyde) and further routed towards ETP such that any LOC during unloading activity would not lead to pool formation.	

S.No.	Recommendations	Category
4	Ensure that MeOH/FA Tank Farm & Unloading areas are provided with adequate no. of gas detectors at least one in upwind and downwind direction such that any LOC of MeOH, FA within the Tank Farm & Unloading areas are detected soon after the release.	Critical
5	It is recommended to provide remote isolation (based on leak detection) for Methanol Unloading Pumps A/B, Methanol Day Tank Loading Pumps P-2430A/B, Recovered Methanol Transfer Pump (P-106C) in order to limit the inventory during an LOC. Also, it is suggested to extend the water sprinkler system for Methanol Day Tank Loading Pumps P-2430A/B and Recovered Methanol Transfer Pump (P-106C).	
	It is recommended to provide with remote isolation based on leak detection for FA transfer pumps A/B from Day Tank to Main Tank (MT), FA Transfer	

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6	Pumps A/B from MT to Intermediate Tank, Intermediate Transfer pumps A/B) as impact distances corresponding to IDLH concentration of FA due to FBR is reaching upto 1.5 kms.	
7	Provide remote isolation for Acetaldehyde Unloading Pumps A/B, Acetaldehyde Day Tank Loading Pump and Acetaldehyde Transfer Pumps (P-2410A/B) upon detection of leak of acetaldehyde and ensure that water spray system with quartzoid bulb is available to mitigate the event in case of fire.	Essential
8	Ensure that all remote operated valve's or shut down valves within the impact distances of 275m from Acetaldehyde Unloading Pumps A/B, 271m from Acetaldehyde Day Tank Loading Pump and 157m from Acetaldehyde Transfer Pumps (P-2410A/B) are fire safe for 2 hours fire rating.	Critical
9	Pipe racks and pipe supports carrying acetaldehyde or any other flammable material in acetaldehyde storage area and pipe rack leading to penta plant, pipe rack carrying MeOH transfer piping from MeOH Storage to FA Plant (present within the periphery of 82m from the Acetaldehyde Unloading Pumps A/B) to be passive fire proofed with fireretardant paints.	Essential
10	Ensure that all critical cabling (within the periphery of 82m from Acetaldehyde Unloading Pumps A/B, 69m from Acetaldehyde Day Tank Loading Pump and 38m from Acetaldehyde Transfer Pumps (P-2410A/B); especially acetaldehyde carrying piping) such as power supply, instrument cabling for ROV's/ESDV's, F&G and emergency Communication systems shall be fire resistant to IEC 60331-1:2018.	Critical
11	Currently, conventional type road tanker is being used for transportation of Acetaldehyde due to which Catastrophic Rupture (CR) is contributing damage distance upto 100m corresponding to 12.5 kW/m ² pool fire thermal radiation. Hence, consider the usage of Iso-container as the probability of CR is likely to be eliminated (even in case of tanker toppling).	Essential

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S.No.	Recommendations	Category
Penta Plant		
12	Provide gas detectors (in order to detect the leak of acetaldehyde release) followed by remote isolation for Acetaldehyde Transfer Pump (P-102) based on gas detected.	Critical
13	Provide water spray system for Acetaldehyde Transfer Pump (P-102) with quartzoid bulb to mitigate the event in case of fire	
14	Provide portable firefighting monitors in Acetaldehyde Transfer Pump (P-102) area floor of penta plant in order to the protect the equipment present within the floor from 37.5 kW/m2 thermal radiation (Rosenbauer firefighting monitors to be referred for sample purpose).	
15	Ensure that all remote operated valve's or shut down valves within the periphery of 38.14m of Acetaldehyde Transfer Pump (P-102) are fire safe for 2 hours fire rating.	
16	Provide gas detection followed by remote isolation for Distillation Column (Top) Pumps P-106 A/B as % of MeOH recovered from distillation column is 91-92% and being pumped to Recovered MeOH Storage Tank via Distillation Column (Top) Pumps P-106 A/B.	
17	Provide portable firefighting monitors in Distillation Column (Top) Pumps P-106 A/B area floor of penta plant in order to the protect the equipment present within the floor from 12.5 kW/m2 thermal radiation (Rosenbauer firefighting monitors to be referred for sample purpose).	
18	It is recommended to provide with remote isolation based on leak detection for Reactor Pump (P-101) as impact distances corresponding to IDLH concentration of FA due to FBR is reaching upto 750m.	
19	Adequate no. of gas detectors to be provided in the stripper area such that Stripper, Seal Tank and Seal Tank Pumps (P-105A/B) are being fully covered. Also, it is recommended to provide remote isolation for Stripper based on the gas detection such that the respective equipment is isolated within 2 mins of the release.	
Formaldehyde Plant		
20	Provide gas detection followed by remote isolation for Absorption Column-1, Top Circulation Pumps (A/B) Absorption Column-1, Bottom Transfer Pumps Absorber Column-1 (P-202A/202B) and Bottom Transfer Pumps Distillation Column (P- 205A/205B) such that any leak could be isolated automatically within two (02) minutes of the LOC without any manual intervention.	Critical
Storage & Process Area		

21	Currently, double mechanical seal is provided only for Acetaldehyde unloading pumps (P-2412 A/B), whereas all other pumps are of single mechanical seal. It is recommended to provide double mechanical seal for all the pumps handling Acetaldehyde/MeOH/FA/Formic acid as a preventive measure to reduce the frequency of leaks in turn reducing the risk.	Critical
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S. No.	Recommendations	Category
Diesel Storage		
22	Pipe racks and pipe support carrying diesel in diesel storage area and pipe rack leading to diesel day tank in DG set building (present within the periphery of 13m from the Diesel Storage Tank) to be passive fire proofed with fire retardant paints.	Essential
23	Ensure that all critical cabling relating to power supply and emergency communication systems shall be fire resistant to IEC 60331-1:2018.	Critical
24	It is recommended to verify inspection checklist of diesel unloading hose prior to unloading operation.	Good to have
25	Ensure that no chemicals of Class A and Class B are not stored within the periphery of 13m (thermal radiation of 12.5 kW/m ²) from Diesel Day Tank inside the DG Set Building.	Essential
HCl & H₂SO₄ Storage		
26	It is suggested to maintain water valve & drain valve at HCl Storage area in open condition such that any spilt HCl is flushed and drained without any manual intervention and to avoid chemical injuries.	Essential
27	It is recommended to ensure that acid resistant tiling is provided at unloading & storage area and H ₂ SO ₄ piping supports to be corrosion-proofed	Good to have
28	Provide double mechanical seal for H ₂ SO ₄ transfer pump or replace with seal-less magnetic drive centrifugal pump such that release of corrosive fluids is completely Eliminated.	Essential
Occupied Buildings		
29	Penta & FA control rooms are suggested for SIP as per Chemical Industry Association (CIA) Guidance for Location & Design of Occupied Buildings on Chemical Manufacturing Sites.	Critical
Overpressure		
30	Provide mounded storage for New Acetaldehyde Bullet	

31	Provide blast wall (Steel or concrete framed with reinforced masonry infill or cladding) around existing Acetaldehyde Bullets -1/2 (with fragile roof top) which can withstand 0.3 bar overpressure.	Critical
32	Provide blast proof construction which can withstand 0.3 bar overpressure as the current distance between existing acetaldehyde bullets – 1/2 and FA and Penta Control Rooms is approx. 95-100m only and the impact distance due to explosion overpressure (from existing acetaldehyde bullets – 1/2) is reaching upto 262.8m.	
33	Provide blast proof construction for admin building which can withstand 0.2 bar overpressure as the current distance between existing acetaldehyde bullets – 1/2 and Admin Building is approx. 165m. Along with this, it is necessary to ensure that no glass windows are facing towards the plant side.	

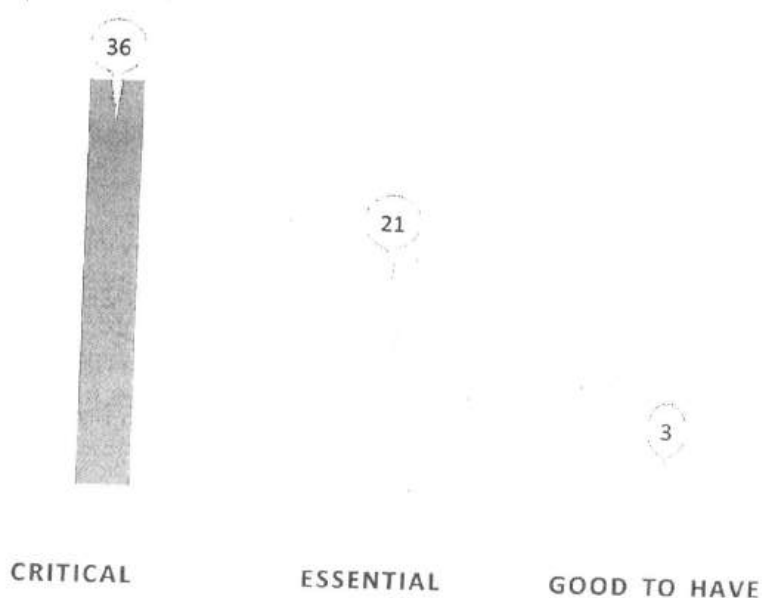
S. No.	Recommendations	Category
Toxic		
34	It is recommended to be replace normal air conditioning system with HVAC system in FA & Penta Control Rooms (with separate supply and return air ducting).	Critical
35	Air intake point shall be located preferably at opposite side of FA & Penta Plant and fresh air shall be drawn from an electrically safe classified area.	
36	Chemical filter of suitable design (for e.g., Purafil) should be installed at fresh air intake point of Penta & FA Control Rooms.	
37	Install gas detectors at Penta & FA Control Rooms HVAC air intake, interlocked to shut down the HVAC system upon confirmed detection of Formaldehyde and Acetaldehyde. Alarm set points to be configured based on the IDLH value of FA (20 ppm) and Acetaldehyde (2000 ppm).	
38	Ensure that Penta & FA Control Rooms each shall accommodate required volume of space per person for 60 minutes duration of stay in the event of toxic gas release.	Essential
39	Penta & FA Control Rooms to be provided with adequate no. of Self-Contained Breathing Apparatus (SCABA) sets in proportionate to the no. of key personnel required to execute all the emergency response actions.	Critical
40	Ensure that adequate no's of gas detectors are positioned in the periphery of APL – Cuddalore in order to detect any MeOH/FA/Acetaldehyde gas leak and subsequently configure beacon with sound system to alert the personnel nearby.	Essential

41	Update ERP (onsite & offsite) with respect to potential/major scenarios as per consequence results (Table 14 to 18) and ensure that emergency drills are conducted during normal operating hours and silent hours on periodic basis.	Critical
42	Carry out Performance Based Gas Mapping study for the entire facility of APL, Cuddalore in order to ensure that all the critical flanges and leak points are covered adequately.	
43	Ensure that period safety audit (covering all key safety aspects of the plant) by third party is carried out in order to identify the gaps and further strengthen the safety measures.	Essential
Parking Area		
44	Install gas detectors in order to detect any leak of MeOH/FA/Acetaldehyde and subsequently configure beacon with sound system to alert the personnel nearby as well as provide alarm in the FA & Penta Control Rooms.	Critical
45	Provide water sprinkler system based on quartzoid bulb activation.	
46	Adequate separation distance to be maintained between the tankers.	
47	Ensure that parking area is adequately covered with fire water system.	
48	Provide adequate sloping and draining arrangement at parking area (water flow for diluting the MeOH/FA/Acetaldehyde) and further routed towards ETP such that any LOC during tanker parking would not lead to pool formation.	

Sl.No	Recommendations	Category
49	Ensure that all the occupied buildings are provided with one (01) normal exit towards the plant and one (01) emergency exit away from the plant.	Essential
50	Update ERP (onsite & offsite) with respect to potential/major scenarios in parking area as per consequence results (Table 25 to 29) and ensure that emergency drills are conducted during normal operating hours and silent hours on periodic basis.	Critical
Existing Coal Shed		
51	Separation distance of 15m minimum to be maintained between the coal heaps with each heap of not more than 200 tons of coal.	
52	Maximum Permissible height of coal heap should be restricted to 4.5m for avg size of coal ≥ 15 cms whereas 3m height for 7.5-15 cm and 2m height for <7.5 cm avg coal size. If this permissible height is not possible to maintain, it is required to construct a masonry wall in between the heaps which should not be < 45 cm thickness and must not be < 1 m height but must not be greater than largest heap.	

53	Ensure that integrity of coal shed is well maintained with corrugated asbestos cement sheets roof to prevent rain water ingress.	Essential
54	Ensure that frequent inspection of coal heaps is being carried out to check the signs of smoke, odour of coal gas and other signs of heating.	
55	Daily monitoring of inside temperature of coal heap to be carried out using suspending thermometers (inside metal pipes placed vertically) at 4.5m intervals in the heap.	
56	Currently, distance between coal shed wall and fire hydrant system is <1m and therefore it is recommended to relocate to a safer distance	
57	Carry out Hazardous Area Classification (HAC) Study and provide flame-proof electrical fittings	
58	Carry out gap audit as per IS 3595: 2002 for existing coal shed area in order to identify gaps and strengthen the safety measures as necessary	
New Coal Shed		
59	Ensure that new coal shed is located at least 20m away from the north and east side boundary walls.	Essential
60	Ensure that new coal shed is meeting the requirements of IS 3595: 2002.	

Summary of recommendations is presented in the below graph;



Conclusion:

Considering the current operating practices and safe guards available, the risk levels at APL Penta Div Cuddalore are in **ALARP**. Post implementation of the proposed control measures, the risk levels are reduced from **ALARP** and/or expected to come down to **Acceptable**.

5.10 RISK ASSESSMENT PROCEDURE

Hazard identification and risk assessment involves a series of steps as follows:

Step 1: Identification of the Hazard

Hazard identification is a critical step in Risk Assessment. Many aids are available, including onsite visits, engineering codes, checklists, detailed process knowledge, equipment failure experience, hazard index techniques, What-if Analysis, Hazard and Operability (HAZOP) Studies, Failure Mode and Effects Analysis (FMEA) and Preliminary Hazard Analysis (PHA). In this phase all potential incidents are identified and tabulated. Site visit and study of operations and documents like drawings, process write-up etc. are used for hazard identification.

Step 2: Assessment of the Risk

Consequence estimation is the methodology used to determine the potential for damage or injury from specific incidents. A single incident (e.g. rupture of a pressurized flammable liquid tank) can have many distinct incident outcomes (E.g. Vapor Cloud Explosion (VCE), flash fire, etc.)

Likelihood assessment is the methodology used to estimate the frequency or probability of occurrence of an incident. Estimates may be obtained from historical incident data on failure frequencies, from failure sequence models, such as fault trees and event trees. In this study the historical data developed by software models and those collected by CPR-18E are used.

Risks arising from the hazards are evaluated for its tolerability to personnel, the facility and the environment. The acceptability of the estimated risk must then be judged based on IS-15656 criteria appropriate to the particular situation.

Step 3: Elimination or Reduction of the Risk

This involves identifying opportunities to reduce the likelihood and/or consequence of an accident where deemed to be necessary. Risk assessment combines the consequences and likelihood of all incident outcomes from all selected incidents to provide a measure of risk. The risk of all selected incidents is individually estimated and summed to give an overall measure of risk.

Risk-reduction measures include those to prevent incidents (i.e. reduce the likelihood of occurrence) to control incidents (i.e. limit the extent and duration of a hazardous event) and to mitigate the effects (i.e. reduce the consequences). Preventive measures, such as using inherently safer designs and ensuring asset integrity, will be used wherever practicable.

In many cases, the measures to control and mitigate hazards and risks are simple and obvious and involve modifications to conform to standard practice. The general hierarchy of risk reducing measures is:

- Prevention (by distance or design);
- Detection (E.g. fire and gas, Leak detection);
- Control (E.g. emergency shutdown and controlled depressurization);
- Mitigation (E.g. firefighting and passive fire protection);
- Emergency response (In case safety barriers fail).

5.11 IDENTIFICATION OF HAZARDS AND RELEASE SCENARIOS

Hazard identification is a technique commonly used to identify potential leaks and major releases from fractures of all process pipelines and associated facilities. After identifying the potential scenarios, the effects due to loss of containment of the material are evaluated. A Loss of Containment is one containment system that will not lead to the release of significant quantities of hazardous substance from other containment systems.

The following data were collected to envisage scenarios:

- Composition of materials stored in storage tanks/ flowing through piping and equipment;
- Inventory of materials stored in storage tanks;
- Flow rate of materials passing through piping;
- Storage tanks/ piping and equipment physical conditions (phase, temperature, pressure);
- Connecting piping and piping dimensions.

Accidental release of flammable liquids/ gases can result in severe consequences. Delayed ignition of flammable gases can result in blast overpressures covering large areas. This may lead to extensive loss of life and property. In contrast, fires can have localized consequences. Fires can be put out or contained in most cases; there are few mitigating actions one can take once a flammable gas or a vapor cloud gets released. Major accident hazards arise, therefore, consequent upon the release of flammable gases. However, in case of facilities handling toxic materials, the impact of toxic release is also of significant importance.

5.12 FACTORS FOR IDENTIFICATION OF HAZARDS

In any installation, main hazard arises due to loss of containment during handling of flammable chemicals. To formulate a structured approach for identification of hazards, an understanding of contributory factors is essential.

Inventory

Inventory analysis is commonly used in understanding the relative hazards and short listing of release scenarios. Inventory plays an important role in regard to the potential hazard. Larger the inventory of a vessel or a system, larger is the quantity of potential release. A practice commonly used to generate an incident list is to consider potential leaks and major releases from fractures of pipelines and vessels/ tanks containing sizable inventories.

Parameters

Potential vapor release for the same material depends significantly on the operating conditions. This operating range is enough to release a large amount of vapor in case of a leak/rupture; therefore, the storage tank/pipeline leaks and ruptures need to be considered in the risk assessment calculations.

Initiating Events

Both the complexity of study and the number of incident outcome cases are affected by the range of initiating events and incidents covered. This not only reflects the inclusion of accidents and/or non-accident-initiated events, but also the size of those events. For instance, studies may evaluate one or more of the following:

- Catastrophic failure of storage tanks
- Large hole (large continuous release)
- Small hole (continuous release)
- Leaks at fittings or valves (small continuous release)

Selection of initiating events and incidents

The selection of initiating events and incidents should take into account the goals or objectives of the study and the data requirements. The data requirements increase significantly when non-accident – initiated events are included and when the number of release size increase. While the potential range of release size is tremendous, groupings are both appropriate and necessitated by data restrictions. The main reasons for including release sizes other than the catastrophic rupture are to reduce the conservatism in an analysis and to better understand the relative contributions to risk of small versus large releases.

As per Reference Manual Bevi Risk assessment version 3.2, only the Loss of Containment (LOC) which is basically the release scenarios contributing to the individual and/ or societal risk are included in the QRA. LOC scenarios for the installation are included only if the following conditions are fulfilled:

- Frequency of occurrence is equal to or greater than 10^{-9} and
- Lethal damage (1% probability) occurs outside the establishment's boundary.

There may be number of accidents that may occur quite frequently, but due to proper control measures or fewer quantities of chemicals released, they are controlled effectively. A few examples are a leak from a gasket, pump or valve, release of a chemical from a vent or relief valve, and fire in a pump due to overheating. These accidents generally are controlled before they escalate by using control systems and monitoring devices.

5.13 TYPES OF OUTCOME EVENTS

Depending on the considered LOC scenarios the following outcomes are expected:

- Jet fire
- Pool fire
- Flash Fire (Flammable gas dispersion)
- Vapor Cloud Explosion
- Boiling Liquid Expanding Vapor Explosion (BLEVE)
- Toxic Gas Dispersion

Jet fires

Jet fire occurs when a pressurized release (of a flammable gas or vapor) is ignited by any source. They tend to be localized in effect and are mainly of concern in establishing the potential for escalation effects and employee safety zones rather than for community risks.

The jet fire model is based on the radiant fraction of total combustion energy, which is assumed to arise from a point slowly along the jet flame path. The jet dispersion model gives the jet flame length.

Pool fires

This represents a situation when flammable liquid spillage forms a pool over a liquid or solid surface and gets ignited. Flammable liquids can be involved in pool fires where they are stored and transported in bulk quantities. Pool fires are associated with the difference between release of material and complete combustion of the material simultaneously. They are common when large quantity of flammable material is released within short time.

Flammable Gas Dispersion

Flammable vapors, after loss of containment, will normally spread in the direction of the wind. If it finds an ignition source before being dispersed to below its Lower Flammability Limit (LFL), a flash fire is likely to result and the flame may travel back to source of the release. Any person caught in a flash fire is likely to suffer fatal burn injuries.

Typically, the burning zone is defined as 0.5 LFL and LFL limit back to the release point, even though the vapor concentration might be above UFL.

Vapor Cloud Explosion (VCE)

Vapor cloud explosion is the result of flammable materials in the atmosphere, a subsequent dispersion phase, and after some delay an ignition of the vapor cloud. Turbulence is the governing factor in blast generation, which could intensify combustion to the level that will result in an explosion. Obstacles in the path of vapor cloud or when the cloud finds a confined area, e.g. as under the bullets, often create turbulence. The VCE will result in overpressures.

Boiling Liquid Expanding Vapor Explosion (BLEVE)

A Boiling Liquid Expanding Vapour Explosion (BLEVE) occurs when there is a sudden loss of containment of a pressure vessel containing a superheated liquid or liquefied gas. It is sudden release of large mass of pressurized superheated liquid to atmosphere. The primary cause may be external flame impinging on the shell above liquid level weakening the vessel and leading to shell rupture. Calculations are done for diameter and duration of fireball and the incident thermal flux.

Toxic Dispersion

Accidental release of toxic material into atmosphere may result in dispersion. The extent of dispersion depends on properties of released toxic material and weather parameters and topographical conditions.

5.14 CONSEQUENCE CALCULATIONS

In consequence analysis, use is made of a number of calculation models to estimate the physical effects of an accident (spill of hazardous material) and to predict the damage (lethality, injury, material destruction) of the effects.

Accidental release of flammable liquids can result in severe consequences. Immediate ignition of the pressurized chemical will result in a jet flame. Delayed ignition of flammable vapors can result in blast overpressures covering large areas.

The calculations can roughly be divided in three major groups:

- a) Determination of the source strength parameters;
- b) Determination of the consequential effects;
- c) Determination of the damage or damage distances. The basic physical effect models consist of the following.

5.15 SOURCE STRENGTH PARAMETERS

- Calculation of the outflow of liquid vapors out of a vessel/tank or a pipe, in case of rupture. Also,
- Two-phase outflow can be calculated.
- Calculation, in case of liquid outflow, of the instantaneous flash evaporation and of the dimensions of the remaining liquid pool.
- Calculation of the evaporation rate, as a function of volatility of the material, pool dimensions and wind velocity.
- Source strength equals pump capacities, etc. in some cases.

5.16 CONSEQUENTIAL EFFECTS

- Dispersion of gaseous material in the atmosphere as a function of source strength, relative density of the gas, weather conditions and topographical situation of the surrounding area.
- Intensity of heat radiation [in kW/ m²] due to a fire as a function of the distance to the source.
- Energy of vapor cloud explosions [in bar], as a function of the distance to the distance of the exploding cloud.
- Concentration of gaseous material in the atmosphere, due to the dispersion of evaporated chemical. The latter can be either explosive or toxic.
- It may be obvious, that the types of models that must be used in a specific risk study strongly depend upon the type of material involved:
 - Gas, vapor, liquid.
 - Inflammable, explosive, toxic, toxic combustion products.
 - Stored at high/low temperatures or pressure.
 - Controlled outflow (pump capacity) or catastrophic failure.

5.17 SELECTION OF DAMAGE CRITERIA

Hydrocarbon releases that ignite may result in immediate fatalities, if the release is not detected prior to ignition. Even some detected releases could also cause immediate fatalities, if personnel

close to the location of the release do not escape from the area in time. The types of fires which are of concern are jet fire, pool fire and flash fires. Personnel either can get engulfed by fire or can get exposed to thermal radiation arising from fire.

As per the guidelines of CPR 18 E Purple Book:

Thermal Radiation Impact Criteria – Impact on people due to thermal radiation effect along with the probability of fatality is mentioned in below table

Table 1: Thermal Radiation Impact

Thermal Radiation (kW/m ²)	Type of Impact	Probability of Fatality (%)
4	Causes pain if unable to reach cover within 20 s	1
12.5	The second degree burns on exposed skin in about 40 secs. 50% lethality in about 80 secs. Minimum energy required for melting of plastic	50
37.5	Taken as the criterion for immediate fatality; Sufficient to cause damage to the Equipment	100

Notes:

- Flash Fire at 0.5 LFL and LFL (Lower Flammability Level) will be considered for the study.
- Lethality for people engulfed in LFL cloud is considered as 100%.

Overpressure Impact Criteria – Overpressure impact distances for the QRA will be established based on the following overpressures to determine physical effects of hazard events:

Table 2: Overpressure Impact Criteria

Overpressure (bar)	Type of Impact	Probability of Fatality (%)
0.03	Shattering of glass leading to injury	1
0.1	Repairable damage to plant buildings and structure	50
0.3	Major damage to plant equipment and structure	100

Toxic Gas – The fatality rate from toxic impact of the below chemicals will be considered for evaluating effect on humans in the event of release of these chemicals.

Table 3: IDLH Values of Toxic Chemicals

Toxic Chemical	IDLH (ppm)
Acetaldehyde	2000
Methanol	6000
Formaldehyde	20
Formic acid	30

The fatality rate for toxic impact is calculated from Probit equation:

Where,

$$Pr = A + B \{ \ln (C^N \times t) \}$$

Pr – Probit Value

t – Exposure time (min)

C – Concentration of Hydrogen Chloride and Chlorine in (ppm) A – Constant

B – Constant

N – Toxic Index

5.18 PROBABILITIES

5.18.1 POPULATION PROBABILITIES

It is necessary to know the population exposure to estimate the risk resulting from an incident. The exposed population is often defined using a population density. Population densities are an important part of a QRA for several reasons. The most notable is that the density is typically used to determine the number of people affected by a given incident with a specific hazard area. Sometimes, population data are available in sketchy forms. In the absence of specific population data default categories can be used.

In this study, based on the discussions with APL-Cuddalore officials, the population data considered for the study both inside plant and outside the complex are provided below;

Onsite and Offsite population details:

Table 4: Onsite Population Details

S. No	Department	A shift	B shift	C shift	G shift
1	Security Gate-1	3	3	3	2
2	Security Gate-2	8	8	8	2
3	Driver rest room				2
4	ADMN Canteen	4	3	1	4
5	ADMN building				14
6	ADMN Driver/Casa Grande	1	1	1	5
7	Stores				3
8	Workshop	2	2	2	9
9	LT room	1	1	1	4
10	Contractor shed near boiler	2	2	2	2
11	Boiler	2	2	2	3
12	Contract shed near Boiler				15
13	ETP and WTP	3	3	2	2
14	Contract shed near ETP	2	2	2	11
15	Formaldehyde plant	1	1	1	
16	Penta plant	11	11	11	
17	Penta plant-Jayabal contract shed	2	2	2	6
18	Penta plant-Shift Incharge cabin	1	1	1	1
19	Production Executive cabin				3
20	QA	2	2		5
21	BSR	3	2	2	5
22	Engineering Cabin				7
23	OHC	1	1	1	1
25	Contractor shed near QA				22
26	Gardening				9

Offsite population details:

Table 5: Offsite Population Details

Location	Population	
	Day	Night
Kudikadu Village	3000	3500
Nearby Industries	600	300

Note:

- In addition, population along the road on East side of the plant, at any point of time, will be considered as follows:
- Day population = 200
- Night population = 100

5.18.2 FAILURE / EVENT PROBABILITIES

Frequency Analysis

This step deals with determining how often – in terms of frequency per year – loss of containment event is likely to occur. The likelihood of occurrence of identified hazardous scenarios is assessed by reviewing historical industry accident data.

The failure data is taken from CPR 18E – Guidelines for Quantitative Risk Assessment, developed by the Committee for the Prevention of Disasters, Netherlands

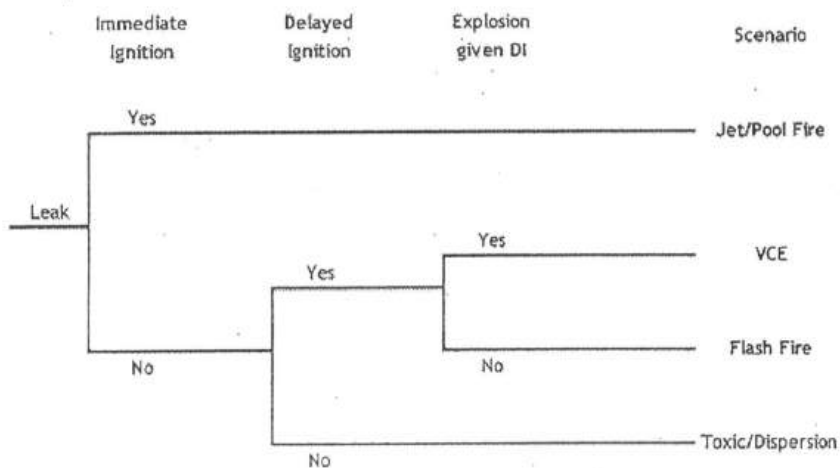
Table 6: Event Probabilities

Sl.No	Equipment	Type of Release	Base Frequency	Units
1	Road Tanker	Leak	5.00E-07	per year
2		Rupture	1.00E-05	per year
3	Atmospheric Storage Tank	Leak	1.00E-04	per year
4		Rupture	5.00E-06	per year
5	Piping with nominal diameter < 75 mm	Leak	5.00E-06	per meter per year
6		Rupture	1.00E-06	per meter per year
7	Piping, 75mm ≤ nominal	Leak	2.00E-06	per meter per year

8	diameter \leq 150 mm	Rupture	3.00E-07	per meter per year
9	Piping with nominal diameter > 150 mm	Leak	5.00E-07	per meter per year
10		Rupture	1.00E-07	per meter per year
11	Loading/unloading hose	Leak	4.00E-05	per hour
12		Rupture	4.00E-06	per hour
13	Pumps	Leak	5.00E-04	per year
14		Rupture	1.00E-04	per year
15	Process Vessel	Leak	1.00E-04	per year
16		Rupture	5.00E-06	per year
17	Reactor Vessel	Leak	1.00E-04	per year
18		Rupture	5.00E-06	per year

Event Trees

SAFETI v8.4 inbuilt event trees are used for the study.



5.18.3 WEATHER PROBABILITIES

Following meteorological data of Cuddalore will be referenced for the study as per data from Climatological Tables of Observatories in India Issued by India Meteorological Department (IMD):

- Annual Mean Ambient temperature – 28.35 °C
- Atmospheric Pressure- 1.01 bar
- Relative Humidity – 74.5 %
- Solar radiation flux- 1 KW/m²
- Two representative weather conditions will be applied to each release scenario. They are 1.5F and 5D which is widely adopted as typical and worst-case results.

Table 7: Weather Stability

Wind Speed (m/s)	Stability Class	Description
1.5	F	Stable conditions and 1.5 m/s wind speed. This is typical of conditions Where there is limited turbulence and, hence, limited dilution of dispersing clouds.
5	D	Neutral stability and 5 m/s wind speed. This is typical of moderately Turbulent conditions.

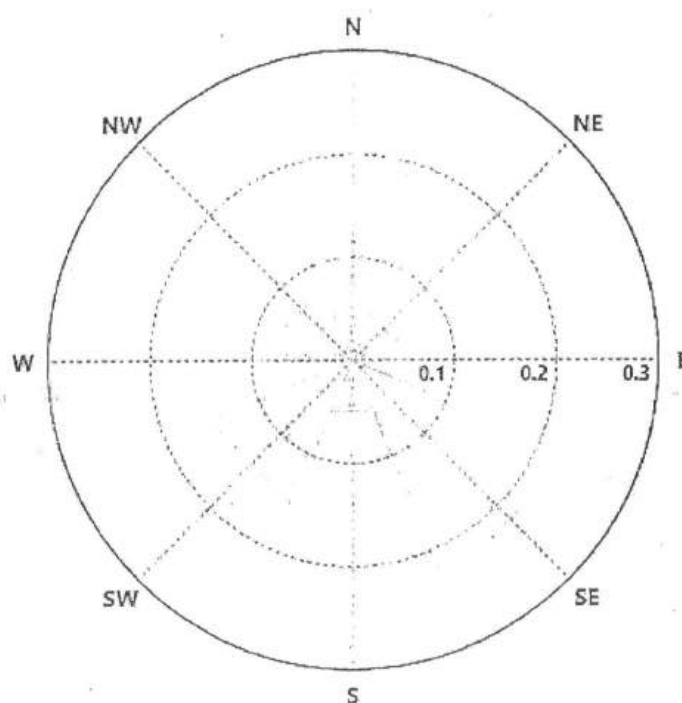
Wind distribution probability:

The following wind distribution will be used for the study.

Reference: Indian Meteorological Department data for Cuddalore, Tamil Nadu.

Table 8: Wind Distribution

Direction	N	NE	E	SE	S	SW	W	NW	CALM
Direction Percentage per Annum									
Day	15	8	1	2	9	26	14	13	12
Night	6	19	12	38	8	7	4	1	5



5.18.4 IGNITION PROBABILITIES

Immediate Ignition Probability:

Immediate ignition can be considered as the situation where the fluid ignites immediately on release through auto-ignition or because the accident which causes the release also provided an ignition source. For mixtures, immediate ignition probability is assumed based on the Reference manual BEVI riskassessments version 3.2, developed by the National Institute of Public Health and the Environment (RIVM), Centre for External Safety, Netherlands.

Table 9: Probability of Direct Ignition for Stationary Installations

Substance category	Source term Continuous	Source term Instantaneous	Probability of direct ignition
Category 0 average/ high reactivity	< 10 kg/s	< 1,000 kg	0.2
	10 – 100 kg/s	1000 – 10,000 kg	0.5
	> 100 kg/s	> 10,000 kg	0.7
Category 0 low reactivity	< 10 kg/s	< 1,000 kg	0.02
	10 – 100 kg/s	1000 – 10,000 kg	0.04
	> 100 kg/s	> 10,000 kg	0.09

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On-Site Emergency Plan & Off Site Emergency Guidelines



Category 1	All flow rates	All quantities	0.065
Category 2	All flow rates	All quantities	0.01
Category 3, 4	All flow rates	All quantities	0

Category 0 (Extremely flammable): Liquid substances and preparations with a flash point lower than 0 °C and boiling point (or start of a boiling range) less than or equal to 35 °C. Gaseous substances and preparations that may ignite at normal temperature & pressure when exposed to air.

Category 1 (Highly flammable): Liquid substances and preparations with a flash point below 21 °C, which are not, however, extremely flammable.

Category 2 (flammable): Liquid substances and preparations with a flash point greater than or equal to 21°C and less than or equal to 55 °C.

Category 3: Liquid substances and preparations with a flash point greater than 55 °C and less than or equal to 100 °C.

Category 4: Liquid substances and preparations with a flash point greater than 100 °C.

For Pure Components, immediate ignition probability is assumed based on the Reference Institute of Petroleum (IP) (UKOOA correlation, also available in CPR-18E ignition probability database.

Table 10: Probability of Direct Ignition for Stationary Installations

Source			Substance	
Continuous	Instantaneous	K1-liquid	Gas, low reactive	Gas, average/high reactive
< 10 kg/s	< 1000 kg	0.065	0.02	0.2
10 - 100 kg/s	1000 - 10,000 kg	0.065	0.04	0.5
> 100 kg/s	> 10,000 kg	0.065	0.09	0.7

Delayed Ignition Probability:

Delayed ignition is the result of the build-up of a flammable vapor cloud which is ignited by a source remote from the release point. It is assumed to result in flash fires or explosions, and also to burn back to the source of the leak resulting in a jet fire.

The following calculation will be used to determine delayed ignition probabilities:

P (delayed ignition) = 1 - P (immediate ignition)

5.18.5 RISK CALCULATION

This step involves calculating risk considering both severity of the consequences of an identified hazard and the probability of its occurrence.

$$\text{Risk} = \text{Likelihood of Occurrences} \times \text{Severity of Consequences}$$

Risk will be calculated using software SAFETI v8.4 by DNV. This software will receive input from the Frequency Analysis and Consequence Assessment Tasks. Risk is presented both numerically and graphically.

Risk Assessment

This step deals with comparing the calculated risk with the standard values. In India, there are no defined criteria for risk acceptance. However, in IS 15656 – Code of Practice for Hazard Identification and Risk Analysis, Annexure E summarizes the risk criteria adopted in some countries. Extracts for the same is presented in **Section 6.2**.

5.18.6. MODELLING ASSUMPTIONS

In addition to the methods and assumptions in the modeling as noted above, the following assumptions are used:

- For the PHAST modeling the 'horizontal' option is selected for release orientation in above ground tanks and piping and hoses, this provides the maximum horizontal distances.
- Typically, failure models are considered as:
 - **Piping** – Outflow from leak size will be considered as 10% of pipe Dia (hole size max 50 mm. If leak size found above 50mm as per the calculation, then leak size will be limited to 50mm only and the worst-case scenario will be full bore rupture of piping
 - **Tank / pressurized vessel:** the continuous release from leak will be considered as 10mm and catastrophic rupture of tank, based on the guidelines of CPR 18 E
 - Jet fires in PHAST have been modeled using the un-impinged jet model. This leads to conservative, longer jet fire lengths as the model assumes that there are no obstacles to reduce jet momentum and therefore jet length and distances to radiation levels.
 - Considered isolation time (includes time for detection & isolation) as mentioned below for the released inventory calculations:
 - Manual Operation - isolation time considered as 1800 sec (30min)

5.18.7 SCENARIOS CONSIDERED FOR THE FACILITY

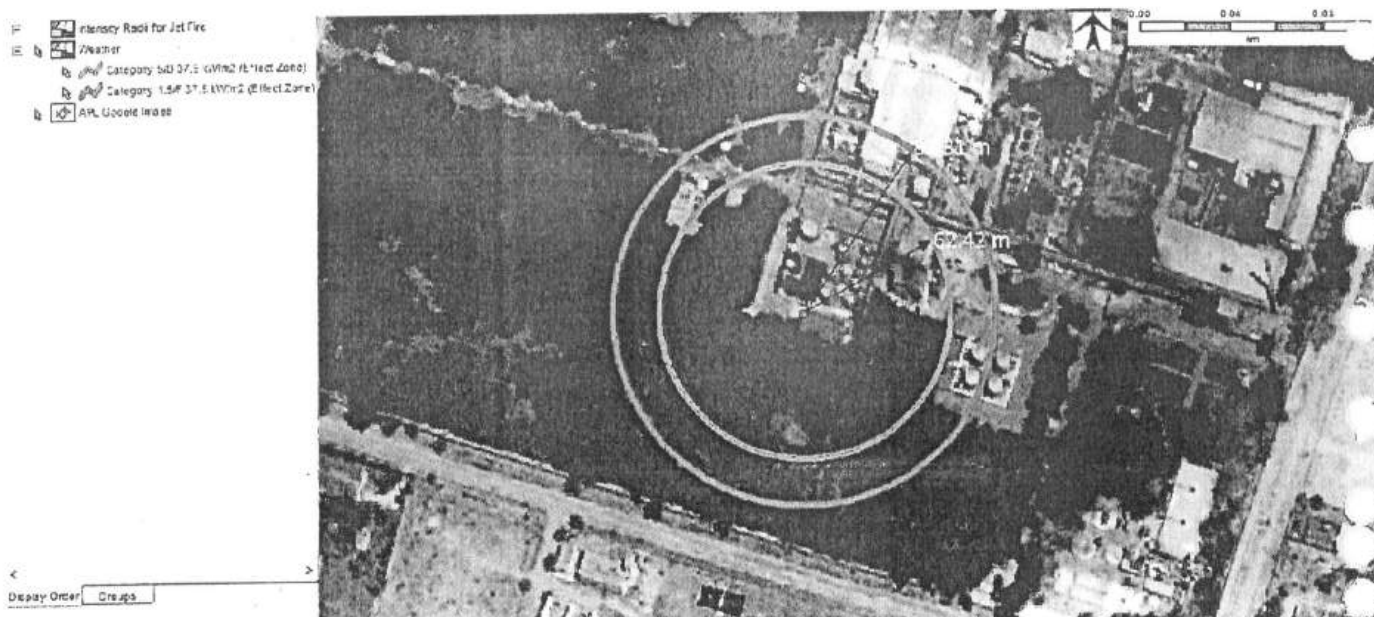
This section documents the consequence-distance calculations, which have been computed for the accident release scenarios considered. In risk assessment studies, contributions from low frequency - high severity effect as well as high frequency - low severity events are distinguished. Potential Loss of Containment (LOC) scenarios envisaged for QRA Study from APL- Penta Division are provided below. Scenarios envisaged for Qualitative Risk Assessment from APL- Penta Division are provided below.

Table 11: List of Scenarios for Qualitative Risk Assessment

IS No.	IS Name
Caustic Storage	
1	Leak of Caustic Road Tanker
	Rupture of Caustic Road Tanker
2	Leak of Caustic unloading hose
	Rupture of Caustic unloading hose
3	Leak of Caustic unloading pumps A/B
	Rupture of Caustic unloading pumps A/B
4	Leak of Caustic Transfer Pump and Storage Tank
	Rupture of Caustic Transfer Pump and Storage Tank
5	Leak of Caustic pump to Reactor(P100A/B) and Day Tank
	Rupture of Caustic pump to Reactor(P100A/B) and Day Tank
Sulphuric Acid Storage	
1	Leak of Sulphuric Acid Road Tanker
	Rupture of Sulphuric Acid Road Tanker
2	Leak of Sulphuric Acid unloading hose
	Rupture of Sulphuric Acid unloading hose
3	Leak of Sulphuric Acid unloading pumps A/B
	Rupture of Sulphuric Acid unloading pumps A/B
4	Leak of Sulphuric Acid Transfer Pump and Storage Tank
	Rupture of Sulphuric Acid Transfer Pump and Storage Tank

HCl Storage	
1	Leak of HCl Road Tanker
	Rupture of HCl Road Tanker
2	Leak of HCl unloading hose
	Rupture of HCl unloading hose
3	Leak of HCl unloading pumps A/B
	Rupture of HCl unloading pumps A/B
4	Leak of HCl Transfer Pump and Storage Tank
	Rupture of HCl Transfer Pump and Storage Tank

- Intensity Radii for Jet Fire
- Weather
- Category: 500 37.5 kW/m² (Effect Zone)
- Category: 1.5W 37.5 kW/m² (Effect Zone)
- APL Google Image

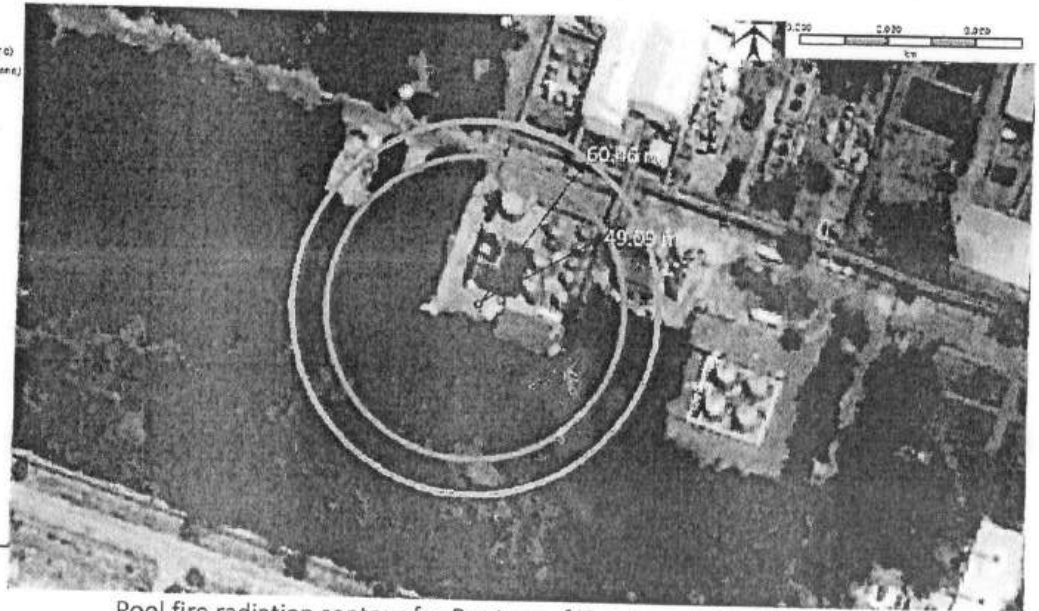


Jet fire radiation contour for Rupture of IS-3 - Acetaldehyde Unloading Pumps A/B

Asian Paints Limited, Penta Division, Cuddalore
On-Site Emergency Plan & Off Site Emergency Guidelines



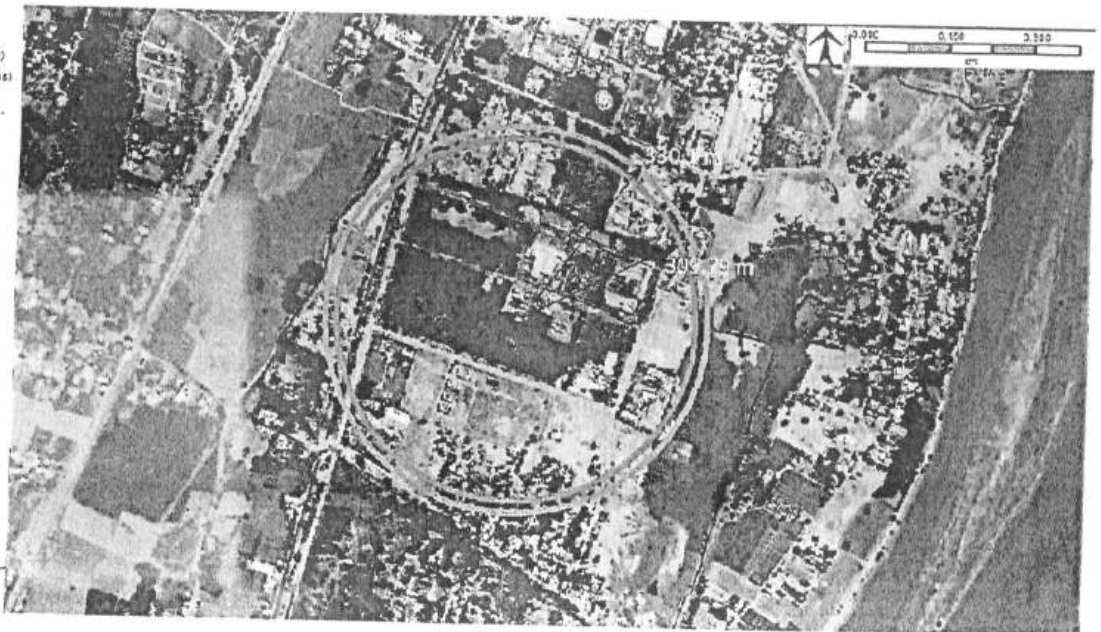
- 1. Homely Radii for Late Pool Fire
- 2. Weather
- 3. Category S/D 37.5 W/Min (Effect Zone)
- 4. Category 1 S/D 1.5 W/Min (Effect Zone)
- 5. APL Google Image



Pool fire radiation contour for Rupture of IS-1 Acetaldehyde Road Tanker

Overpressure Contour for Rupture of IS-4B New Acetaldehyde Bullet

- 1. Explos on Front Case Radi
- 2. Weather
- 3. Category S/D 0.3 bar (Effect Zone)
- 4. Category 1 S/D 0.3 bar (Effect Zone)
- 5. APL Google Image



5.19 RISK PRESENTATION

5.19.1 Location Specific Individual Risk (LSIR)

Location Specific Individual Risk is the risk experienced by the person at a particular location. It provides a measure of the inherent hazard associated with different geographic locations within a Plant or facility. The calculated risks are typically presented as risk contours, which provide an easily understood graphical presentation of the risks.

LSIR contours are indicative of the potential magnitude or intensity of the risk, but the risks will only be realized at a given location if personnel will be present at that location 24/7 (hours/days).

Individual Risk per Annum (IRPA)

Individual risk is a measure of the risk (expressed as a frequency of fatality per year) for an individual exposed to a single hazard or the combined effects of several hazards. This measure of risk is important for a small group of people, particularly plant operators who will be exposed to higher levels of risk than other groups, due to their proximity.

The Individual Risk calculation is done using specific locations of the known sources at the establishment. It is determined on a case by case basis for each individual working on a plant or facility. In practice there is insufficient definition in the data which defines the durations for which people will be exposed and locations at which they will be exposed. Hence, calculations are therefore undertaken for representative work groups rather than for every individual. The process contribution to the individual risk for a specified work group is evaluated as the time weighted average of the LSIR values determined at each of the locations at which the work group will spend time.

5.19.2 Societal Risk:

The Societal Risk calculation can be done using the specific locations of the known sources at the establishment and outside the establishment. In this study, evaluation of societal risk is calculated using SAFETI v8.4. The results from this evaluation are presented in the form of F-N graphs (societal risk showing the cumulative frequency, F of N or more fatalities)

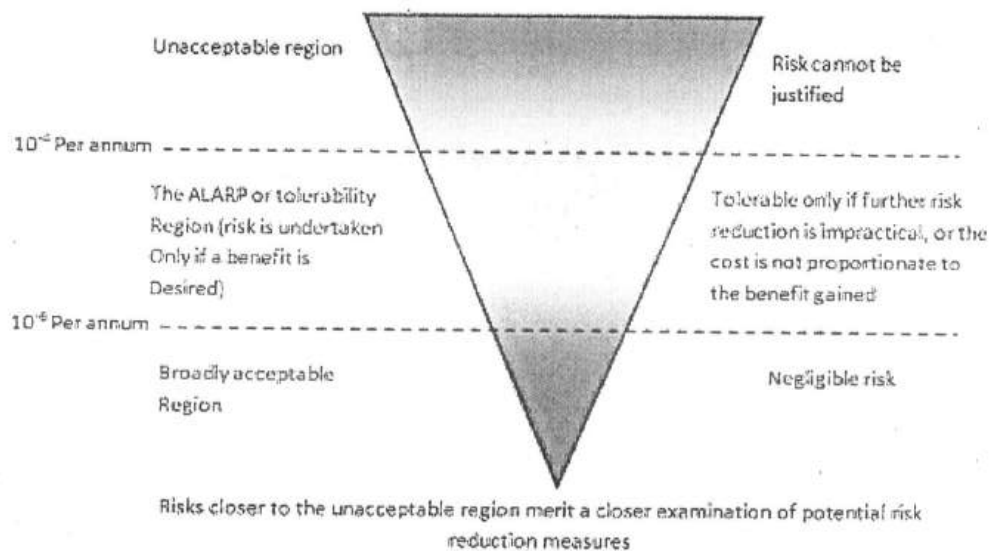
Societal Risk considers the risk of hazardous events with the potential to give rise to large numbers of casualties; in particular, it is used to assess the risk to public and other groups around the site who are not voluntarily exposed to the risks. It is also expressed as a frequency of fatality per year, but for a defined level of severity. The acceptability of the risk will depend on the number of fatalities (N) an

the frequency (F). For this reason, societal risk and the acceptability criteria are often given using an F-N curve.

5.20 RISK ACCEPTANCE

The risk acceptance criteria followed in this study is as given below.

Individual Risk Acceptance Criteria: In order to determine acceptability, the risk results are assessed against a set of risk criteria. The individual risk criteria adopted for this study is based on HSE UK Guideline and is presented below:



Individual Risk Acceptance Criteria

Societal Risk Acceptance Criteria:

UK HSE Maximum tolerable and broadly acceptable lines will be considered for generating FN curve.

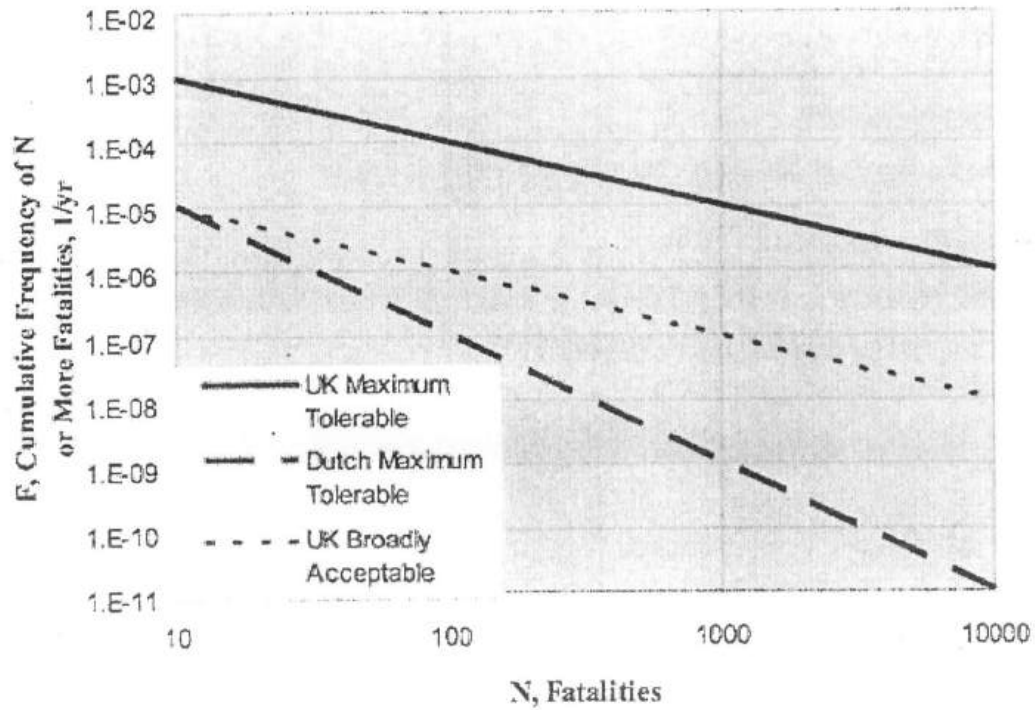


Figure 7: Societal Risk Acceptance Criteria

5.21 RISK RESULTS



The risk for the APL- Cuddalore, Penta Division is summarized in terms of LSIR and IRPA. The LSIR contour for base case is shown in Overall LSIR contour of Asian Paints – Penta Division (Base Case). The base case model is nothing but the raw risk modelled as it is/ as-built for which Location Specific Individual Risk (LSIR) values at different areas of the facility are provided in the below

Table 12: Location Specific Individual Risk Values – Base Case

S.No	Location	LSIR/ avg.year
1	Personnel inside Work shop & Engineering stores	3.41E-04
2	Personnel inside Electrical substation with DG set	2.68E-04
3	Personnel inside Security cabin (north)	1.00E-05
4	Personnel inside Security cabin (south)	1.01E-05
5	Personnel inside Research and Quality control lab	4.50E-04
6	Personnel inside Canteen	1.57E-04
7	Personnel inside Admin office	1.91E-04
8	Personnel inside H.T Sub station	3.29E-04
9	Personnel inside Contractor rest room	1.72E-04
10	Personnel inside Coal Shed	1.61E-04
11	Personnel inside Electrical Room	2.76E-04
12	Personnel inside OHC	3.13E-04
13	Personnel inside Penta Control Room	5.97E-04
14	Personnel inside FA Control Room	6.93E-04
15	Personnel inside Contractor shed - I	1.83E-05
16	Personnel inside Weighing Bridge Area	2.61E-05
17	Personnel near Acetaldehyde Storage Area	3.82E-03
18	Personnel near Formaldehyde Storage Area	4.29E-03
19	Personnel near Methanol Storage Area	7.43E-03
20	Personnel near Diesel Storage Area	2.34E-04

Note: As per site visit, it is conveyed that FA Control Room will be relocated near the premises of Pentaplant very soon and therefore the same has been considered for the study.

Individual Risk Per Annum

IRPA values are directly related to the proportion of time individuals spend at a particular location.

$IRPA = LSIR \times \text{Fraction of exposure for an individual}$

The Individual risk for different worker categories was estimated using the manning data assumption combined with the LSIR values.

Societal Risk:

The F-N curve for the public surrounding APL - Cuddalore Penta division is provided in Figure 9.

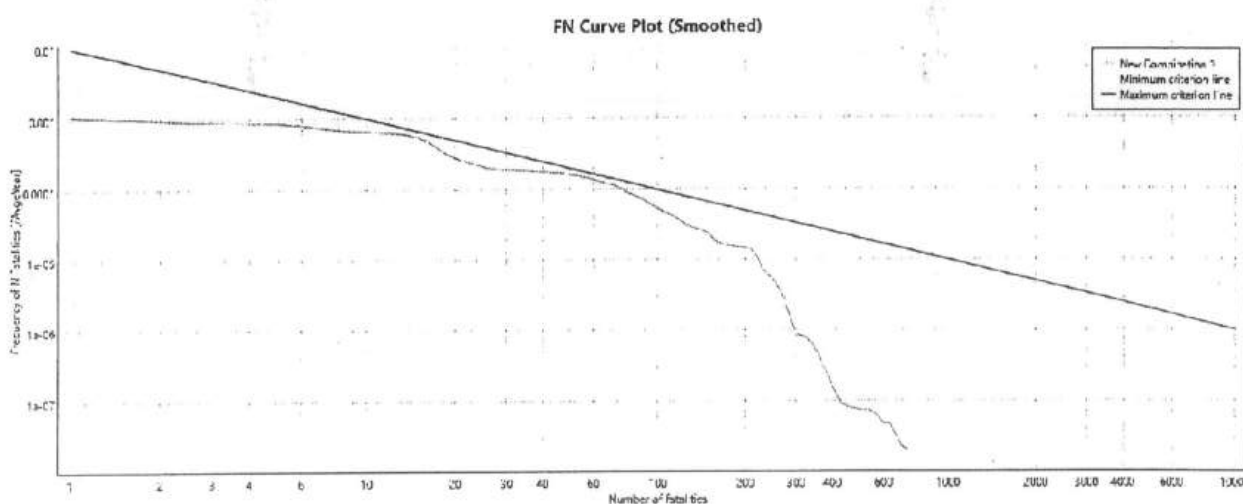


Figure 9: F-N Curve – Base Case (Public)

Color Code	Description
	Societal Risk is unacceptable when green curve observed above red line (max criterion line)
	ALARP when green curve observed in between red line and yellow line.
	Acceptable when green curve observed below yellow line (minimum criterion line)

The FN curve is provided with two lines namely maximum criterion line (red line) and minimum criterion line (yellow line). The graph provided above mentions the risk acceptability with reference to the risk criteria specified by HSE, UK (*Reference: CCPS-Guidelines for developing Quantitative Safety Risk Criteria*

– Wiley – AIChE (2009).

It is observed that the F-N curve starts from the area between red and yellow line with one (01) Fatality corresponding to the frequency of 1.10E-03 per avg. year. Although, the risk curve moves

towards the **Acceptable** region with three hundred and eighty (380) Fatalities corresponding to the frequency of $2.63\text{E-}07$ per avg. year, it is inferred that the societal risk (F-N curve) levels of the facility is in **ALARP** region for the public surrounding APL, Cuddalore.

F-N Curve for Employees

The F-N curve for the employees of APL - Cuddalore Penta division is provided in the below figure.

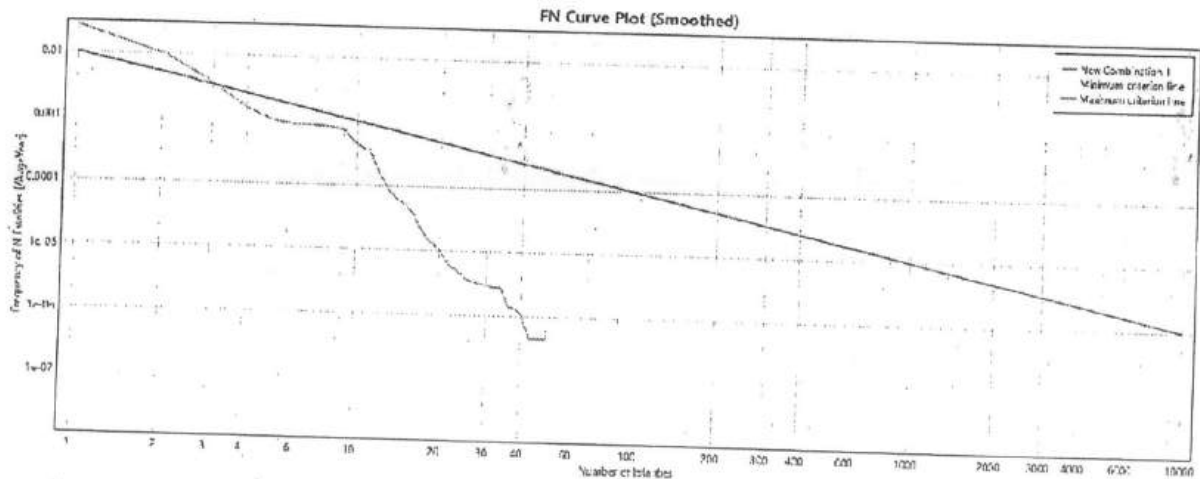


Figure 10: F-N Curve – Base Case (Employees)

From the Figure 10, it is observed that the F-N curve starts from the area above the red line with one (01) Fatality corresponding to the frequency of $2.61\text{E-}02$ per avg. year however, the risk curve moves towards **ALARP** region with three hundred and three (3) Fatalities corresponding to the frequency of $3.23\text{E-}03$ per avg. year and further moving towards **Acceptable** region with three hundred and eighty (24.61) Fatalities corresponding to the frequency of $4.06\text{E-}06$ per avg. year.

Therefore, it shall be included that the risk (F-N curve) levels for APL, Cuddalore employees within the facility is **Unacceptable** which may further come down to **ALARP** region after implantation of suggested control measures. The risk is **Unacceptable** due to the fact that employees always be subjecting to relatively higher risk than public as they are intended to work/spend greater time within the facility where hazardous processes/operations are being handled.

5.22 RISK CONTROL MEASURES

5.22.1 EXISTING CONTROL MEASURES

Volatile Organic Compound (VOC) monitor is available near Acetaldehyde storage area to detect leaks.

Portable VOC monitor is available for Formaldehyde to detect leaks.

Acetaldehyde Unloading area and Bullets are being protected by Automatic water sprinkler system With Quartzoid bulb and Deluge valve.

Methanol unloading area and Storage tanks are provided with detectors as per site visit

Water sprinkler system and Foam pourer system is available for MeOH Storage tanks.

Dyke is accounted for MeOH and Acetaldehyde storage tanks (existing and new) due to which pool fireresults corresponding to Catastrophic Rupture are reaching low.

5.22.2 RISK CONTROL MEASURES SUGGESTED

MeOH, FA & Acetaldehyde Unloading & Tank Farm Area

As per Figure 8 – Overall LSIR contour, it is observed that the MeOH unloading area is totally engulfed in $1\text{E-}02$ per avg year contour due to high Failure Frequency (FF) of hose i.e., $7.43\text{E-}02$ per year as MeOH hose operations are frequent. Same philosophy when applies to acetaldehyde (FF of $7.2\text{E-}02$ per year) followed by formaldehyde (FF of $3.60\text{E-}02$ per year) hose operations due to which risk is falling in between $1\text{E-}02$ and $1\text{E-}03$ per avg. LSIR contour.

- It was informed during site visit that two (02) no's of personnel will be continuously available during unloading activity. In order to reduce the risk, presence of personnel during unloading operation to be minimized in the vicinity and CCTV to be installed with motion detection covering the MeOH/FA/Acetaldehyde tank farm areas in order to provide warning in case of deviation from any normal situation. This CCTV monitoring station should be provided in respective Penta & FA Control rooms where unloading & tank farm operations are being monitored.
- As hose is the vulnerable point of leak, it is recommended to inspect/test the MeOH/FA/Acetaldehyde unloading hoses after 6 months of initial operation and subsequent testing to be done at three (03) months interval irrespective of the number of operations (*Ref: OISD-STD-135 Section 6.1*).

- Ensure that MeOH/FA/Acetaldehyde tanker unloading area is provided with adequate sloping and draining arrangement (with water flow for diluting the MeOH/FA/Acetaldehyde) and further routed towards ETP such that any LOC during unloading activity would not lead to pool formation.
- Ensure that MeOH/FA Tank Farm & Unloading areas are provided with adequate no. of gas detectors atleast one in upwind and downwind direction such that any LOC of MeOH, FA within the Tank Farm & Unloading areas are detected soon after the release.
- In reference to impact distances corresponding to 12.5 kW/m^2 thermal radiation and IDLH concentration of MeOH due to FBR of discharge piping of Methanol Unloading Pumps A/B, Methanol Day Tank Loading Pumps P-2430A/B, Recovered Methanol Transfer Pump (P-106C), it is recommended to provide remote isolation (based on leak detection) for all the above-mentioned equipment in order to limit the inventory during an LOC. Also, it is suggested to extend the water sprinkler system for Methanol Day Tank Loading Pumps P-2430A/B and Recovered Methanol Transfer Pump (P-106C).
- As per **Table 18** – Toxic results and **Table 22** – Top risk contributors, it is recommended to provide with remote isolation based on leak detection for FA transfer pumps A/B from Day Tank to Main Tank (MT), FA Transfer Pumps A/B from MT to Intermediate Tank, Intermediate Transfer pumps A/B) as impact distances corresponding to IDLH concentration of FA due to FBR is reaching upto 1.5 kms.

Acetaldehyde is highly flammable with flash point -38 Deg C and Flammability rating 4 and Health rating 3 as per NFPA 704. Considering jet fire damage distances corresponding to 37.5 kW/m^2 thermal radiation due to following equipment (refer **Figure 3**) thereby posing heavy damage to process equipment / structures and risk to personnel working within the vicinity, below recommendations are suggested. *(Note that IDLH concentration damage distances are also contributing relatively higher toxic releases as mentioned below)*

Acetaldehyde Unloading Pumps A/B – Impact Distance of 82.31m (Jet fire) & 275.37m (IDLH)

Acetaldehyde Day Tank Loading Pump - Impact Distance of 69.14m (Jet fire) & 271m (IDLH)

Acetaldehyde Transfer Pumps (P-2410A/B) - Impact Distance of 38.14m (jet fire) & 157m (IDLH)

- Provide remote isolation for the above-mentioned equipment upon detection of leak of acetaldehyde and ensure that water spray system with quartzoid bulb is available to mitigate the event in case of fire.

- Ensure that all remote operated valve's or shut down valves within the above-mentioned impact distances of respective pumps are fire safe for 2 hours fire rating.
- As per CCPS – Guidelines for QRA & API 2218 Section 5.1.2, pipe racks and pipe supports carrying acetaldehyde or any other flammable material in acetaldehyde storage area and pipe rack leading to penta plant, pipe rack carrying MeOH transfer piping from MeOH Storage to FA Plant (present within the periphery of 82m from the Acetaldehyde Unloading Pumps A/B) to be passive fire proofed with fire retardant paints which can act as a protective coating to reduce the spread of flames in the event of fire. Application of fireproofing will delay an eventual collapse of structures and allow it to happen in gradually controlled manner.
- Ensure that all critical cabling (within the periphery of above-mentioned damage distances especially acetaldehyde carrying piping) such as power supply, instrument cabling for ROV's/ESDV's, F&G and emergency communication systems shall be fire resistant to IEC 60331-1:2018.
- Currently, conventional type road tanker is being used for transportation of Acetaldehyde due to which Catastrophic Rupture (CR) is contributing damage distance upto 100m corresponding to 12.5 kW/m^2 pool fire thermal radiation. Hence, consider the usage of Iso-container as the probability of CR is likely to be eliminated (even in case of tanker toppling).

Penta Plant

FBR of discharge piping of Acetaldehyde Transfer Pump (P-102) is reaching upto 38.14m corresponding to 37.5 kW/m^2 thermal radiation (jet fire) & 188.4 corresponding to IDLH concentration and hence following recommendations are made.

- Provide gas detectors (in order to detect the leak of acetaldehyde release) followed by remote isolation for Acetaldehyde Transfer Pump (P-102) based on gas detected.
- Provide water spray system for Acetaldehyde Transfer Pump (P-102) with quartzoid bulb to mitigate the event in case of fire.
- Provide portable fire fighting monitors in Acetaldehyde Transfer Pump (P-102) area floor of penta plant in order to protect the equipment present within the floor from 37.5 kW/m^2 thermal radiation (*Rosenberger fire fighting monitors to be referred for sample purpose*).
- Ensure that all remote operated valve's or shut down valves within the periphery of 38.14m of Acetaldehyde Transfer Pump (P-102) are fire safe for 2 hours fire rating.

Thermal radiation of 12.5 kW/m^2 for Distillation Column (Top) Pumps P-106 A/B is reaching upto 38m whereas IDLH is responsible for toxic damage distance of 85m. The respective pump is located within the penta plant floor where manning is continuous. Therefore,

- Provide gas detection followed by remote isolation for Distillation Column (Top) Pumps P-106 A/B as % of MeOH recovered from distillation column is 91-92% and being pumped to Recovered MeOH Storage Tank via Distillation Column (Top) Pumps P-106 A/B.
- Provide portable firefighting monitors in Distillation Column (Top) Pumps P-106 A/B area floor of penta plant in order to protect the equipment present within the floor from 12.5 kW/m^2 thermal radiation (Rosenbauer fire fighting monitors to be referred for sample purpose).
- As per Table 18 – Toxic results, it is recommended to provide with remote isolation based on leak detection for Reactor Pump (P-101) as impact distances corresponding to IDLH concentration of FA due to FBR is reaching upto 750m.
- In reference to toxic damage distances corresponding to IDLH (Table 18), it is observed that Stripper is contributing relatively higher impact distance of 633m for CR & 92m for leak. Whereas, CR for Seal Tank (T-106) is 523m and FBR for Seal Tank Pumps (P-105A/B) is 113m. Hence adequate no. of gas detectors to be provided in the stripper area such that Stripper, Seal Tank and Seal Tank Pumps (P-105A/B) are being fully covered. Also, it is recommended to provide remote isolation for Stripper based on the gas detection such that the respective equipment is isolated within 2 mins of the release.

Formaldehyde Plant

- In the event of LOC from FA Plant i.e., within the building, following are the scenarios with higher toxic impact distances with respect to IDLH of formaldehyde which could pose severe health hazard (Health Rating 3 as per NFPA 704) for the personnel working nearby and may pose difficulty for the operator to intervene and isolate the respective equipment manual valves.

IS No.	IS Name	Max. Impact Distance (m) of 1.5F & 5D
IS-4	Leak of Absorption Column-1	723
	Rupture Absorption Column-1	1726.7
	Leak of Top Circulation Pumps (A/B) Absorption Column-1	108.64

IS-5A	Rupture of Top Circulation Pumps (A/B) Absorption Column-1	673.28
IS-5B	Leak of Bottom Transfer Pumps Absorber Column-1 (P-202A/202B)	317.25
	Rupture of Bottom Transfer Pumps Absorber Column-1 (P-202A/202B)	748.25
IS-6B	Leak of Bottom Transfer Pumps Distillation Column (P-205A/205B)	90.45
	Rupture of Bottom Transfer Pumps Distillation Column (P-205A/205B)	402.6

- Therefore, provide gas detection followed by remote isolation for Absorption Column-1, Top Circulation Pumps (A/B) Absorption Column-1, Bottom Transfer Pumps Absorber Column-1 (P-202A/202B) and Bottom Transfer Pumps Distillation Column (P-205A/205B) such that any leak could be isolated automatically within two (02) minutes of the LOC without any manual intervention.

Storage & Process Area

- Currently, double mechanical seal is provided only for Acetaldehyde unloading pumps (P-2412 A/B), whereas all other pumps are of single mechanical seal. It is recommended to provide double mechanical seal for all the pumps handling Acetaldehyde/MeOH/FA/Formic acid as a preventive measure to reduce the frequency of leaks in turn reducing the risk.

Diesel Storage

Catastrophic rupture of diesel storage tank (with dyke) is responsible for pool fire impact distance of 13m and 20m corresponding to 37.5 kW/m² and 12.5 kW/m² thermal radiation respectively. As per CCPS – Guidelines for QRA & API 2218 Section 5.1.2,

- Pipe racks and pipe support carrying diesel in diesel storage area and pipe rack leading to diesel day tank in DG set building (present within the periphery of 13m from the Diesel Storage Tank) to be passive fire proofed with fire retardant paints which can act as a protective coating to reduce the spread of flames in the event of fire.
- Ensure that all critical cabling relating to power supply and emergency communication systems shall be fire resistant to IEC 60331-1:2018.

- It is recommended to verify inspection checklist of diesel unloading hose prior to unloading operation.
- Ensure that no chemicals of Class A and Class B are not stored within the periphery of 13m (thermal radiation of 12.5 kW/m^2) from Diesel Day Tank inside the DG Set Building.

HCl & H₂SO₄ Storage (As per Site Visit)

- It is observed that water valve & drain valve at HCl Storage area are kept in closed condition. It is suggested to maintain both the valves in open condition such that any spilt HCl is flushed and drained without any manual intervention and to avoid chemical injuries (**Ref: IS 6164: 1971 – Code of Safety for Hydrochloric Acid**).
- As Sulphuric acid is highly corrosive in nature, it is recommended to ensure that acid resistant tiling is provided at unloading & storage area and H₂SO₄ piping supports to be corrosion-proofed (**Ref: IS 4262: 2002 – Sulphuric Acid Code of Safety**).
- Provide double mechanical seal for H₂SO₄ transfer pump or replace with seal-less magnetic drive centrifugal pump such that release of corrosive fluids is completely eliminated.

Occupied Buildings

In the event of any overpressure or thermal radiation or toxic hazards or smoke, key personnel are required to execute all emergency response actions (isolate, shut down the unit, escape, and evacuation, etc.) for a period of 1 hour from a safe location/building which is non-vulnerable from potential hazards. This is often termed as Shelter In Place (SIP) as per **Chemical Industry Association (CIA) Guidance for Location & Design of Occupied Buildings on Chemical Manufacturing Sites**. Typically control rooms are suggested for SIP and following recommendations are made with respect to SIP design.

Thermal Radiation

As per thermal radiation results (**Table 15 – Jet fire & Table 16 – Pool Fire**), Existing FA and Penta Control Rooms are not experiencing any thermal radiation hazards. Therefore, no recommendations are made.

Overpressure

In reference to overpressure results (**Table 17**) corresponding to 0.3 bar, it is observed that highest damage distance is reaching upto 309.79m and 262.8m due to New Acetaldehyde Bullet and Acetaldehyde Bullet – 1/2in case of any of the bullets catastrophic rupture. Although probability of

CR of acetaldehyde bullet is highly remote, severity of the LOC remains very high (as mentioned below) for which SIP should withstand.

IS No.	IS Name	Max. Over Pressure Distance (m) of 1.5F & 5D corresponding to 0.3 bar
Acetaldehyde Storage		
IS-4B	Leak of New Acetaldehyde Bullet	23.18
	Rupture of New Acetaldehyde Bullet	309.79

IS No.	IS Name	Max. Over Pressure Distance (m) of 1.5F & 5D corresponding to 0.3 bar
IS-4A (Typ)	Leak of Acetaldehyde Bullet -1/2	23.02
	Rupture of Acetaldehyde Bullet -1/2	262.8
IS-1	Leak of Acetaldehyde Road Tanker	NR
	Rupture of Acetaldehyde Road Tanker	227.98

Following figure depicts the 0.3 bar overpressure contour for both new and existing acetaldehyde bullets (newbullet – red color contour; existing – blue color contour) based on which options of recommendations are made.

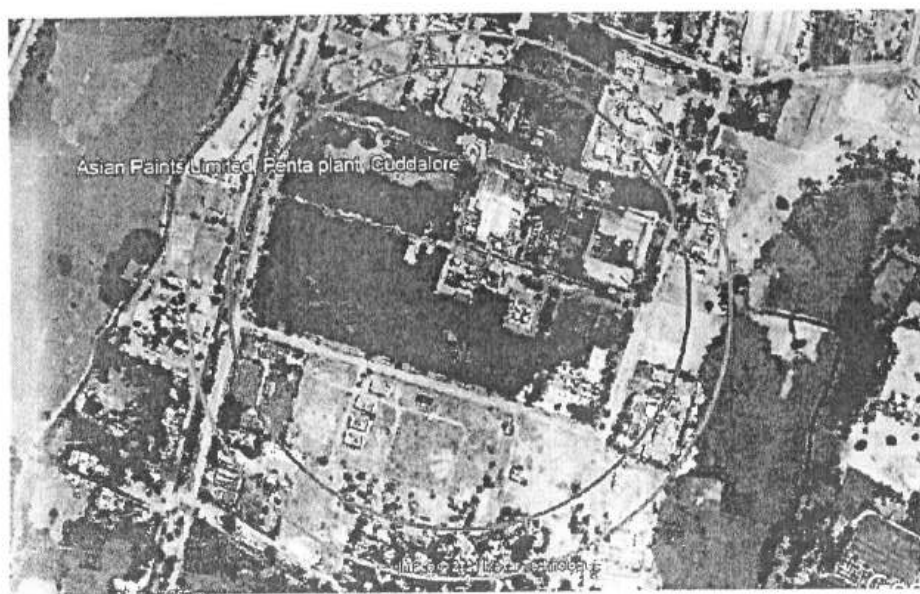


Figure 14: 0.3 bar Overpressure Impact Distance – New & Existing Acetaldehyde Bullet

- Provide mounded storage for New Acetaldehyde Bullet as the main purpose of mounding is to eliminate catastrophic rupture scenario.
- Provide blast wall (Steel or concrete framed with reinforced masonry infill or cladding) around existing Acetaldehyde Bullets -1/2 (with fragile roof top) which can withstand 0.3 bar overpressure. As explosion is rapid and short duration event, constructing blast wall around the bullets would still generate some overpressure at Penta & FA Control Rooms, Admin Building. Therefore, following recommendations are suggested.

Neither relocation of FA and Penta control rooms to admin building is possible due to operational constraints nor relocating to any other open area is feasible, provide blast proof construction which can withstand 0.3 bar overpressure as the current distance between existing acetaldehyde bullets – Toxic 1/2 and FA and Penta Control Rooms is approx. 95-100m only and the impact distance due to explosion overpressure (from existing acetaldehyde bullets – 1/2) is reaching upto 262.8m.

Provide blast proof construction for admin building which can withstand 0.2 bar overpressure as the current distance between existing acetaldehyde bullets – 1/2 and Admin Building is approx. 165m. Along with this, it is necessary to ensure that no glass windows are facing towards the plant side.

Considering toxic results (Table 18) due to Formaldehyde Tanker (IS-1), impact distances are extending beyond the facility upto 3.7 kms in all directions. Following recommendations are suggested.

- Currently, both FA & Penta Control Rooms are having normal air conditioning system and it is recommended to be replaced with HVAC system (with separate supply and return air ducting).
- Air intake point shall be located preferably at opposite side of FA & Penta Plant and fresh air shall be drawn from an electrically safe classified area.
- Chemical filter of suitable design (for e.g., Purafil) should be installed at fresh air intake point of Penta & FA Control Rooms.
- Install gas detectors at Penta & FA Control Rooms HVAC air intake, interlocked to shut down the HVAC system upon confirmed detection of Formaldehyde and Acetaldehyde. Alarm set points to be configured based on the IDLH value of FA (20 ppm) and Acetaldehyde (2000 ppm).
- Ensure that Penta & FA Control Rooms each shall accommodate required volume of space per person for 60 minutes duration of stay in the event of toxic gas release.

- Penta & FA Control Rooms to be provided with adequate no. of Self-Contained Breathing Apparatus (SCABA) sets in proportionate to the no. of key personnel required to execute all the emergency response actions.

Other Recommendations

- Ensure that adequate no's of gas detectors are positioned in the periphery of APL – Cuddalore in order to detect any MeOH/FA/Acetaldehyde gas leak and subsequently configure beacon with sound system to alert the personnel nearby.
- Update ERP (onsite & offsite) with respect to potential/major scenarios as per consequence results (Table 14 to 18) and ensure that emergency drills are conducted during normal operating hours and silent hours on periodic basis.
- Carry out Performance Based Gas Mapping study for the entire facility of APL, Cuddalore in order to ensure that all the critical flanges and leak points are covered adequately.
- Ensure that period safety audit (covering all key safety aspects of the plant) by third party is carried out in order to identify the gaps and further strengthen the safety measures.

Conclusion:

Considering the current operating practices and safe guards available, the risk levels at APL Penta Div Cuddalore are in **ALARP**. Post implementation of the proposed control measures, the risk levels are reduced from **ALARP** and/or expected to come down to **Acceptable**.

6. LIST OF POTENTIAL EMERGENCY SITUATIONS AND MITIGATION MEASURES

Leak from Raw Material/ Fuel Storage tanks

6.1. Acetaldehyde Bullets

1. Acetaldehyde is stored under pressure with Nitrogen blanketing in horizontal bullet.
2. Inert atmosphere prevents any leak/ accidents.
3. High pressure sensor and High pressure alarm has been provided in the control room.
4. Automatic Medium Velocity Water Sprinkler system is available to quench in case of pressure build up and Temperature rise.
5. Each tank is having capacity of 75 M3 each.
6. An online VOC analyzer has been installed at a strategic location to identify leaks in Acetaldehyde bullets and raise an alarm at the Formaldehyde plant Control Room
7. In case of emergency, material from one tank can be pumped to the other
8. Safety valves and Rupture discs are provided in each tank to avoid emergency due to pressure build up
9. While attending leaks, breathing apparatus to be used

Methanol

1. Methanol is stored in 4 No's of Storage tanks of capacity 200 KL each.
2. These dyke walls has provision to collect and pump out the leakage/ spillage material to other storage tanks or the emergency tank as the case may be.
3. An online VOC analyzer has been installed at a strategic location to identify leaks in Methanol Storage tanks & Acetaldehyde bullets and raise an alarm at the Formaldehyde plant Control Room.
4. Once the emergency is over, material collected in dyke wall is pumped to the emergency tank.
5. Methanol remaining on the floor is washed and transferred to ETP through T 802.

6.2 Formaldehyde

1. Formaldehyde is stored in SS tanks and provided with dyke wall.
2. Any leak from tanks can be contained within the dyke and pumped out later.
3. These dyke walls has provision to collect and pump out the leakage/ spillage material to other storage tanks or the emergency tank as the case may be. Material remaining on the

floor (after transferring to the emergency tank) is washed with water and transferred to ETP through tank 802.

6.3 Caustic soda

1. Caustic soda is stored in main storage tanks and is provided with dyke wall.
2. These dyke walls has provision to collect and pump out the leakage/ spillage material to other storage tanks or the emergency tank as the case may be.
3. Once the emergency is over, material collected in dyke wall is pumped to the emergency tank.
4. Caustic Soda Lye remaining on the floor is washed and transferred to ETP through T 802.

6.4 Formic acid/Sulphuric acid

1. Formic acid and Sulphuric acid stored in main storage tanks and is provided with dyke wall.
2. These dyke walls has provision to collect and pump out the leakage/ spillage material to other storage tanks or the emergency tank as the case may be.
3. Once the emergency is over, material collected in dyke wall is pumped to the emergency tank.
4. Formic acid and Sulphuric acid remaining on the floor is washed and transferred to ETP through T 802

6.5 Diesel/ Furnace Oil

1. Any leak from furnace oil and diesel tanks is collected in the dyke around the storage tanks. This leakage material is pumped to the other tank which is intact.
2. Furnace Oil/ Diesel remaining on the floor is wiped with cotton waste/ lignite and the same are burnt in boiler.
3. At any point of time only 10 KL of diesel and 45 KL of furnace oil is stored in the tanks.

6.6 Fire in

a) Diesel/Furnace oil tanks

b) Methanol

c) Acetaldehyde

d) to electric short circuit

1. Fire extinguishers/ Fire hydrant system checks are done routinely to keep it in working condition and to tackle any emergency fire. Smoke Detectors have been installed in all MCCs

and Control rooms and they are connected to the central fire alarm system to alert the operating personnel in case of fire. Manual call points are located as per the details given in the annexure- which is connected to the central fire alarm system.

2. Foam generator of type AFFF is located near Diesel tank. Same can be used to tackle any emergency due to fire related to Diesel/Acetaldehyde/ Furnace Oil tank

6.7 Fire in

a) LPG leak

b) Major fire in coal yard with open flames

1. Foam pouring and medium velocity water sprinkler system is available in Methanol Storage tanks to tackle emergency situations arising out of fire.
2. Fire water run-off is to be contained within factory premises.
3. Storm water outlet is to be closed at the time of firefighting.
4. The accumulated fire water is to be checked and treated depending on the analysis and disposed.
5. In case of major fire, due to the various probabilities indicated, the emergency situation that arises to be tackled as per onsite emergency plan.
6. The water used through hydrant system for extinguishing the fire is contained within the factory by way of blocking the storm water drain with the help of sandbags/Gate kept in front of accounts office. This water is routed to ETP through T 802 for treatment.

6.8. Radioactive elements in nucleonic gauges exposed to atmosphere

1. People who are aware of Design construction on Hazard of radiation is allowed to carry out any maintenance job in nucleonic gauge.
2. Before doing any maintenance job near nucleonic gauges it should be (source) closed with the help of radiation safety officer.
3. The physical integrity of the source housing is routinely verified by the responsible person.
4. In case of accidents, during general shift hours, the shift in charge should announce emergency and inform RSO. In turn RSO should cordon off the area with the radius of 4 Mts (3 Mts as per BARC) keeping the RA source as centre. During non-general shift hours, the shift in charge shall announce emergency and he can cordon off the area with the radius of 4 Mts keeping the RA source as centre. In case of radiation emergency in PVC sources, the workmen in the control room should sit 3 Mts away from the front entrance of the control room and should close the front entrance. Emergency door at the other side should be used

during such emergencies. Details regarding accidents should be immediately communicated to the Head, RPAD, BARC, and Mumbai – 85, either by telex or telegram seeking their assistance in the matter by RSO / Maint. Manager / General Works Manager.

6.9 Pentaerythritol Dust Explosion

1. Can occur only if hot work is done without proper earthing or proper protection in the area filled with product (Pentaerythritol) dust.
2. Dust prone equipment like Fluidized Bed dryer, dust collector are provided with rupture disc and exhaust pipes to vent out the material outside the building.
3. To prevent the occurrence, hot work permit system is followed.
4. Before Carrying out any hot work in the plant ensure the following :-
 - a. Proper earthing.
 - b. Isolation of equipment/ pipelines.
 - c. Removing the flammable materials from the area, covering the area around the weld spot with non-flammable material.
 - d. Ensure Dust free (penta dust) environment while carrying out hot work.
 - e. Keep the fire extinguishers near the work spot.
 - f. Ensure security personnel are available in the work spot.

6.10. Pressure vessels such as Boiler and Air receiver explosion.

1. Can occur only if excessive pressure buildup is allowed.
2. Air compressor has been provided with interlock to trip the system in case of excessive pressure in air receiver.
3. Safety valve is in place to avoid explosion / emergency due to pressure buildup.
4. Boiler is provided with a water drum low level indicator and alarm to caution the operating personnel.
5. A low level indicator and trip switch has been provided to stop the system in case of drum level is extremely low.
6. A high level indicator and alarm/trip is available to ensure safer operations.
7. Safety valves with adequate relieving capacity are in place to avoid explosion / emergency due to pressure build-up in the Boiler steam drum.

6.11 Natural calamities:

6.11.1 Flooding, Cyclone, Earthquake, Tsunami

1. Procedure for emergency shutdown of the plant is in place.
2. List of persons present inside the plant at any point of time is available with main gate to enable easy evacuation.
3. A mobile phone and a WILL phone is available in the plant to establish communication network.
4. Plant has been provided with Internet facilities to get the news updates.
5. Well established OHC center with 24 hours attendant is available for giving first aid to the injured persons
6. Adequate PPEs are available in Stores and OHC

6.12. Hazardous waste handling when an accident occurs at factory or during transport

1. Hazardous waste generated by us is non-flammable and nontoxic. Hazardous wastes are stored in impervious concrete floor which will not allow leach ate during any spillage.
2. In case of accident occurring at the facility or during transport condition, the condition will be assessed and appropriate corrective actions will be immediately undertaken. Communicated about the incident to the state PCB will be done through Form V.
3. With the help of the operator of the facility for the disposal of Hazardous waste area disposal will be organized.

EXECUTIVE SUMMARY Asian Paints Limited, Cuddalore (henceforth referred to APL) intends to carry out Quantitative Risk Assessment (QRA) for their facility and therefore the project has been awarded to Cholamandalam MS Risk Services Limited (henceforth referred to CMSRSL). Personnel from CMSRSL visited the Cuddalore Site on 18th & 19th August 2021 for data collection of QRA study. This report details QRA study and has been carried out in line with observations made and data collected during the site visit.

The Scope of this Quantitative Risk Assessment (QRA) Study associated with Penta Division of Asian Paints Limited, Cuddalore is mentioned below:

- Storage, Loading, Unloading and Handling of Acetaldehyde, Methanol, Formaldehyde, Formic Acid & Diesel.
- Pentaerythritol plant and Formaldehyde plant and associated day tanks.

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Note:

- Storage, Loading, Unloading and Handling of Caustic Soda Lye, Sulphuric Acid, Hydro chloric acid have been covered in Qualitative Risk Assessment.
- Storage facilities are modelled considering future expansion scenarios/capacities.

The consequences and risk of the events are evaluated using software packages PHAST v8.4 & SAFETI v8.4 which are widely used and acceptable in the process industries. The risk contours and key findings of QRA for the Asian Paints, Cuddalore are provided below.

Synopsis of Quantitative Risk Assessment Study Results: Overall Location Specific Individual Risk Contour:



7. EMERGENCY ORGANIZATION

This chapter shows the organizational set up for emergency preparedness. Emergency team to combat the emergency are nominated with specific responsibilities according to the set up procedures and making the best use of resources available and to avoid confusion.

Such team members include Emergency Controller, Dy Emergency Controller and all other Team members. Assembly Points for Non team members, emergency control centre, occupational health centre, fire and Medical Arrangements and persons to manage them are also a part of the emergency organization.

All such team members are available in all shifts and on call on off duty or over time. Their specific duty is listed (person wise) and is available with the management for ready reference the details are explained below.

7.1. DEFINITIONS

An accident is an unplanned event, which has a probability of causing personal injury or property damage or both. It may result in physical harm (injury or disease) to person(s) damage to property, loss to the company, a near miss or any combination of these effects.

A major accident is a sudden unexpected, unplanned event, resulting from uncontrolled developments during an industrial activity, which causes or has the potential to cause.

Serious adverse effects immediate or delayed to a number of people inside the premises and/or to persons outside the establishment.

OR

Significant damage to crops, plants or animals, or significant contamination of land, water or air

OR

Emergency intervention outside or within the premises

An emergency could be defined as any situation, which presents a threat to safety of person's or/and property. It may require outside help also

A major emergency occurring at work is one that may affect several departments within it or/and may cause serious injuries, loss of life, extensive damage to property or serious disruption outside the works. It will require the use of outside resources to handle it effectively.

Disaster is a catastrophic situation in which day to day patterns of Life is in may incidence suddenly disrupted and people are plunged into helplessness and suffering and as result need protection, Clothing, shelter and other necessities of life.

Environmental pollutant is defined as any solid, liquid or gaseous substance present in such concentration as may be or tend to be injurious to environment.

Risk is the like hood of an undesired event i.e. accident, injury or death occurring within a specified period or under specified circumstances.

Hazard is a physical situation, which may cause human injury, damage to property or the environment or some combination of these criteria. The Onsite Emergency Plan deals with measures to prevent and control emergencies within the factory and not affecting outside public or environment

The Offsite Emergency Plan deals with measures to prevent and control emergencies affecting public and the environment outside the premises.

7.2. OBJECTIVES OF ONSITE EMERGENCY PLAN

- a. Safeguarding lives, both at site and in its neighbourhood.
- b. Containing the incident and bringing it under control.
- c. Minimising damages to property and to the environment.
- d. Rescuing and treating casualties.
- e. Evacuating people to safe areas.
- f. Identifying persons affected and to extend necessary welfare assistance to such persons.

7.3. PLAN SUMMARY

1. Person noticing the fire/leak.
2. Person noticing the fire/leak will inform the shift in charge.
3. Person noticing the fire/leak will activate the fire alarm through manual call points located near the affected area.
4. Shift in charge will visit the emergency spot along with 2 to 3 operators.
5. Shift in charge will raise emergency siren, if required.
6. On hearing the siren,
7. WTP operator and shift fitter will rush to the fire hydrant pump room.
8. Security officer / security supervisor along with security guards will rush to the site of emergency.

9. Contractor workmen / visitors will rush to any one of the emergency assembly point as notified by the Incident controller.
10. Senior persons of the plant are identified with various responsibilities as coordinators for combating the emergency. Responsibilities of various coordinators and workmen are elaborated in the following pages.
11. Any person injured in the accident will be taken to the occupational health center and required first aid will be given.
12. If required, the injured person will be moved to the nearby hospital.
13. General Works Manager, identified as the chief coordinator after ensuring that the emergency has been brought under control and after clearing the head count will close the emergency.

7.4. BASIS OF PLAN

The Prime function of the plan is to get the key personnel from the necessary disciplines who have the knowledge and experience to assess the situation and give directions as per objectives. Initiation of action as per this plan will be done by shift in-charge.

The key personnel identified for Emergency operations are responsible for providing the necessary assistance expected of their discipline. The senior most person arriving on the scene first will automatically take charge as Chief Emergency Coordinator till the arrival of the designated Chief Emergency Coordinator.

7.5. EMERGENCY CONTROL CENTRES (ECC)

There are three Emergency Control Centers:-

Sl.No	CONTROL CENTRES	LOCATION	MANAGED BY
1	Plant Control Centre	Penta Plant Control Room	Plant Controller / Shift In charge
2	Main Control Centre	General Works Manager's Cabin	Onsite Chief Coordinator
3	Administration Centre	Personnel Manager's Cabin	Communication Coordinator

The following facilities / documents are available in all the three Emergency Control Centers:

- Emergency shutdown procedures.
- One copy of onsite emergency plan.
- Plant layout indicating location of fire fighting facilities viz: fire extinguishers, fire hydrants.
- List of First Aid boxes and their location
- List of trained First Aides with their phone numbers
- MSDS of hazardous chemicals handled in the plant In addition to the above in Main control Centre we have
- One copy of PPE Assessment Report including list of PPEs and their location
- Self-contained Breathing apparatus - 2 nos.

ECC No. 1: Plant Control Centre

- Shift in-charge and main plant operators are available in this centre throughout the day
- Two Telephones are available and has access to contact person outside the factory
- This center has the facility to raise the siren on getting the communication from shift in-charge for declaring emergency

ECC No. 2: Main Control Centre

- The Main Control Centre is equipped with all necessary arrangements like Telephone, Fax etc.
- It is located away from the main plant and it has easy approach to arrange transports, seek help from outside etc.
- First Aid Centre and Occupational Health Centre (OHC) are also available near this Main Control center for meeting emergencies.

ECC No. 3: Administration Control Centre

- The Main Control Centre is equipped with all necessary arrangements like Telephone, Fax etc.
- First Aid Centre and Occupational Health Centre (OHC) are also available near this Main Control center for meeting emergencies

7.6. DECLARING AND CLEARING AN EMERGENCY

Siren is provided to alert personnel of emergency situations and to take necessary steps to tackle the situations and also to inform that the emergency is controlled and it is clear of any danger so that employees can get back to their respective work place.

There are 4 nos. of Electrical powered Siren operated through a single switch at Time Office.

- Administration Building
- Fa Plant
- Boiler
- QA

DECLARING AN EMERGENCY:

A continuous siren for 1 minute to be raised for declaring an emergency.

CLEARING AN EMERGENCY:

A siren with a gap of 4 seconds will be sounded thrice for a period of 10 seconds each for announcing that the emergency is over and the employees can get back to their respective work places.

7.7. WIND DETAILS

Three number of wind sacks are available in our factory premises to show the direction of the wind. One is at 19 mts height, the highest available point at Fa Plant which can be seen from a distance of 200 mts. It is also clearly visible from nearby industries. Another one is available at a height of 18 mts at SF Plant. This wind sack is visible from a distance of 150 mts. The third is at the top of coal crusher bucket elevator which is 16 mtr heights.

These three wind sacks are always maintained in working condition to know the direction of wind at any given point of time. Periodic maintenance and changing of wind sack clothes is being followed to ensure that the wind sacks are always in working condition.

The importance of wind sack at the time of emergency is being taught to all employees regularly and training is ensured.

7.8. GENERAL GUIDELINES FOR EMPLOYEES, CONTRACT WORKMEN & VISITORS

1. Do not panic
2. Do not approach the scene as a spectator
3. Do not engage communication channels/ Telephones unnecessarily.
4. Do not move around unnecessarily.
5. All contract workmen and visitors should rush to the Emergency assemble point as per the instruction given while entering the plant.
6. If the employees are advised, rush to the Emergency Assembly Point as per the instructions through public address system/ communication coordinator.
7. Employees should perform the assigned responsibilities like communication carriers etc. without fail.

NOTE: Three assembly points have been identified inside the plant. In case of Emergency the detail of the assembly point will be communicated to all persons through Public address system / Communication carriers.

7.9. KEY PERSONNEL IN MANAGEMENT OF EMERGENCY SITUATION

S No	Services	Name as mentioned in the plan	Person's Designation	Alternate
1	Overall Coordination	Chief Emergency Coordinator	General Works Manager	Sr. Manager- Production
2	Plant Operational Control	Plant Coordinator (Site Controller)	Sr. Manager Production	Production Manager / Production Executive
3	Incident Control	Incident Controller	Shift In charge (Process) Instrument Engineer	(outside process and tank farm area)

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4	Medical Services	Medical Coordinator	HOD Personnel	Personnel Executive
5	Fire & Safety	Fire & Safety Coordinator	Security Officer/ Supervisor	Safety In charge
6	Engineering & Materials arrangement	Engineering Coordinator	Sr. Manager- Engineering	Manager Engg/ Executive -Engg.
7	Welfare & Public relation	Welfare & Media Coordinator	HOD Personnel	Personnel Executive
8	Communication	HOD Personnel Personnel	HOD Personnel	Executive
9	Transport	Transport Coordinator	HOD Personnel	Personnel Executive
10	Plant & Personnel Security	Security Coordinator	HOD Personnel	Personnel Executive
11	First aid	First aid Coordinator	Factory Medical Officer	Personnel Executive

7.10. RESPONDING TO AN EMERGENCY

7.10.1 RESPONSIBILITY OF THE PERSON NOTICING THE ONSITE EMERGENCY

Any person noticing fire or an explosion or the release of hazardous gases and chemicals should shout FIRE! or HELP! and attempt to extinguish using the extinguishers available in case of fire. If he is unable to control the incident, he must activate the fire alarm by activating the Manual call point if any located nearby and he must inform this to the shift in charge and report the location of fire/ explosion/ gas leak/ give a brief description of Emergency, identify himself and hold until the message is repeated back to him to ensure proper communication.

7.10.2 RESPONSIBILITY OF SHIFT INCHARGE

Shift In charge, in the context of an emergency is defined, as the person who has operational / overall control over the area in which the incident is happening. For the sake of better clarity the responsibility areas are demarcated as follows:

S No	Emergency	In The Following Areas In charge
1	Penta Plant, Formaldehyde Plant, Tank form areas, All raw material storage areas, Bagging areas, BSR area, Raw material unloading area, Lab.	Shift process Engineer
2	Boiler, LT/DG Room, MCC Rooms, Workshop, WTP, ETP, Cooling tower, Coal and Ash yard, Diesel and Furnace Oil storage areas, Time Office/ Administrative Block, Accounts Block and other Off site areas.	Shift Process Engineer assisted by the concerned Technician in charge During shift hours. Respective department engineers during G shift

The shift in charge will immediately reach the site to assess and take immediate action required to control the emergency. If he feels the situation is likely to escalate and may lead to On-Site or Off-Site emergency, then he will inform the Process

Engineer/Supervisor/Reaction Operator in Control Room about the incident and he will get back message repeated by them to ensure his understanding. He will also instruct unwanted personnel to rush to the nearest Emergency Assembly Point.

- a. Further ask the Process Engineer/Supervisor/Reaction Operator in Control Room to raise the emergency siren.
- b. He will inform the security in main gate.
- c. He will communicate the following information to the General Works Manager/ Senior. Production Manager
 - Brief Description of Incident

- Status and seriousness of situation
- Action immediately taken
- Immediate – assistance required

On hearing the siren, Key personnel of respective services shall contact the Main control centre/ Time Office to know the place and shall arrive at the site to take charge of their respective positions. Key personnel in the management of Emergency are already indicated in Section 16. Key personnel will take instruction from Chief Emergency Coordinator and act accordingly.

The Chief Emergency Coordinator shall leave the main control centre only after arranging the person to receive any communication. The PA to General Works Manager shall receive the communications in the absence of Chief Emergency Coordinator. Flow chart for executing Onsite Emergency is given in the next page.

7.10.3 GENERAL GUIDELINES

- In the event of fire/ emergency, employees shall stick to their jobs and shall not rush and crowd about the scene of fire, unless specifically called for assistance.
- Immediately after emergency siren is heard, WTP operator shall rush towards the fire hydrant pump room to ensure that the pumps are functioning to the rated capacity. He shall seek the assistance of the shift engineering supervisor, who will also arrive at the pump room in the event of emergency.
- Persons arriving at the scene of fire/ emergency by motorized vehicles shall refrain from parking their vehicles within the 100 meters from the scene of fire. Ignition keys shall be left in the switch boards of the parked vehicles. Vehicles should not be locked.
- Any tapping from the fire water system shall be suspended during the fire emergency period.
 - Operators of non-affected units must standby at their places, unless specifically instructed.
 - All employees working in the Administration Building shall assemble at Emergency assembly point, unless directed otherwise by their department head.
 - Ambulance will be made available at the scene of fire by the department of Administration to be used for emergency. The department will also arrange transports ending people home who had stayed for extended hours.

7.10.4 RESPONSIBILITIES OF CHIEF EMERGENCY COORDINATOR

(General Works Manager – Alternate: Senior. Production Manager)

- Assumes full responsibility from the emergency site.
- Liaise with various coordinators.
- Depute personal assistant to be stationed in his room to receive/ send all communications related to emergency.
- Assess the magnitude and decide for plant shutdown and evacuation.
- Checks the wind direction and decides the assembly point.
- Liaise with the emergency services.
- Informs about the emergency to the District Collector/Authorities.
- Fill in the incident information summary report.
- Check that fire, rescue and medical services have reached the spot.
- Check whether all key persons are informed about the incident.
- Keep track of status of the incident.
- Coordinate the activities of all the required services.
- Inform the top management about the problem and indicate the action required.
- Initiate action to raise the emergency off siren after assessing of the situation with other co-coordinators.

7.10.5 RESPONSIBILITIES OF PLANT CO-ORDINATOR (SITE CONTROLLER)

(Sr. Production Manager – Alternate: Production Manager/Executive)

- Rush to the site of incident and take immediate action to control and contain the emergency.
- Provide help, advice and information as required to the Security In charge
- Guide the required people to assemble at a proper point for controlling the emergency.
- Direct others to assemble at Onsite Emergency assembling point (i.e. near in front of Stores or Accounts).
- If required arrange for further evacuation.
- Preserve all possible evidence that would facilitate any subsequent enquiry in identifying the cause and circumstances leading to the emergency.
- Intimate the HOD Personnel for arranging head count.

- Intimate the medical co-ordinator for necessary first aid.
- Liaise between the plant personnel.
- Report all the significant development to the chief coordinator
- Supervise the emergency shutdown procedures.
- Liaise with other coordinators and identifies the missing person. Communicates the details of the missing person to chief coordinator.

7.10.6 RESPONSIBILITIES OF FIRE & SAFETY COORDINATOR

(Security Officer/Security Supervisor- Alternate –Safety In charge (Manager-Production/Safety officer)

- On receipt of the fire call, note down the location of the fire.
- Do not allow visitors into the factory.
- Arrange for opening the gate.
- Proceed to the scene of emergency along with security guards, two numbers of nozzles and personal protective equipment for assistance/ fire fighting.
- Arrange to control traffic and prevent parking of vehicles (other than those used in fire fighting within 100 meters of the scene of fire and near hydrant points).
- Prevent crowding of people around the scene of emergency.
- Liaise with fire chief for effective control.
- Organize relieving groups for fire fighting.
- Direct press reporters to the HOD Personnel.

7.10.7 RESPONSIBILITIES OF ENGINEERING CO-ORDINATOR

(Plant Engineering Sr. Manager – Alternate: Plant Engineering Manager/Executive)

- Isolate live electrical lines as required by Plant Coordinator.
- Ensure uninterrupted power supply wherever required the most.
- Ensure that the fire water motors and pumps are functioning with the fullest capacity.
- Provide required support to the plant coordinator.

- Mobilize a team from maintenance to assist fire and safety coordinator.

7.10.8 RESPONSIBILITIES OF WELFARE & MEDIA CO-ORDINATOR

(HOD Personnel – Alternate: Personnel Executive)

- Inform and advise to all the persons who are likely to be affected (such as personnel of nearby plants, other industries and residents in the locality) by the emergency on what they must do.
- Collect the latest information from the incident controller.
- Inform the District Authorities, Factory Inspectorate, Police Authorities, Other relevant State Government Authorities about the emergency after getting the approval from main controller.
- Liaise with various press media.
- Release written statement to the press after the approval of chief coordinator.
- Make arrangements for televising the incident (if public interest warrants).
- Arrange for refreshments and food to the emergency duty staff and personnel helping in the emergency operations.
- Look after the welfare of affected people.

7.10.9 RESPONSIBILITIES OF COMMUNICATION COORDINATOR

(HOD Personnel – Alternate: Personnel Executive)

- Take charges of communication through telephone, fax, messengers, etc.
- Supervise communication between Chief Emergency Coordinator and other coordinators.
- Checks the wind direction and communicates the assembly point to the contract workmen / visitors through communication carriers / public address system.
- Keep the residential addresses of all employees updated.
- Collect required information from various coordinators.
- To ensure communication carriers (Lab chemists/ Instrument Technician) are available near the site of emergency for Intra communication among various coordinators.
- Operate mutual aid scheme on getting authorization from chief coordinator.
- Call fire service/ fire tender on getting instruction from chief coordinator.
- Arrange for the messengers to convey in case of any telephone failure.
- Telephone No. of Fire stations and nearby Industries

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Sl.No.	Place	Phone No.
1	SIPCOT Fire Station	239242
2	Cuddalore Fire Station	220101
3	Nellikuppam Fire Station	272399
4	Clariant Chemicals	239100
5	Tanfac Industries Ltd.	239001-4

- Arrange for transport to pickup as many employees as possible.
- Organize head count. If any persons found missing the details will be informed to site controller.

7.10.10. RESPONSIBILITIES OF MEDICAL COORDINATOR

(HOD Personnel – Alternate: Personnel Executive)

- Send the Ambulance to site
- Ensures occupational health centre is readily available for first aid of affected people.
- Organize first aid team to treat the affected.
- Liaise with transport coordinator for sending the victims to the hospital.
- Get more information from the plant about the incident to arrange for treatment.
- Inform the Government Hospital and the nearest medical centres, giving full details so that proper prior arrangement can be made for treating the affected.
- Organize ambulance from other industries by the Mutual aid scheme if required.

Contact Phone Nos.

S.No.	Place	Phone No.
1	Government Hospital	230052
2	Krishna Hospital, Manjakuppam	231711
3	Kannan Hospital, Manjakuppam	231712
4	Company's Medical Practitioner	94432 - 37615

- Make a list of casualties for reference.

7.10.11. RESPONSIBILITIES OF TRANSPORT COORDINATOR

(HOD Personnel- Alternate: Personnel Executive)

Mobilize all available vehicles for emergency use.

- Intimates the drivers on wind direction and proposes the route of transportation.
- Transport the victims to hospital. Arrange for additional vehicles as per requirements.
- Agencies operate tourist taxis are

S.No.	Place	Phone No.
1	S S Travels, Cuddalore N.T.	Cell : 9443439341, 9345653885
2	T.S.T Travels, Cuddalore O.T.	Cell 9443338372, 9486222549
3	Kannan Hospital, Manjakuppam	231712
4	Company's Medical Practitioner	94432 - 37615 04142 – 237615

7.10.12. RESPONSIBILITIES OF SECURITY COORDINATOR

(HOD Personnel – Alternate: Personnel Executive)

- Prevent entry of unauthorized personnel.
- Release personnel to assist fire and safety coordinator.
- Liaise with local police authorities.
- Direct local authorities/ press to reception.

7.10.13. RESPONSIBILITIES OF COMMUNICATION CARRIERS

(Lab Chemists/ Instrument Technicians)

- They will assemble/ go to the emergency site, based on instruction of communication coordinator.
- Take instruction from chief coordinator/ Plant Coordinator (Site Controller) and effectively communicate as instructed.
- They will serve as a link between various coordinators.

7.10.14. RESPONSIBILITIES OF PROCESS OPERATORS

- They will assemble at the Control room to take instruction from the Shift In charge
- They will arrive at the scene of emergency to act as fire fighters/first aiders based on instructions from Chief controller.

7.10.15. RESPONSIBILITIES OF FIRST AID COORDINATOR

1. Assemble all Trained First aiders at the Emergency control centre
2. Instruct the First aid team to assemble at the scene of emergency or any other location based on instruction from Chief Emergency controller.

7.10.16. RESPONSIBILITIES OF FIRST AIDERS

1. Assemble at the Emergency control centre
2. They will arrive at the scene of emergency to act as first aiders based on instructions from First aid coordinator.

8. PROCEDURES TO BE FOLLOWED BY PLANT PERSONNEL IN THE EVENT OF EMERGENCY

This section outlines in detail the basic duties and responsibilities of all employees in the event of fire and any other emergencies. It is impossible to list every contingency in the Operational Procedure. Therefore, basic steps outlined here should be supplemented by good judgment and common sense.

8.1. ACTION TO BE TAKEN BY THE INCIDENT CONTROLLER

I) MINOR FIRE

Extinguishing fire by shutting off source of fuel by using Water, Steam or Extinguisher available at site. Inform immediate superior.

II) MORE SERIOUS FIRE

Initiate the actions as explained as responsibility. Inform the fire station immediately and report the location of fire. Identify yourself, give brief description of fire, and hold on until the message is repeated back to you to ensure proper communication.

III) LEAKAGE OF CHEMICALS

Take action to transfer the contents of the leaking tank to other storage facilities/Emergency tank. Convey the message to superior. Mobilize required resources to arrest the leak. Transfer the material collected in dyke wall to the storage facility/Emergency tank as specified in the list of prevention action in Chapter 4.

8.2. ACTION TO BE TAKEN BY THE LABORATORY PERSONNEL

On hearing the emergency siren he will take the following steps:

- a. Inform the In charge and all Laboratory Personnel
- b. Suspend laboratory tests temporarily.
- c. Quality Control In charge shall assemble in front of the laboratory to be ready to proceed to the scene of emergency with additional manpower support, if feasible.
- d. Chemists should report to communication coordinator immediately and on his instructions, go to emergency site to report to chief coordinator, to act as communication carriers.

8.3 ACTION TO BE TAKEN BY THE OPERATORS OF THE PROCESS SECTION

- a. On the receipt of the fire/ emergency message, note down the location of fire/emergency and inform the shift in charge.

- All prescribed / Required medicines
- Other equipment's like Drip Stand, trays etc.

10.4. Details of fire protection system in Acetaldehyde and Methanol storage tanks

10.4.1 Fire protection system available for Methanol storage tanks

The following systems are provided for the protection of Methanol storage tanks:

- Manually operated Medium velocity water spray system (MVWS) system for storage of Methanol in tanks.
- Manually operated semi-fixed foam system for methanol storage tanks.

10.4.2 Medium velocity water spray system (MVWS SYSTEM)

CODES AND STANDARDS

The following codes and standards are referred to while designing the system design:

- Fire protection manual published by Tariff Advisory committee (TAC).
- Rules for Water spray system Published by Tariff Advisory Committee (TAC)
- Indian Standards (IS).

10.4.2 AREAS COVERED

The following tanks and vessels are protected with water spray system:

- a. Methanol Storage tanks – 4 Nos.

10.4.3 WATER DESIGN requirement

As per the TAC guidelines following design water density is planned for the above product storage tanks/vessels.

- 3LPM/Sq.M of shell surface area for Methanol storage tanks.

10.2. DETAILS OF FIRST AID FACILITIES & OCCUPATIONAL HEALTH CENTER

First Aid boxes have been placed at 7 different locations inside the plant. The locations are listed below.

1. Lab
2. Penta control room
3. Formaldehyde control room
4. Boiler control room
5. Workshop
6. Time office.
7. ETP

The List of first trained persons has been attached as separate attachment in Annexure No.VIII. The list is also made available at Time office for quick reference.

10.3. DETAILS OF OHC

Doctor: A doctor with a diploma in industrial health is available in the OHC in G shift hours. Medical records of workmen & Contract work men have been made available with the doctor. Medicines are also made available in the OHC.

Nurse: Trained Nurses are available in the OHC round the clock.

Ambulance: An Ambulance with stretcher and first aid medicine is made available in the plant round the clock.

Facilities available in OHC:

- Bed, Pillow & Bed Spread
- Table of required size
- Toilet with wash arrangement
- Oxygen cylinder with required arrangements
- One Blood pressure apparatus.
- Stethoscope.
- Stretcher
- One Suction Equipment

10. DETAILS OF SAFETY& FIRST AID EQUIPMENTS

AVAILABILITY OF PERSONAL PROTECTIVE EQUIPMENTS (PPE)

Safety gadgets such as goggles, aprons, protective clothes, gasmasks, nose masks, earplugs, earmuffs, hand gloves of various types' safety shoes, safety helmets etc are provided to workmen. Eye wash is provided at various locations. The details are given in Annexure

10.1. DETAILS OF FIRE FIGHTING FACILITIES

The following materials are available at our Factory for the purpose of Fire fighting

Fire Hydrant Points	32 Nos.
Fire Hydrant Monitors	(3 x 4) 12 Nos.
DCP 6 KG	16 No's
DCP 9 KG	23 Nos.
CO2 6.0 KG	13 Nos.
Foam	3 Nos.
Water Type	3 No.FH Tank 1100 KL
FH Pump Jockey pump-2 Nos	Main pump-273 M3/hr-1 No Main pump-171 M3/hr-1 No Diesel pump-273 M3/hr-1 No
Clear water tank	1 Nos/500 KL.
Medium velocity sprinkler system for Acetaldehyde bullets	1 set
Medium velocity sprinkler system and Foam pouring system for Methanol storage tanks	1 set

- The General Works Manager/ Chief Emergency Coordinator depending on the extent of damage deputed concerned personnel to the spot for investigation and remains in touch with the lorry driver
- The General Works Manager/ Chief Emergency Coordinator seek the help of the Asian Paints representative in the nearby depot in combating emergency situations.

Note:

During working hours the above emergency will be handled by GWM/ Sr. Manager Production who will take the necessary steps depending on the nature of emergency,

Asian Paints Limited, Penta Division, Cuddalore
On-Site Emergency Plan & Off Site Emergency Guidelines



List of Contact Numbers of Key Personnel

S.No.	Contact Person	Phone No.
1	Associate General Manager- Mr. B.Rajendra Babu	9825411578
2	Sr.Manager-Production - Mr.P.Jayakanthan	9488026114
3	Sr.Manager-Engineering - Mr. Sameer Johri	9825669163
4	Manager-Technical Service - Mr .S.Sampathkumar	94452-06652
5	Manager-Production-Mr.S.Saravanan	9442209025
6	Manager-QA--Mr .S.Senthilkumaran	9894469040
7	Production Executive--Mr.M.Arunkumar	9942842483
8	Executive-Personnel-- Mr.S.Karthikeyan	8754666560
9	Company Medical Officer	9047405505
10	SIPCOT FIRE STATION	239242

IMPORTANT

The employees on arrival shall report to the Security in charge who will organize different teams.
Updated residential address of all employees shall be kept ready at the Time Office for this purpose.

9.8 Onsite Emergency Plans To Be Followed During Non general Shift Hours And Holidays In Case Vehicle Carrying our Finished Goods Or Hazardous Waste From ETP Has Met with Accident

The emergency preparedness plan during Non-general shift hours and Holidays in case of message received from driver of the vehicle carrying our finished goods or Hazardous waste from ETP has met with an accident.

- The person receiving the message diverts it to the shift in charge/ shift process engineer.
- The shift in charge /shift process engineer collects the following details to assess the Situation:
 - Location of the accident
 - Condition of the material
 - Extent of damage
- Based on his assessment he instructs the driver to carryout mitigation activities.
- Informs the General Works Manager / Chief Emergency Coordinator

9.2 EMERGENCY CONTROL CENTRES (ECC)

There is 1 Emergency Control Centers:-

S.NO	CONTROLCENTRES	LOCATION	MANAGED BY
1	1 Main Control Centre	Penta Plant Control Room	Shift In charge

9.3 ACTION BY THE ETP OPERATOR

ETP operator will rush to the spot of emergency and will assist in combating operations.

9.4 ACTION BY THE BOILER OPERATOR

One of the boiler operators shall rush to stores and will keep it open so assist easy movement of material to the spot of emergency.

9.5 ACTION BY THE SECURITY INCHARGE

- Inform all members of Security Department.
- Arrange to Open the gate and post a guard.
- Arrange to call/ pick up as many employees as possible.
- Rush to the scene of emergency and act according to Shift in charge instruction

9.6 ACTION BY THE SHIFT INSTRUMENT TECHNICIAN

- Report to the shift in charge immediately on hearing the emergency siren.
- Act as the communication carrier.
- Act as a communication link between Shift in charge and other coordinators

9.7 ACTION BY THE SHIFT LAB CHEMIST

Shift Lab chemist will act as First aid coordinator

9. ONSITE EMERGENCY PLAN TO BE FOLLOWED DURING NON GENERAL SHIFT HOURS AND HOLIDAYS

The emergency preparedness plan during Non general shift hours and Holidays is indicated as under with the responsibilities reallocated to the available personnel available during that period. They will perform the responsibilities till the designated personnel /senior most personnel arrive at site, to take charge of the proceedings.

9.1 KEY PERSONNEL IN MANAGEMENT OF EMERGENCY SITUATION DURING NON-GENERAL SHIFT HOURS AND HOLIDAYS

S. No.	Services	Name As Mentioned In The Plan	Person's Designation
1	Overall Coordination	Chief Emergency Coordinator	Shift Process Engineer
2	Plant Operational Control	Plant Coordinator (Site Controller)	Shift Process Engineer
3	Incident Control	Incident Controller	Shift Process Engineer
4	Medical Services	Medical Coordinators	OHC/Security Guard & Operator
5	Fire & Safety	Fire & Security Coordinator	Security Supervisor
6	Materials arrangement	Materials Coordinator	Shift Boiler Operator
7	Communication	Communication Coordinator	Shift Lab chemist
8	Transport	Transport Coordinator	Shift Lab chemist
9	Head Count	Security Coordinator	Shift Lab chemist

- b. Receive the phone calls coming to GWM at his cabin.
- c. Arrive at Emergency assembly point and assist in head count.

8.13. MUTUAL AID SCHEME

We have liaison with the neighboring companies for assistance in case of situations of major emergencies. Apart from the same, we also have contact with the local fire station which is hardly 100 yards away.

The names of the neighboring industries and their Telephone numbers are given as under to contact them in case of Emergency.

1. M/s. Chemplast Sanmar. Phone: 04142- 239680 , 9944931421
2. M/s Tanfac-Phone No-0.4142-239005, 9092008000
3. M/s Tagros chemicals-Phone No-04142-239373, 9360221513
4. M/s Strides Shasun-Phone No-04142-285502 , 7373730991.

8.8. ACTION BY STORES DEPARTMENT

The stores in charge will remain at stores and issue materials and safety equipment required for combating the emergency.

8.9. ACTION BY SECURITY GUARD IN THE MAIN ENTRANCE HEARING SIREN/

ON GETTING THE INFORMATION ON EMERGENCY

- On receipt of the fire/ emergency call, note down the location of the Fire/Emergency.
- Do not allow visitors.
- Arrange for opening the Gate.
- Stay near Telephone for further instructions.

8.10. ACTION BY SECURITY OFFICER

- Proceed to the scene of fire/ emergency along with security personnel and assist for fire fighting/ controlling the emergency.
- Arrange to control traffic and prevent parking of vehicles within 100 Mts of scene of fire/ emergency (other than those used in fire fighting).
- Arrange not to allow visitors or spectators
- Prevent crowding of people around the scene of fire.
- When authorized by the Chief Emergency Coordinator arrange for Mutual AID Scheme with other units. Also call fire brigade.
- Arrange to Direct Press reporters to the Personnel Manager.
- Conduct head count.
- If any person is missing in the head count reports the same to communication coordinator.

8.11. ACTION BY ACCOUNTS OFFICER

- a. On hearing the Emergency Siren assemble at the Emergency control centre at the Personnel manager's cabin.
- b. Arrive at the scene of emergency based on the instruction from Chief controller and First aid coordinator

8.12. ACTION BY HR OFFICER

- a. On hearing the Emergency Siren assemble at the Emergency control centre at the Personnel manager's cabin.

- b. Under the instruction of the shift in charge, the operators shall take necessary precautionary measures.
- c. WTP operator should immediately rush towards Fire Hydrant Pump room and Diesel Engine pump area and ensure that the pumps are functioning to the capacity.
- d. Process operators who are all trained in First aid will assemble at the Emergency control centre near Personnel Manager Cabin and upon instruction from First aid coordinator act as First aiders

8.4. ACTION TO BE TAKEN BY THE SHIFT INCHARGE OF PROCESSING UNIT

- a. The shift in charge shall immediately send 2 to 3 operators in their respective sections to the scene of fire/ emergency and assist in containment of emergency.
- b. He shall then alert operators' crew and be prepared for undertaking any Emergency Operating instructions as the situation warrants.

8.5. ACTION BY ELECTRICIAN

- a. On hearing the fire/ emergency call, note down the location of the fire/ emergency and contact the shift in charge for further action.
- b. He shall ensure uninterrupted power supply wherever it is required the most.
- c. He shall cut the power supply wherever necessary as a precautionary measure.

8.6. ACTION BY THE SHIFT SUPERVISOR (Maintenance)

- He shall rush to the Fire Hydrant pump room and Diesel Engine pump area on hearing the siren and shall ensure that the Fire water pumps and Diesel Engine pump are functioning with the fullest capacity.
- He shall contact the shift in charge for further instructions and coordinate accordingly.

8.7. ACTION BY THE ENGINEERING PERSONNEL

- Maintenance Personnel present near the scene of Fire/ Emergency will straight- away report to Fire/ Security officer and act as per his instruction.
- He shall contact the shift in charge for further instructions and coordinate accordingly.
- Other Maintenance Personnel, wherever they are working, will immediately report to the Emergency assembly point and wait for the instructions from his superior.

10.4.4 WATER SUPPLY AND PUMPING ARRANGEMENT

Independent fire water reservoir and pumping arrangement is proposed for MVWS system. The details of water storage and pumping arrangements are elaborated in successive chapters.

10.4.5 SYSTEM DESCRIPTION FOR METHANOL STORAGE TANKS

Manually operated water spray system is provided for Methanol storage tanks. Water required for MVWS system is tapped from the proposed pressurized underground watery spray system header. Medium velocity water spray system consists of spray nozzles, spray piping network and isolation valves.

In case of fire in any one of the tanks, the respective isolation butterfly valve normally kept in closed condition is to be opened manually so that the water will gush through the water spray piping and sprayed on to the tank shell for cooling the tank shell. The inlet butterfly valves of the adjacent tank also are to be opened for cooling its surface. The piping pressure will rapidly fall resulting in to operation of the fire pump. Once the fire is totally extinguished, the pumps shall be switched 'OFF' manually. Manually operated semi-fixed foam system for methanol storage tanks.

10.4.6 FOAM SYSTEM

A sufficient volume of foam, on a burning substance, arrests the movement of air and prevents entry of oxygen. Heat converts the water-content in foam into steam and reduces the oxygen-content in the air. Water converted into steam helps absorb heat from the burning material meant to be protected. Foam System is employed to protect storage tanks containing flammable/ combustible liquids.

10.4.7 CODES AND STANDARDS

The following codes and standards are referred to while designing the system design:

1.NFPA

2.TAC

3.IS

10.4.8 AREAS COVERED

Four numbers of Methanol storage tanks are protected with semi-fixed foam system.

10.4.9 WATER SUPPLY AND PUMPING ARRANGEMENT

Water required for foam system shall be drawn from the underground water spray system header.

10.4.10 SYSTEM DESCRIPTION

Foam system consists of foam making chamber, inline inductor, and foam solution storage tank. The schematic arrangement of foam system for product storage tanks are shown below.

10.4.11 SYSTEM OPERATION

Under normal condition, all the inlet and outlet valves are kept in closed position. In case of fire in any one of the tanks, the main inlet butterfly valve and the respective isolation butterfly valve of the tank under fire are to be opened. Also the foam inlet valve normally closed is to be opened. Water will gush through the piping and inline inductor to the foam making chamber. Simultaneously, due to venturi effect in the inline inductor, foam at the required proportion is drawn from the foam tank. The water and foam mixture will enter into the foam maker and then will be discharged on to the burning surface.

Methanol storage tank contaminated with Foam is isolated from other storage tanks.

Based on the Chief emergency controller's instructions the material in the contaminated storage tank can be transferred to one of the other storage tanks through bottom line equalization up to certain level from the top surface. This is to utilize the no contaminated methanol as such in the process. The contaminated methanol remaining on the surface will processed in the plant distillation column in the next available opportunity and purified from contamination. Final contaminated product from the distillation column will be discarded to ETP through T-802.

10.4.12 SYSTEM DESCRIPTION FOR WATER SPRAY FOR ACETALDEHYDE STORAGE BULLETS

Automatic medium velocity water spray system is proposed for Acetaldehyde storage bullets.

A typical MVWS Spray shall consist of sprayers, QB detectors, detection piping, spray piping and deluge valve. Water required for MVWS system is tapped from the proposed pressurized underground watery spray system header. The schematic arrangement of MVWS system for storage tanks is shown in fig. two numbers of product storage bullets and associated piping shall be combined and covered by one deluge valve which will be operated automatically, In case heat rises

above 690C. QB detectors installed around the protected area on the detection line, which will be laid along the spray piping will detect the rise in Temperature and shatters at 690C thus releasing the pressure in detection line. Due to drop in pressure deluge valve operates automatically. The entire protected area is sprayed with water. The pressure switch located in the pump house detects the pressure drop and starts the pumps.

Another mechanism by which the Automatic water sprinkling system can operate is explained below. If the pressure in any one of the Bullets exceeds 2.0 Kg/cm², then SOV in the detection line will open to drain the water in the line. By this pressure in the line drops and Deluge valve operates automatically and the entire Bullet is sprayed with water.

Pressure in the detection line can also be reduced by opening a manual valve located in the line to drain the water and inurn the pressure is reduced and the deluge valve is operated automatically to spray the water.

10.4.13 Fire Alarm System

Fire Alarm System comprising of a Main Annunciation panel located at Penta Control room, 5 Nos. of Zonal panels with sub zone circuits located in penta control room, Fa control room, LT room, 16 TPH Boiler control room and Time office of Administration block.

Smoke detectors and Manual call points are installed and distributed in various plant areas of the corresponding Zones.

The below mentioned architecture shows the detailed location of each sub zones and its no. of smoke detectors and Manual call points.

Procedure to be followed for use of Fire Alarm System. In the case of any Fire Emergency in the following area,

1. Penta Control room, MCC - 1A &1B, MCC - 2
2. Fa control room, Acetaldehyde day tank
3. LT MCC room, DG room, HT room,
4. 16 TPH Boiler control room, MCC-8, 14 TPH Boiler control room, 1.5MWT Groom, 500 KW TG room
5. Administration block

Fire will be detected automatically through the Smoke detectors installed in various points of these locations and an audible alarm will be coming in the respective control room and also to the main Penta control room.

Location of the actual fire area can be seen visually in the corresponding zonal panel and can locate the sub zone area and he can immediately rush to the spot.

In the spot, the corresponding smoke detector indication will be glowing continuously with red colour.

In Penta control room along with the audible alarm the respective zone LED will be glowing in red colour.

In case of any fire identified in the following and nearby areas,

- Penta plant area, MCC -1A&1B nearby area, MCC-2 nearby area
- Fa plant area, Methanol storage tanks farm, Acetaldehyde storage tank farm, Formaldehyde storage tank farm, Acetaldehyde Day tank area, MCC-6 nearby area
- LT room and HT room nearby area,
- 16 TPH boiler area, 14 TPH boiler area, TG area

Anyone can break the glass with the help of a small hammer provided in each Manual call points (MCP) which are located in the above said areas.

It will be automatically alerted through an audible alarm in the corresponding control room and also to the main Penta control room.

Location of the manual call point area can be seen visually in the corresponding zonal panel and can locate the sub zone area and he can immediately rush to spot.

In the spot, the corresponding the manual call point indication will be glowing continuously with red colour.

In penta control room along with the audible alarm the respective zone LED will be glowing in red colour.

10.4.14 Maintenance of Fire Alarm system:

Fire Alarm system is being maintained by competent personnel.

Healthiness of the system is ensured periodically.

Annual Maintenance contract is provided with M/s. Aswin Engineers, Chennai, and the system preventive maintenance is carried out once in 3 months.

11. Treatment methods for occupational injuries

11.1. First aid box locations and contents in first aid box

1. Security -1
2. Admin Office – 1
3. Production – 1
4. Quality Control – 1Nos
5. Stores– 1No

11.2. Contents of first aid box

S.NO.	PARTICULARS	QTY
1.	Antiseptic cream 10 gms	1 No.
2.	Antiseptic Lotion 50 ml	1 No.
3.	Blue lotion 20 ml (Gention violet)	1 No.
4.	Blunt edged scissors	1 No.
5.	Burn dressings (10cm x 10cm) Sterile	3 Nos.
6.	Cold pack (Ice pack for pain)	1 No.
7.	Cotton crepe bandage (6cm x 2mt.)	1 No.
8.	Cotton wool 25gms	2 Nos.
9.	Deodine cream (Povodine)	1 No.
10.	Eye pads (Sterile)	1 set
11.	Eye / Ear drops	1 No.
12.	Gauze pad (5cm x 5cm) Sterile	8 nos.
13.	First aid instruction (Leaflet)	1 No.
14.	Iodine Tincture 20ml	1 No.
15.	Pain Balm	1 No.
16.	Plasters (19mm x 72 mm)	10 nos.
17.	Pressure bandage (10cm x 10cm)	2 nos.
18.	Rolled gauze (7.5cm x 2.5 mt)	2 nos.
19.	Rolled gauze (5cm x 3mt.)	3 Nos.
20.	Sterilized Dressing (6cm x 6cm)	3 Nos.
21.	Surgical Tape	1 No.
22.	Triangular bandages	2 Nos.
23.	Wooden Splint	1 set

24.	15cm x 15cm dressing with Gauze bandage (Sterile)	1 No.
25.	20cm x 20cm Dressing with Gauze bandage (Sterile)	1 No.

11.3. Chemical burns

A. Overview

1. Definition

- An ocular chemical burn is caused by direct contact between the eye and Chemicals such as alkali, acids, detergents, or other irritant.

2. Risk factors include:

- Working in a laboratory or industrial environment
- Lack of protective eye goggles

3. Complications may include:

- Corneal ulceration
- Dry eye(s)
- Visual impairment, including blindness

B. Clinical features

1. Symptoms may include:

- Burning of the eye and the skin around the eye
- Burns due to ultraviolet light (corneal sunburn) may present with delayed pain.

2. Physical examination is deferred until copious irrigation is achieved.

3. Physical examination findings (with slit lamp) may include:

- Conjunctival chemosis
- Hyperemia
- Eyelid edema
- Acidic or alkaline pH (tested with Litmus paper)

- Punctate keratitis (especially with ultraviolet (UV) Burns, common in welders).
- Corneal opacification

C. Diagnostic tests

- No special laboratory or imaging studies is necessary.

D. Treatment

1. Copious irrigation with sterile water, saline, ringer's lactate, or plain tap water for 30 minutes.

- Anesthetic drops are administered prior to irrigation
- An eyelid speculum or Morgan lens attached to IV tubing is used to help keep the eye open and allow maximum irrigation.
- The pH of the eye is checked with litmus paper. Irrigation should be continued until a neutral pH is reached.

2. Cycloplegic drops may be given

3. Topical antibiotic ointment (e.g. Neosporin)

4. A pressure dressing over the eye

5. Systemic analgesia as needed

6. Cold compresses and lubrication if eyelids or eyelashes are burned

7. Additional treatment for moderate to severe burns:

- Immediate Ophthalmology consultation
- Topical antibiotic drops
- Treatment of intraocular pressure (IOP), if present
- Debridement of necrotic tissue. Corrosive Ingestions
- Corrosive ingestions include strong acids and strong alkalis

A. Mechanism of action

- Acids exert their effect via a coagulation necrosis, which has a slow penetration.
- Alkalis exert their effect via a liquefaction necrosis, which has a more rapid penetration.

B. Clinical features

1. Acids

- Acute complications of acid ingestion include corrosive gastritis, hemorrhage, and perforation.
- Delayed complications include gastric outlet obstruction and achlorhydria.
- The esophagus is mostly spared in acid ingestions.

2. Alkalis

- Esophageal injury is prominent
- Acute manifestations include perforation and infection.
- Delayed complications include strictures and altered motility.

C. Diagnostic tests

- CBC, Chemistry panel for significant ingestions
- ABGs to assess need for mechanical ventilation
- Type and crossmatch for significant blood loss
- Chest and Abdominal Radiographs to look for perforation.

D. Treatment

1. For both acid and alkali ingestions:

- ABCs. Patent airway must be ensured.
- Haloperidol for acute psychosis as needed
- Narcotic analgesia as needed
- Endoscopy to determine severity of injury
- Methylprednisolone, 125mg IV, for injuries that penetrate the mucosa.

2. For acid ingestions:

- Emetics, AC, and neutralising solution are contraindicated.
- Ice water GL is indicated.

3. For alkali ingestions:

- Ingested foreign body (e.g. alkaline battery) should be removed.
- GL is contraindicated.

E. Disposition

- Patients who are asymptomatic 6 hours post - ingestion may be discharged home.
- Symptomatic patients should receive endoscopic evaluation, which may require admission.
- All patients who have ingested acid or alkali substances with suicidal intent should receive psychiatric evaluation.

BURNS

A. Overview

1. Definitions

First - degree burns: involve epidermis only

Second - degree burns: involve epidermis and varying levels of dermis

Third - degree burns: involve all layers of skin including blood vessels and nerve endings.

2. Risk factors include:

- Extremes of age (infants and the elderly)
- Child abuse
- AMS secondary to alcohol or drug overdose
- Immobility
- Neurological disease
- Head trauma

3. Complications

a. Thermal burn complication include:

- Renal failure
- Sepsis
- Hypothermia
- Hypovolemic shock

- Contractures
- b. Electrical burn complications include :
 - Cardiopulmonary arrest
 - Rhabdomyolysis
 - Delayed hemorrhage from the labial artery in children with oral electrical burns.
- B. Clinical features:
 1. Signs of burns to skin, by degree, include

First – degree: painful, dry, erythematous, no blisters

Second - degree: painful, edematous, with blisters

Third - degree: painless, dry, edematous, insensate, charred areas

Note: Third - degree burns commonly are interspersed within islands of second- degree burns and vice versa, meaning that a given area of third – degree burn may not be totally anesthetic. This is important to note for pain management.

2. Estimating the percentage of total body surface area (TBSA) burned:
 - Rule of nines (Figure above)
 - Palm of patient's hand is equal to approximately 1% of the TBSA
3. Signs of smoke inhalation injury include:
 - Soot in the naso - and oropharynx
 - Burnt nose hairs

Note: Significant smoke inhalation injury can occur in the absence of any signs.

4. Electrical burns
 - Alternating current (AC) is more dangerous than direct current (DC) because it causes tetanic muscle contraction and pulls the victim in, preventing him or her from releasing hold; DC usually throws the victim away.
 - Observable skin damage does not correlate with extent of underlying tissue destruction.

C. Diagnostic tests

- Carboxyhemoglobin level to assess severity of CO poisoning, particularly of smoke inhalation injuries.
- Chemistry panel to look for electrolyte abnormalities and elevate creative kinase (CK), particularly for electrical burns.
- ECG to look for arrhythmias (the most common arrhythmias in electrical burns are sinus tachycardia and premature ventricular contractions)
- UA to look for myoglobin (electrical burns)

D. Treatment

- Airway, Breathing, Circulation, Disability, and exposure (ABCDE) are checked as for trauma patients, with supplemental humidified oxygen.
- Early intubation
- IV hydration via two large - bore peripheral lines; output is monitored with
- Foley catheter. Urine must be alkalinized if myoglobinemia is present.
- The parkland formula for fluid resuscitation is total volume given over first 24 hours = 4 ml (for adults) or 3 ml (for children) x weight (kg) x TBSA burned
- One half of this volume is given over the first 8 hours from the time of the burn and the remaining one half over the next 16 hours.
- Parenteral analgesia as needed (e.g., morphine)
- All affected areas of the body are cleaned with a mild antiseptic solution, and all affected mucous membranes are irrigated with NS.
- For first - and second - degree burns:
- Bacitracin ointment may be applied to affected parts of the face, and silver sulfadiazine cream may be applied to affected parts of the body.
- Burns are wrapped in sterile gauze.
- Blisters are left intact. If blisters have already ruptured, dead tissue is debride.
- For circumferential and torso burns, escharotomy is done to prevent compartment syndrome and distal neurovascular impairment.

- Third - degree burns requires eventual skin grafting, but this is not done in the ED.
- If burns cross a joint, the joint is immobilized in extension to prevent contractures.
- Tetanus prophylaxis
- Hypothermia prevention.
- Nasogastric tube to relieve paralytic ileus, seen in patients with > 20% TBSA
- Prophylactic antibiotics are not indicated in the ED.

E. Disposition:

- Patients with first - degree and minimal second - degree burns may be discharged home after burns are dressed and fluid status is stabilized, with outpatient follow - up in 24 hours.
- Patients in the following categories should be considered for hospital admission or transfer to a burn center.
- Children or elderly patients with burns to > 10% TBSA
- Adults with second - degree burns to > 20% or third- degree burns to >10%
- Patients with burns to the face, hands, feet, or perineum
- Patients with burns associated with inhalational injury
- Patients with electrical burns.

Wound care

A. Overview

Definition

- A wound is defined as violation of intact skin or mucosa.
- Causes include:
 - Shear
 - Tension
 - Crush

Risk factors for infection

Host Factors include

- Immunocompromised States
- Diabetes Mellitus
- Malignancy
- Peripheral vascular disease
- HIV
- Alcoholism
- Malnutrition

Wound factors include:

- Presence of devitalized tissue in margins of the wound
- Location (extremity wounds are more prone to infection than scalp or face wounds)
- Human Bites
- Grossly contaminated wounds (especially with pus, faeces, vaginal secretions or saliva)
- Deep wounds (full - thickness)
- Wounds secondary to burns or frostbite
- Stellate (vs. linear) wounds

Repair and technical factors include:

- Excessive suture tension
- Use of natural (vs. synthetic) suture material
- Poor hemostasis
- Inadequate cleansing and prepping of wound

Complication includes:

- Infection
- Scarring
- Contractures

B. Wound preparation:

- Few agree on the perfect method of wound preparation. Some general guidelines include:
- Thorough, copious pressure irrigation of the wound. One excellent method employs a 30- to 60-ml syringe with an 18-gauge needle or catheter. This generates about 5 to 8 psi of pressure and is adequate for most wounds. Excessive pressure can result in increased inflammation and destruction of wound edges.
- Exploration (under local anesthesia if necessary) to look for foreign objects, damage to tendon or nerve, or any evidence of joint involvement. Injection of Methylene blue into a joint to look for seepage is useful to look for joint disruption.
- Debridement of any grossly necrotic tissue
- Preparation of the skin surrounding the wound with povidone - iodine, with care taken not to get it into the wound edges, because it is toxic. Direct contact with wound edges delays healing.
- Clipping rather than shaving of hair around the wound. One exception is the hair of the eyebrow, which should not be tampered with.
- Draping of the area to create a sterile surgical field

C. Types of anesthesia

- There are two main types of anesthesia, intradermal and topical. Intradermal administration provides better anesthesia, but the initial injection causes great fear for many patients, especially children.
- Intradermal injectable local anesthetics included procaine, lidocaine, mepivacaine, and bupivacaine.

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12. Notification procedures

12.1. For Police

By whom : Works Main Controller/Sr. Manager-Production
To Whom : 1. Inspector / Sub-Inspector, SIPCOT Cuddalore
2. District Police Authority, Cuddalore

Details to be informed

1. Name, designation, factory's name
2. Nature and seriousness of emergency
3. Location of emergency
4. Assistance required, if any
 - Road blockage - Details of road
 - Crowd control - Location
5. Police Personnel report
 - Location:
 - Phone no:
6. Route to be followed for quick and safe arrival

12.2. For Fire Brigade

By whom : Works Main Controller / Officer on Emergency Duty / Sr. Manager-Production
To whom : Station Fire Officer, SIPCOT Cuddalore
: Dist. Fire Officer, Cuddalore

Details to be informed

1. Name, designation, factory's name
2. Nature and seriousness of emergency
3. Location of emergency
4. Materials, tank involved in fire
5. Assistance required:
 - Type of tenders - (Water / Foam)
 - Type of Equipment - Portable Pump
 - SCBA / Fire Suit
 - Type of Materials - Foam Compound (no of cars) etc

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6. Fire service personnel to report

At (Location) -----

To whom -----

Phone no -----

7. Route to be followed for quick and safe arrival

12.3. For Ambulance services (If more than one ambulance is required)

By Whom: Works Main Controller/ Sr. Manager-Production

To Whom: Government Hospital – Cuddalore

Details to be informed

1. Name, designation, factory's name

2. Nature and seriousness of emergency, no of persons injured and likely to affected.

3. Location of emergency

4. Assistance required

Number of ambulance

Number of Stretchers

Number of personnel with SCBA,

Number of O2 administration facilities required in ambulance

5. Ambulance personnel to report:

Location -----

To whom -----

Phone no -----

6. Route to be followed for quick and safe arrival

13. Training, Rehearsal and Records

13.1. Need of training and rehearsal

Rehearsals and exercises for all personnel likely to be involved in an emergency are important because

- a.) They familiarize on site personnel with their roles their equipment and the details of the plan.
- b.) They allow the professional emergency services to test their parts of the plan and the coordination of the different organizations. They also familiarize them with special hazards.
- c.) They give experience and built confidence in those team members in the initial shock and confusion of a real incident the ability to fall back on established initial action is invaluable

People are trained and educated regularly to cope up with any emergency situation, which are anticipated on our factory. The training is done as follows.

13.2. Orientation

All the new employees are given proper orientation training to acclimatize themselves with the people with environment and the procedures.

13.3. On the job Training

All new employees after orientation are put On Job in parallel with the senior and experienced employee to get acquainted with his job procedures.(Dos and Don'ts), hazards involved, preventive and control measures to be followed. Once he is through with the above he will be given independent duty.

13.4. Off the job Training

These training are done in class rooms as per needs to educate the employees about the hazards and emergency procedures apart from their job. Classes are arranged regularly, handouts are given and feedback is recorded for all such training programs.

13.5. Refresher courses

Regularly it is conducted for the senior employees who due to over confidence may indulge in certain unsafe practices like short cuts, neglect the laid down procedures. Such courses will help in remanding them possible causes and consequences of their actions.

Apart from the above training programs are conducted whenever a new machine or process is introduced and whenever an employee is transferred.

Rehearsals /mock drills will be conducted and after each rehearsal the plan will be reviewed to take account of any shortcomings highlighted by the exercise.

13.6. Records and updating the plan.

Records of Onsite/Off site emergency plan of various factories in the area, the area emergency plan the rehearsals and conclusions will be maintained and preserved by the district emergency authorities and factory inspectorate for the purpose of review and further guidance.

13.7. Emergency instruction booklet

At many places in this plan it is mentioned that the duties and responsibilities of particular role is given has the emergency instruction booklet. This will help all individuals who are involved in the emergency activities to prepare themselves to overcome any situation arising out of any emergency on site.

14. Off-Site Emergency Plan – Guidelines

1.1. INTRODUCTION

If an accident takes place in a factory and its effect are felt outside its premises of Asian Paints Limited Penta Division -Cuddalore the situation thus created is called an "off-site" emergency. It is mandatory under rule 14 of the hazardous chemical rules for district authorities to prepare an off-site emergency plan respect of clusters of hazardous chemical industries or at locations where accidents are likely to have an off-site adverse effect.

The off-site emergency plan should detail how emergency related to major accidents on the site will be dealt with. For preparing the plan, the concerned district authorities should consult the industries and other persons who would be concerned with its execution should such an emergency arise? The following points should be noted by all concerned in respect of an off-site emergency plan

The industrial or storage units to be covered under the plan should provide all the necessary information related to industrial activities under their respective control to the concerned authorities.

In case of any new industrial activity proposed for being set up in the area, an on-site emergency plan should be prepared before the activity is commenced.

All districts having major hazard installation should have an off-site emergency plan.

The off-site emergency plan should be updated from time to time, especially when a new process is started or new units are established.

The off-site emergency plan should be tested for its efficacy through mock exercises/drills.

The persons outside the site, who may be affected by a major accident, should be informed about:

- a) The nature of the major accident hazard and
- b) Safety measures to be adopted.

1.2. RESPONSIBILITY FOR PLANNING AN OFF-SITE EMERGENCY

The planning for emergency response to chemical disaster requires co-operation among the responders to know the persons responsible for various activities. This understanding is facilitated through personal interaction and close working in devising and updating a plan. Therefore, the pre-requisite for preparing a plan is the formation of a planning team. The possible composition of the planning team is given below:

- Planning team-members
- Collector/Deputy collector
- District authorities in-charge of fire services & police
- Medical services
- Factory inspectorate
- Pollution control board
- Industries and
- Transport
- Co-opted members on need basis
- District authorities concerned
- Civil defence
- Publicity department
- Municipal corporation and

Non-officials such as elected representatives, MP's / MLA's and voluntary organization.

The district collector or his nominated representative would be the team leader who shall conduct the planning task in a systematic manner.

1.3. ELEMENTS OF OFF-SITE PLANNING

A typical off-site emergency plan should have the following important components:

- Plan pre-requisite
- Plan requirement (aims & objectives of the plan)
- Planning team
- Hazard analysis and quantification
- Scenario development
- Assessment of capabilities
- Plan Development

- Incident information
- Authority for responding
- Basic assumption
- Operation of the plan
- Co-ordination with other plans
- Emergency assistance
- Names and addresses of the key personnel
- Telephone numbers
- Response functions
- Initial notification
- Control room
- Access
- Direction and control
- Communication amongst responders
- Warning system/emergency notification
- Public information
- Resources mobilization and management
- Health and medical response
- Public protection including evacuation
- Fire and rescue
- Law and order
- On-going incident assessment

Besides the above, other elements of off-site planning are containment, clean up and disposal; documentation and investigation; plan testing and updating and community awareness, preparedness and training.

For developing an off-site plan of a particular locality, the elements of relevance to the plan should be carefully selected. The elements would be based on locational situations, hazards present, existence of vulnerable area in the vicinity and resource availability, etc.

The main pre-requisite of an off-site emergency plan is to define and lay down the clear-cut objectives and requirements. As stated earlier, a planning team representing local industries, response agencies and other bodies should be formed. The plan should be based on a systematic hazard analysis of the units in the area and scenarios based thereon. This should be done by the

units and made available for updating the plan. Resources planning have to be based on the assessment of capabilities in the area.

Plan development should clearly indicate the format to be used for reporting information related to accidents, basic assumptions in preparing the plans, plan operation and dovetailing with other plans. The plan should include the names and contact telephone numbers of persons responsible for emergency assistance. Complete detailing of the response functions is the most important part of the plan.

The plan should cover details about central control room, access to and from the incident area, direction and control of emergency public information, resource management, communication during emergencies, response personnel safety, on-going incident assessment, etc.

Specific roles of the police, fire fighting and medical personnel should be worked out in the plan. The aspect of containment, clean up and disposal should also be covered in the plan. If it is not done properly, there could be secondary effect from the accident. Testing and updating of the plan needs lot of preparatory work in the form of training of teams, developing assessment mechanisms using observers and mobilization of resources. The role of adjacent communities during emergencies and building community awareness are also important aspects of the plan.

1.3.1. LIST OF HAZARDOUS INSTALLATIONS

It is important to identify the hazardous units located in the area. Up-to-date information regarding the on-site plans prepared by each individual unit is required to be compiled for formulating the off-site plan for the area.

1.3.2. OFF-SITE CONTROL ROOM

- The control of crisis during major accidents is to be exercised through a control room established at an easily accessible central location in the area. This control room should be capable of functioning on being required to be activated at any time. The control room for off-site plan is thus over and above the control room set up by each unit for its on-site plan.

The control room shall :

- Act as a focal point of emergency management.
- Keep records of all messages.
- Inform operation Officer on receipt of first information relating to accident.
- Monitor implementation of mutual aid.
- Serve as the focal point for meeting of the crisis management group (CMG)

- In order to operate the control room round the clock, manpower and transport are required on a shift basis. The control room should be equipped with proper communication system, data processing network and should be a storehouse of information to combat emergencies.

1.3.3. KEY PERSONNEL AND THEIR DUTIES

- The ultimate responsibility for the management of the major emergencies rests on the District Magistrate/Collector. He will be assisted by representatives from all concerned organizations, departments and services at the district level. This group of officials forms the District Crisis Management Group (CMGs). The members of the group may vary according to the district and local conditions. The CMG will :
 - Control all emergency operations.
 - Guide on matters related to policy issues.
 - Provide official information and instructions to the general public.
- An operation response group (ORG) will have to be put up to implement the directions of the CMG. The duties of the org are as under:
 - To develop an integrated response strategy based on the available information.
 - To plan deployment of field units to ensure the availability of appropriate force to deal with the situation.
 - To co-ordinate the functioning of the various agencies.
 - To deal with crisis and implement decisions of CMG.
 - To monitor the progress till the crisis ends and keep the CMG posted with the development.

1.3.4. COMMUNICATION SYSTEMS NETWORK

- An efficient and reliable communication system is required for the success of the off-site emergency plan. The efficient communication system is required to alert :
 - Off-site emergency authorities and services
 - Neighbouring factories in the area and public in the vulnerable zone.
- A communication network of the following type may be helpful:
 - Radio communication between control room to unit control rooms of the industrial unit and respondents outside the area.
 - Holiness between control room to industrial units, emergency services meteorological station and the media.
 - Paging system with the control room for alerting the members of the CMG and ORG.

- P & T telephone lines.
- Data processing network hooked to all computers / PC's.
- A communication flow chart is to be prepared and kept in the control room. An up-to-date telephone directory of key personnel concerned with the emergency should be available at all times.
- In co-ordinating the communication system efficiently, there should be a communication Officer in control room to ensure that all the modes of communication are functional round the clock. All communication operators should maintain a logbook for the messages received in/out and actions taken. These activities should be incorporated in the data processing system.

1.3.5. WARNING SYSTEM

In an off-site management plan, one of the most important pre-requisites is a good 'warning system'. Efficient warning system will save lives, prevent injuries and reduce losses. Emergency commander will decide the appropriate warning system and implement it. The commissioner of police will be responsible for implementation of the warning system.

The warning systems are of the following types:

A) Disaster Warning (maximum credible loss scenario)

High pitched continuous wailing siren

B) Fire / toxic release

Long siren followed by short siren

C) All clear

Long continuous siren

Depending upon the nature of hazards and the area affected, other methods of warning may be used as follows: -

Out-door warning sirens.

Public address system with police.

ARP sirens.

Mass media.

Door to door visit by civil defence personnel.

Telephonic contact with schools and other organizations/public institutions.

Information to be provided at common gathering places such as canteens, shops, etc.

1.3.6 PUBLIC INFORMATION SYSTEM

During a crisis following an accident, the people of the area and large number of media representatives would like to know about the situation from time to time and the response of the district authority to the crisis. It is important to give timely information to the public in order to prevent panic and rumour mongering. The emergency public information could be carried out in three phases.

A) Before the Crisis

This will include the safety procedure to be followed during an emergency through posters, talks and mass media in different languages including local languages, leaflets containing do's/don'ts should be circulated to educate the people in the vicinity.

B) During the Crisis

Dissemination of information about the nature of the incidents, actions taken and instructions to the public about protective measures to be taken, evacuation & etc. are the important steps during this phase.

C) AFTER THE CRISIS

Attention should be focused on information concerning restoration of essential services, travel restrictions, etc.

Various tasks of the public information system could include:

Quick dissemination of emergency instructions to the public.

To receive all calls from media/public regarding emergency situations and respond meticulously.

Obtain current information from the central control room.

Prepare news release.

Brief visitors/media.

Maintain contact with hospital and get information about the casualties.

1.3.7 FIRE FIGHTING SYSTEM

There should be an inside control of all fire fighting resources in the affected areas under the overall charge of the Chief Fire Officer. The operational response will be co-ordinated from the central control room. The planning for fire fighting should be as follows:

A. BEFORE THE CRISES

- Proper road and means of escape should be identified.
- Considering the possible hazards, there must be adequate water supply.
- Training of the personnel in fire fighting duties in the industry.
- Provision of adequate and proper arrangement of fire fighting vehicles is important.

B. DURING THE CRISIS

- Immediate response to an emergency should be co-ordinated by the control room by matching all the resources. In a major emergency having wide off-site implications, more than one industry would be affected necessitating concurrent fire fighting operations at a number of places. In this case, the whole area may be divided in different fire zones. The task of the fire zone commanders should be as under :-
- Command and control of all fire fighting resources in the respective fire zones.
- Deployment of additional fire resources allocated by control room.
- Co-ordination of fire fighting institutes.

1.3.8 MUTUAL AID

All the industrial units in the affected areas should have mutual aid arrangement for getting/extending help in fire fighting facilities, special fire fighting agents, trained manpower, etc. The control room will allocate additional resources to fire zone including protective equipment kept centrally as a pool.

1.3.9. SERVICES SUPPORT SYSTEM

Health and Medical

A major off-site emergency in an area may affect a number of units and the surrounding colonies resulting in more causality. The medical response plan has to cater for immediate pooling of all available medical resources and provide emergency medical treatment to the victims of the incident. A co-ordinated utilization of all available local medical resources in the incident areas as well as the additional resources should be mobilized under the overall charge of the district health department. The operational response should be co-ordinated by the Chief Medical Officer from the control room. Before the crisis, the following actions should be carried out:

- Specialized training of doctors relating to chemical hazards.
- Blood grouping of all employees working in the industrial unit.
- Maintenance of list of blood donors' groups.

- Arrangements of adequate buffer stock of essential medicines.
- Stocking of anti-dotes and special medicines for hazardous substances.
- Planning of additional capacity in the base hospital for large-scale casualties.

During the crisis, medical plan in terms of manpower, transport and equipment as per organizational response be implemented. The organizational response structure should be set up as under

- A) First - aid post
- B) Casualty response centre
- C) Base hospital

It is essential to guide medical relief and establish public health measures like sanitation, immunisation & etc. In the absence of proper information about the chemical exposure, their symptoms, first aid and treatment, the physicians attending such emergencies are generally faced with great problems.

TRANSPORTATION

A large number of ambulances would be necessary to transport casualties to the casualty response centre and base hospital. For this purpose, jeeps/matadors/special wagons, which can be converted as ambulance at short notice, should be kept at the unit and the control room.

SECURITY AND POLICE

Security protection of life & property, traffic control and maintenance of law & order are the traditional and statutory functions of the police. During an emergency, duties and responsibilities of the police may be:

- Co-coordinating of the incident area.
- Warning public about the hazards.
- Traffic control.
- Assist fire-fighting services.
- Assist first aid and Medical Teams.
- Assist evacuation and ensure protection of property in evacuated areas.
- The deputy commissioner of police should expertise control of security operations in the area. Different phases of emergency management practices would be as under:

A. BEFORE THE CRISIS

Contingency plan of manpower, transport and communication network to co- ordinate possible incident areas and to regulate traffic should be made for each industry in the area.

B. DURING THE CRISIS

The security commander of the area will set in motion the relevant contingency plan to control the operation.

C. AFTER THE CRISIS

Protect property in the evacuated area.

D. MEDIA

The control room should release up-to-date information to the media.

1.3.10. EVACUATION INCLUDING SAFE EVACUATION AREAS

In a disaster situation, evacuation is the movement of people from the place of danger of places of relative safety. It is most effective action to protect people. A comprehensive and co-ordinated planning is necessary to implement orderly evacuation of population.

The process of evacuation should be based on the nature of threat, possibility of spreading of toxic gases and weather conditions. In this case, the hazard analysis in maximum credible loss scenario would help in planning of evacuation. The people of the area should be advised to leave the threatened area and to take shelter in the nearest reception centres. The whole process is required to be completed within quickest possible time. The command and control of the evacuation should be under the supervision of the district development Officer. The evacuation process should be carried out in three phases.

A. BEFORE THE CRISIS

- The public should be informed and educated properly for chemical hazards. Local police should warn the people in this regard and install the siren in the vulnerable places.
- The probable affected areas should be divided in several evacuation centres, which are entirely site specific.
- Detailed contingency plan of evacuation of various scenarios should be prepared.

- Availability of all transport resources needs to be ensured. Planning of adequate reception centers including accommodation, food, water supply and sanitary arrangements for the affected population should be done.

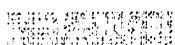
B. DURING THE CRISIS

Implementation of the plan should be done in the quickest possible time.

C. AFTER THE CRISIS

Once the crisis is over, the affected people should be rehabilitated and the follow up measures should be taken up. Relief to the victims

Post-emergency activities include the relief to the victims. The public liability insurance act (PLI act) 1991 provides for the owner who has control over handling hazardous substances to pay specified amount of money to the victims as interim relief by taking insurance policy for this purpose. The district collector has definite role in implementation of the PLI act, 1991. After proper assessment of the incident, he may invite applications for relief, conduct an enquiry into the claims and arrange payment of the relief amount to the victims.



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ANNEXURE - 1

IDENTIFICATION OF THE FACTORY

Full Name & Address of the Factory	Asian Paints Ltd., Penta Division, B5- B10, SIPCOT Industrial complex, Cuddalore – 607 005.		
Phones (Factory) :	Office : 04142) 239247, 239248 (O)		
Full Name & Address of the Occupier	B.Rajendra Babu Associate General Manager		
	Office	04142) 239247, 239248 (O)	
	Fax No	04142) 239247, 239248 (O)	

ANNEXURE - 2

SITE MAIN CONTROLLER

Sl.No	Designation In order	Place of Availability		Phone Number
		In the Factory	Mobile No	Intercom No
1	B.Rajendra Babu Associate General Manager	Production Office	9866833199	310
2	Mr. P.Jayakanthan Sr.Manager- Production	Production office.	9488026114	232
3	Security In charge	Security office.	04142) 239247, 239248 (O)	244

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ANNEXURE - 3

NOMINATED PERSONS TO DECLARE MAJOR EMERGENCY

Name of the Plant Department/ Location	Name & Designation of the Nominated persons to declare Major Emergency	Duty of Designation given if any under the on-site/off-site Emergency Plan	Internal Phone No.	Mobile Numbers
Admin. Building	B.Rajendra Babu Associate General Manager	Site Main Controller	310 & 232	9866833199
	Mr. P.Jayakanthan Sr.Manager- Production			9488026114
Production. Building	Mr. S.Saravanan Manager-Production	Dy Incident Controller	223 300	9442209025
	Mr. J Devaganesh- Safety Officer			9940358163

ANNEXURE - 4

DY. INCIDENT CONTROLLERS

Sl. No.	Name	Place of Availability	Phone Number
1.	Mr. S.Saravanan	Manager-Production	9442209025
2.	Mr. J Devaganesh	Safety Officer	9940358163
3.	Security Officer	Security Office	04142) 239247, 239248 (O)

ANNEXURE – 5

EMERGENCY ASSEMBLY POINTS

Identification Sl.No. of the assembly point	Location	Accommoda tion Capacity	AT THE TIME OF EMERGENCY		
			Person in Charge		
			Name & Designation	Place of Availability Factory	Phone Number Extn.
01.	Security Main gate	200	Asst. Manager HR	Admin. Building	310
02.	Admin. Building	200	Sr. Manager Production	Production Office	232
03	Second Main Security gate	200	Manager- Production	Production Office	223

ANNEXURE – 6

DESCRIPTION OF HAZARDOUS CHEMICALS AT PLANT SITE

S.No	Name of the Chemical	Purity of Chemical	Storage Capacity	Transformation if any which could occur	Nature
1	Methanol	99.9%	800 KL	On heating it evaporates to vapor	Highly Flammable Liquid
2	Acetaldehyde	99.0%	2*35KL=70 KL * Both bullets put together; the storage quantity of Acetaldehyde is limited to 35 KL max.at any point in time.	<ul style="list-style-type: none"> Under pressure remains as liquid and at atmospheric temperature and pressure, it vaporizes. 	Flammable Liquid
3	Formaldehyde	37 %	400 KL	NA	Toxic Liquid
4	Hydrochloric Acid	33 %	15 KL	NA	Fuming Liquid
5	Sulphuric Acid	98 %	15 KL	NA	Corrosive Liquid
6	Formic Acid	85 %	25 KL	NA	Corrosive Liquid
7	Caustic Soda Lye	48 %	200 KL	NA	Corrosive Liquid

ANNEXURE-7

FIRE EXTINGUISHER DETAILS OF OUR PLANT

Sl.No	Description	Extinguisher Details		
		Type	Capacity	Qty/Nos
1	Security cabin	--	--	--
2	Weighbridge	--	--	--
3	Cycle stand	--	--	--
4	Canteen	Water Type	9 Kgs	1
		DCP	6 Kgs	1
5	Workshop and Engineering Stores	DCP	6 Kgs	2
		Water Type	9 Kgs	1
6	LT Sub station	DCP	9 Kgs	2
7	HT Substation / DG Room	DCP	9 Kgs	4
		CO ₂	6. Kgs	2
		Foam	9 Kgs	1
8	Warehouse & Bagging area	DCP	6 Kgs	6
		DCP	6 Kgs	2
9	Penta plant	DCP	9 Kgs	8
		DCP	6 Kgs	1
		CO ₂	6. Kgs	5
10	Quality control lab	DCP	6 Kgs	1
11	Diesel, Furnace oil storage tank	Foam	9 Ltrs	2
12	Fire hydrant pump room	DCP	9 Kgs	1
13	Cooling tower	--	--	--
14	Water Treatment Plant	--	--	--
15	Water storage tank	--	--	--
16	Lignite Storage shed	--	--	--
17	Coal / Lignite bunker	--	--	--
18	Boiler House, Turbine house	CO ₂	6. Kgs	3
19	Methanol storage tanks	DCP	9 Kgs	3
20	Effluent Treatment Plant	DCP	6 Kgs	1
		CO ₂	6. Kgs	1

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21	Formaldehyde plant	CO ₂	6 Kgs	2
		DCP	9 Kgs	3
22	Methanol day tank	--	--	--
23	Formaldehyde storage tanks	DCP	6 Kgs	1
24	Acetaldehyde storage bullet	DCP	9 Kgs	2
25	Accounts office	Water Type	9 Kgs	1
26	Caustic soda tank	DCP	6 Kgs	1
27	Fuel handling system	--	--	--
28	Foam generator	AFFF	100 Ltrs	--
29	RO plant	CO ₂	6. Kgs	1
30	MEE/ATFD	CO ₂	6. Kgs	1
		DCP	6 Kgs	1
31	16 TPH Boiler	CO ₂	6	1
		DCP	9	2
32	16 TPH Turbine	CO ₂	6.	2
		DCP	9	2
33	Admin building .	WATER	9 L	1

ANNEXURE – 8

DETAILS OF FIRE HYDRANT IN OUR PLANT

Hydrant No	Location
FH-1	Opposite to Warehouse (North side)
FH-2	Opposite to Warehouse (North east corner)
FH-3	Rear side of Workshop and Engineering Stores (North side)
FH-4	Opposite to SF Off-site area (Near T-217)
FH-5	Penta Plant Entrance fire escape hydrant
FH-6	Opposite to Penta Plant (Near H ₂ SO ₄)
FH-7, 8 & 9	South side of Penta Plant (Near T-802 tank) Monitor
FH-10	West side of Caustic main tank
FH-11, 12 & 13	Rear side of Formaldehyde plant (South side) Monitor
FH-14	Rear side of Methanol tank (South side).
FH-15	Entrance to Methanol tank (North side)
FH-16	Formaldehyde Plant fire escape hydrant at Second floor
FH-17	Formaldehyde Plant fire escape hydrant at First floor
FH-18	Opposite to Formaldehyde Plant (North side)
FH-19	East side of Penta Plant (Near T-148)
FH-20	Penta Plant Fire escape hydrant (Near NCO Centrifuge)
FH-21	East side of warehouse (Between QA Lab & Warehouse)
FH-22	In between Coal yard and Raw water storage tank
FH-23	In between Boiler and Coal Bunker
FH-24	South side of Boiler House (Near Turbine)
FH-25	Rear side of 16 TPH Boiler (East side)
FH-26	Fire escape hydrant in 16 TPH Boiler
FH-27	Rear side of Lignite side (North side)
FH-28	Entrance of Lignite side (North side)
FH-29, 30 & 31	Coal yard Monitor (North side of Coal yard) Monitor
FH-32	In between LT Sub Station & Furnace Oil tank area (East side)
FH-33	Rear side of LT Sub Station (North side)

FH-34	Rear side of QA Building (South side)
FH-35	Near Acetaldehyde Bulb area (West side)
FH-36	East side of Acetaldehyde Day tank
FH-37	South side of FBC Boiler
FH-38	West side of FBC Boiler
FH-39	Near Furnace Oil day tank (North side of 8 TPH Boiler)
FH-40	In between Coal Crusher and Lignite Shed
FH-41	Fire escape hydrant in FBC Boiler
FH 42,43,44	Near Coal Crusher

ANNEXURE – 9

DETAILS OF PERSONAL PROTECTIVE EQUIPMENT

Sl.No.	Description	Place of Availability
NON-RESPIRATORY PROTECTIVE EQUIPMENT		
1	Ear Plug	Issued to all workmen
2	Ear Muff	At work spots
3	Safety Goggles	Issued to all workmen
4	Welding Shield	At work spots
5	Face Shield	At work spots
6	Hand Gloves – Cotton	Available at stores
7	Leather Hand Gloves	Available at stores
8	Asbestos Gloves	At work spots
9	PVC / Rubber Hand Gloves	At work spots
10	Rubber Hand Gloves (Electrical)	Available at LT Room
11	Apron (PVC)	Available at stores
12	Safety Belt	Available at stores
RESPIRATORY PROTECTIVE EQUIPMENT		
13	Nose Mask	Issued to workmen as per requirement
14	Breathing Aspirator	Available at stores

List of areas where eye wash has been provided:

Penta Plant	--	Near T-133, Near Caustic day tank, Near SF centrifuge
Fa Plant	--	First floor and Ground floor
WTP	--	Near SAC
ETP	--	Near Control room
Raw Material Storage area	--	Near Fa Main Tanks, Caustic Main tank , Formic acid /Sulphuric acid main tank , Methanol main tank HCL storage tank
Boiler	--	Near 16 TPH boiler pocket feeder in the 1 st floor Near 16 TPH PA fan in the ground floor,

ANNEXURE – 10

Details Of Safety Devices / Systems Attached At Each Processing Stage.

List of Safety Devices at Individual Processing Stages

S. No	Safety device	Equipment
Material Storage		
1	Safety valves/Rupture discs	Acetaldehyde storage tank.
2	Pressure sensor & high Pressure alarm	Acetaldehyde storage tank.
3	Level transmitter & Local level gauges	Acetaldehyde storage tank.
4	Ultrasonic level gauges & local level gauges & high level alarms.	Formaldehyde & Methanol storage tanks.
5	Gas sensors	Acetaldehyde/Methanol main tanks.
Formaldehyde Plant		
6	Safety valves, Rupture discs, level controllers & Temperature controllers.	Carburettor, Reactor
Penta Plant		
7	Safety valves, Level Sensors & controllers Flow Sensors & controllers Temperature Sensors & controllers.	Stripper distillation column, Evaporator. Pure crystallizer Crude crystallizer Oslo crystallizer.
8	Explosion vent	Fluidized Bed dryer.

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Boiler		
9	Safety valve, load controllers & pressure controllers.	Steam drum.
Air Compressors		
10	Safety valves	Air receiver.
Plant-Fire Alarm system		
11	Smoke Detectors	Administration Block, All control rooms, All MCC rooms, Process areas
12	Manual Call Points	All Raw Material Storage tank areas, Process areas

ANNEXURE – 11

LIST OF MEMORY DIAL NUMBERS / EMERGENCY NUMBERS

S.No.	Contact Person	Designation	Memory Dial No.	LAN/Mobile No.
1	B Rajendra babu	General Works Manager	6620	9866833199
2	P.Jayakanthan	Senior manager - Production	6622	9488026114
3	P.Jayakanthan(Residence)	Senior manager - Production	6627	211289
4	NA	Senior manager - Engineering	6621	8903324862
5	NA	Senior manager - Engineering	6625	9825669163
6	NA	Senior manager - Engineering	6624	236363
7	S.Sampath kumar	Manager - Technical Service	6644	9445206652
8	S.Senthilkumaran	Manager - QA	6645	9942842483
9	S.Saravanan	Manager - Production	6640	9442209025
10	Alkesh Modi	Manager - Engineering	6637	9825891063
11	M.Arun kumar	Executive - Production	6658	9843457741
12	S.Karthikeyan	Executive - HR	6657	8754666560
13	KV.Praseed	Executive - Accounts	6641	9047045775
14	Dev anand	Engineer - Electrical	6638	9944462384
15	P.Sivamurugan	Engineer - Electrical	6646	9443431586
16	A.Balan	Engineer - Production	6667	9688413088
17	Priyesh	Engineer - Mechanical	6656	8129013387
18	Praveen Kumar V	Engineer - Instrumentation	6630	9043190390

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19	R.Rajesh	Engineer - Production	6671	9445418650
20	Parthiban	Engineer - Mechanical	6632	9788779460
21	Bhoopalan	Engineer - Production	6673	9962609397
22	Devaganesh	Engineer - Safety	6666	9940358163
23	K. Marimuthu	Senior Officer - QA	6647	9486581410
24	Ravindran	Senior Officer - Lab	6648	9943055464
25	Gangadharan	Officer - HR	6664	8608631298
26	Dr. Rudan	Doctor	6653	9843252627
27	CSO	Security Officer	6655	
28	Canteen Owner	Canteen Owner	6665	9994935030
29	Semmankuppam SS	Sub-Station	6635	239276
30	SIPCOT Project Office	SIPCOT Office	6662	239236
31	Police Station - OT	Police Station	6650	297681
32	Fire Station - Sipcot	Fire Station	6651	239242
33	Kannan Hospital	Hospital	6652	230370
	Emergency Control Centre			234, 242, 243

ANNEXURE – 12

List of Intercom Numbers

Sl.No.	Contact Person	No's	Sl.No.	Contact Person	No's
1	General Manager	220	31	Penta Control Room	234
2	B Rajendra babu	310	32	Penta Control Room	243
3	P.Jayakanthan	232	33	SF Control room	249
4	NA	233	34	Deioniser	225
5	S.Sampath kumar	226	35	Mono Di Control Room	257
6	S.Senthilkumaran	250	36	Mono Di Ground Floor	262
7	S.Saravanan	223	37	FA Plant Control Room	247
8	Alkesh Modi	266	38	Boiler Control room	240
9	M.Arun kumar	276	39	Bagging Section	258
10	S.Karthikeyan	231	40	Mechanical Workshop	237
11	KV.Praseed	263	41	Instrument Workshop	267
12	Dev anand	296	42	OHC	270

13	P.Sivamurugan	293	43	LT Room	236
14	Balan	273	44	MCC - 2A/2B	280
15	Priyesh	290	45	QA Lab	235
16	Praveen Kumar V	297	46	WTP	253
17	R.Rajesh	282	47	ETP/RO	254
18	Parthiban	295	48	Coal Shed	279
19	Devaganesh	300	49	FireHydrant/Contract shed	256
20	K.Marimuthu	274	50	Sarathy Contract Shed	248
21	Ravindran	264	51	Paging Dedicated Line	265
22	R.Prabhakaran / Baskar	268	52	Admin Office - Contract	281
23	Gangadharan	222	53	Employee rest room	301
24	Srinivasan	278	54	FA Plant control room - 2	272
25	Balamurugan	284	55	FA Plant MCC room	271
26	Santhosh	252	56	Main Gate	244
27	Admin Time office	242	57	Second Main Gate	288
28	Stores	238	58	Canteen	246
29	Shift Process Engineers	285	59	Conference Hall	221
30	Engineering Supervisors	255	60	Admin front Office	251

ANNEXURE – 13

Composition of Emergency Response Team Fire Fighting Team

Sl.No	Name	Department	Designation	Contact Number
1	K Marimuthu	QA	Sr. Executive-QA	9486581410
2	M Ramanathan	QA	Executive-QA	9344709699
3	K Kamaraj	Engineering	Executive-Electrical	9865049409
4	Sathish Kumar K	Engineering	Electrician	9003070884
5	K Ramesh	Engineering	Boiler operator	9790219117
6	K Veeraragavalu	Engineering	Electrician	9443445016
7	A Idhayadullah	QA	Executive-QA	9025372949
8	G Girisankar	QA	Executive-QA	9865537537
9	K Dhanasekaran	QA	Executive-QA	8760711145

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10	V.SIVAKUMAR	QA	Executive-QA	9842040136
11	M Jothipandian	Production	Process Operator	9043378982
12	K Gunasekaran	Production	Process Operator	9344701438
13	S Somasundram	ETP / WTP	Utility Operator	9443185627
14	K Ragothaman	Production	Process Operator	9865622352
15	St Sivakumar	ETP / WTP	Utility Operator	8939730106
16	S Mohan	Production	Process Operator	9344701423
17	S Sakthivel	Production	Process Operator	9751883629
18	K Sakthivel	Engineering	Instrumentation Technician	9789157325

FIRST AID TEAM

Sl.No	Name	Department	Designation	Contact Number
1	M Arunkumar	Production	Asst.Manager- Production	9843457741
2	KV Praseed	ADMN	Asst.Manager- Plant Accounts	9047045775
3	R Udayakumar	Production	Process Operator	9843038157
4	S Deiveegan	Production	Process Operator	9865019063
5	G Kamalpatham	Production	Process Operator	9600618047
6	R Dhashinamurthy	Production	Process Operator	9688044852
7	Vk Rajendran	Production	Process Operator	9865179015
8	C Parthasarathi	Engineering	Boiler operator	9965121518
9	P Thirumalai	Production	Process Operator	7550341117
10	M Kumar	Production	Process Operator	8015122601
11	N Balasubramani	Production	Process Operator	9442235354
12	J Muthukumar	ETP / WTP	Utility Operator	9159145139
13	S Muthu	Production	Process Operator	9942857187
14	R Saravanan	Production	Process Operator	9842709635
15	C Vasu	Production	Process Operator	9566791841
16	K Nagarajan	Engineering	Boiler operator	9965652524
17	R Devanathan	Production	Process Operator	9487323143
18	N Paramaguru	Production	Process Operator	9095078663

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19	S Raja	Production	Process Operator	9715105868
20	R Thillainayagam	Production	Process Operator	9790352862
21	D Vijayakumar	Production	Process Operator	9442423639
22	K Shankar	Production	Process Operator	9865544456

ENGINEERING TEAM

Sl.No	Name	Department	Designation	Contact Number
1	S Sampathukumar	Technical Services	Manager-Technical services	9445206652
2	S. Senthil Kumar	Production	Manager-Production	9942842483
3	Er Ramesh	Engineering	Boiler operator	9865203843
4	K Raja	Engineering	Executive-Mechanical	9597670040
5	V Velmurugan	Engineering	Executive-Mechanical	9578471070
6	A Ulaganathan	Engineering	Executive-Mechanical	9943556689
7	C Vaithyanathan	ETP / WTP	Utility Operator	9442746397
8	S Ravi	Engineering	Electrician	9150336459
9	R Duraikannan	Engineering	Instrumentation Technician	9842631841
10	R Senthilkumar	Production	Process Operator	9003417785
11	M Sakthivel	Engineering	Executive-Instrumentation	9092461266; 9865184383
12	K BALACHANDRAN	Engineering	Electrician	9159833695
13	D Sampathkumar	Engineering	Electrician	9790282877
14	K Nandagopalan	Engineering	Electrician	9994258280
15	T VINOTH	Engineering	Fitter	9344119554
16	A ANANDABABU	Engineering	Boiler operator	9894316518
17	R GOBU	Engineering	Boiler operator	9600637024

EVACUATION AND SALVAGE OPERATION TEAM / SUPPORT TEAM

Sl.No	Name	Department	Designation	Contact Number
1	Alkesh Modi	Engineering	Manager-Plant Engineering	9825897063
2	P Elangovan	Engineering	Instrumentation Technician	9791796266
3	G Satheesh Babu	Engineering	Stores Technician	9443878423
4	G Srinivasan	Production	Process Operator	9042306562
5	D Bharath	Engineering	Instrumentation Technician	9942249901
6	E Isravel Reegan	ETP / WTP	Utility Operator	9843603397
7	M Sadeesh	Production	Process Operator	9655498369
8	R Selvaraj	Engineering	Boiler operator	9994483570
9	J VINOTH	Production	Process Operator	9952798749
10	R Shanmugam	Engineering	Electrician	9751112945
11	Venkatachalapathy	Production	Process Operator	8344473264
12	A Anbarasan	Engineering	Fitter	9524763123
13	R Hariharan	Production	Process Operator	8608226682
14	D Siva	Production	Process Operator	9566803007
15	K Silambarasan	Engineering	Instrumentation Technician	9626577747
16	S Purushothaman	Production	Process Operator	9789646375
17	R Subash Babu	Engineering	Boiler operator	9244446514
18	V Jaganathan	Production	Process Operator	9952551608

SECURITY TEAM

Sl.No	Name	Department	Designation	Contact Number
1	S Karthikeyan	ADMN	Asst.Manager-Plant Personnel	8754666566
2	R Saravanan	Production	Process Operator	9789619422
3	J Vijayabalan	Production	Process Operator	9566793519

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4	S Sathish	Engineering	Fitter	8056781162
5	K Prathab	Production	Process Operator	9944424595
6	N .Parasuraman	Production	Process Operator	9965296708
7	S Sudhagar	Engineering	Boiler operator	8870975782
8	V Sathish	Production	Process Operator	9750850512

Notes:

Depending upon the nature of emergency, the Site Incident Controller/ Safety Officer is authorized to mobilize additional manpower or allot additional responsibilities to combat the emergency.



Annexure – 14

Mutual Aid Agreement



SLIP NO 6 TAMIL NADU V. 3 24AB 053180
Rs. 20
1999E
21/9/16
Strides Shasun Ltd
Cuddalore
V. BAKTHASENAN
R.O. No 16168/31/05-8

Mutual Aid Agreement

Mutual Aid Response on Emergency

Objective

To seek mutual help in the event of emergency by sharing the resources and skilled manpower available with the respective company.

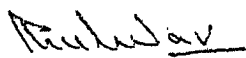
1. In the event of an emergency, Asian Paints Limited, SIPCOT Industrial Complex, Kudikadu, Cuddalore 607005 and the Strides Shasun Limited, SIPCOT Industrial Complex, Kudikadu, Cuddalore 607005 will come forward for mutual help by sharing the resources of Arrangement of Ambulance and Medical team, Fire Fighting team and provision of Fire Fighting equipments, Ensuring alertness to take care of any exigency in the plants/factories located nearby, Co-ordinate with the team for proper Evacuation including arrangement of Transportation at the time of emergency.

2. In case of an emergency, the Security- in-charge of the respective company will inform their Unit Head and on the basis of the nature and extent of the situation, the Unit Head will seek the above resources from the other company and both the companies hereby agree to this agreement.

3. The names and addresses and telephone number of the Unit Head are as given below;

S.No	Company	Strides Shasun Limited	Asian Paints Limited
1	Name of the Unit head	Mr.P.Velmurugan	Mr.K.Thulasheedharan Nair
2	Address	No.206, A-Block, Srinivas towers, Ajis Nagar, Reddayarpalayam, Puducherry	B5-B10,Sipcot Industrial Complex, Kudikadu Village,Cuddalore-607005
3	Telephone Number	04142-285502	04142-239247,248,423
4	Mobile Number	7373730991	9825411578

For Asian Paints Limited



Authorized Signatory

ASIAN PAINTS LIMITED,
B5, SIPCOT Indl. Complex,
KUDIKADU,
CUDDALORE - 607 005.

For Strides Shasun Limited



Authorized Signatory

MR. STRIDES SHASUN LIMITED,
B5, SIPCOT Industrial Complex,
Kudikadu Village,
CUDDALORE - 607 005.



தமிழ்நாடு தமில்நாடு TAMILNADU No. 13071

AH 154618

Rs. 50/-

13-5-2015

Asian paints
Cuddalore

S. RADHAKRISHNAN,
STAMP VENDOR,
L. NO. 97,
Manjakuppam, Cuddalore-1,
Tamilnadu

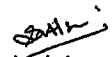
MUTUAL AID RESPONSE ON EMERGENCY

THIS AGREEMENT made this 13th day of May 2015 between M/s. ASIAN PAINTS LIMITED having its Factory at Plot No-B5- B10, Sipcot Industrial Complex, Kudikadu, Cuddalore-607005 (herein referred to as ASIAN PAINTS), M/s. TANFAC INDUSTRIES LIMITED having its Factory at Sipcot Industrial Complex, Cuddalore-607005 (herein referred to as TANFAC), M/s. BAYER MATERIAL SCIENCE PRIVATE LIMITED, having its Factory at SIPCOT INDUSTRIAL COMPLEX, Cuddalore-607005 (herein referred to as BAYER), M/s. TAGROS CHEMICALS INDIA LIMITED having its Factory at SIPCOT INDUSTRIAL COMPLEX, Cuddalore-607005 (herein referred to as TAGROS), M/s. CHEMPLAST SANMAR LIMITED having its Factory at SIPCOT INDUSTRIAL COMPLEX, Cuddalore-607005 (herein referred to as CHEMPLAST SANMAR),

3412

NOW IT IS HEREBY AGREED AND BETWEEN THE FIVE PARTIES HERETO FOLLOWS:-

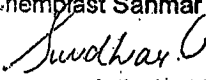
For ASIAN PAINTS LIMITED


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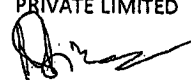
For TANFAC INDUSTRIES LIMITED

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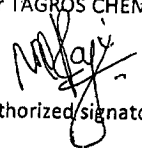
For CHEMPLAST SANMAR LIMITED
for Chemplast Sanmar Limited


Authorised Signatory
Authorized signatory

For BAYER MATERIAL SCIENCE
PRIVATE LIMITED


Authorized signatory

For TAGROS CHEMICALS INDIA LIMITED


Authorized signatory

Objective:-

To seek mutual help in the event of an emergency by sharing relevant available resources between the five companies.

TANFAC INDUSTRIES LIMITED is having the following facilities:

- | | | |
|---|---|--------|
| 1) Ambulance | - | 1 No |
| 2) Stretchers | - | 2 No's |
| 3) Oxygen Cylinder | - | 3 No's |
| 4) SCBA set | - | 2 No's |
| 5) All PPEs(Gloves, Helmet, Goggles, Shoes, Masks, Suit etc.. relevant to industry) | | |

ASIAN PAINTS LIMITED is having the following facilities:

- | | | |
|---|---|--------|
| 1) Ambulance | - | 1 No |
| 2) Stretchers | - | 1 No |
| 3) Oxygen Cylinder | - | 1 No |
| 4) SCBA set | - | 2 No's |
| 5) All PPEs(Gloves, Helmet, Goggles, Shoes, Masks, Suit etc.. relevant to industry) | | |

BAYER MATERIAL SCIENCE PRIVATE LIMITED is having the following facilities:

- | | | |
|---|---|--------|
| 1) Ambulance | - | NIL |
| 2) Stretchers | - | 1 No |
| 3) Oxygen Cylinder | - | 1 No |
| 4) SCBA set | - | 4 No's |
| 5) All PPEs(Gloves, Helmet, Goggles, Shoes, Masks, Suit etc.. relevant to industry) | | |

TAGROS CHEMICALS INDIA LIMITED is having the following facilities:

- | | | |
|---|---|--------|
| 1) Ambulance | - | 1 No |
| 2) Stretchers | - | 6 No |
| 3) Oxygen Cylinder | - | 3 No |
| 4) SCBA set | - | 4 No's |
| 5) All PPEs(Gloves, Helmet, Goggles, Shoes, Masks, Suit etc.. relevant to industry) | | |

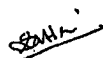
CHEMPLAST SANMAR LIMITED is having the following facilities:

- | | | |
|---|---|--------|
| 1) Ambulance | - | 1 No |
| 2) Stretchers | - | 1 No |
| 3) Oxygen Cylinder | - | 1 No |
| 4) SCBA set | - | 7 No's |
| 5) All PPEs(Gloves, Helmet, Goggles, Shoes, Masks, Suit etc.. relevant to industry) | | |

In the event of an emergency, ASIAN PAINTS, TANFAC, BAYER, CHEMPLAST SANMAR and TAGROS will come forward for mutual help by sharing the resources of Water, Man power, Medical aid, Ambulance services, Personal Protective Equipment's, Fire fighting men and Equipment's, Communication channels available at the time of emergency.

In case of emergency, the Incident controller of the respective company will inform their Site controller and on the basis of the nature and extent of the situation, the site controller will seek the resources from all the other companies as hereby agreed to this agreement. Maintenance of all the equipment's to be used for mutual aid purposes will be done by the respective industry at its own cost and expenses.

For ASIAN PAINTS LIMITED



Authorized signatory

For TANFAC INDUSTRIES LIMITED

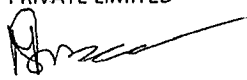
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For CHEMPLAST SANMAR LIMITED

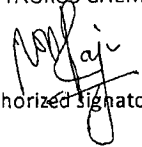
for Chemplast Sanmar Limited


Authorized signatory

For BAYER MATERIAL SCIENCE
PRIVATE LIMITED


Authorized signatory

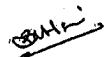
For TAGROS CHEMICALS INDIA LIMITED


Authorized signatory

Name, Address and Telephone numbers of the site controller is given below:

S.NO	COMPANY	ASIAN PAINTS LTD	TANFAC INDUSTRIES LTD	BAYER MATERIAL SCIENCE PRIVATE LTD	TAGROS CHEMICALS INDIA LTD	CHEMPLAST SANMAR LTD
1	Name of the site controller	TCN.Sai Krishnan	R.Harihara Putharan	M.Sivaprakasam	M.Nagarajan	J.Sridhar
2	Address	Asian paints ltd, B5-B10 SIPCOT Industrial Complex, Kudikadu, Cuddalore-607005	Tanfacs Industries Limited, 14, SIPCOT Industrial Complex, Kudikadu, Cuddalore - 607005	Bayer Material Science Private Limited, Semmankuppam village, Cuddalore - 607005	A4/1 & A4/2, SIPCOT Industrial complex, Panchayan kuppam, Cuddalore-607005	149, la France villa, Pillaiyarkuppam main road Pillaiyar Kuppam, Bahu r Panchayat, Puducherry - 607402
3	Telephone No	04142-239243	04142-239005	04142-239913	04142-239373	04142-239680
4	Mobile No	8903136100	9092008000	9677008389	9360221513	9944931421

For ASIAN PAINTS LIMITED


Authorized signatory

For TANFAC INDUSTRIES LIMITED

Authorized signatory

For CHEMPLAST SANMAR LIMITED

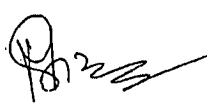
for Chemplast Sanmar Limited


Authorized Signatory

Authorized signatory

For BAYER MATERIAL SCIENCE

PRIVATE LIMITED



Authorized signatory

For TAGROS CHEMICALS INDIA LIMITED

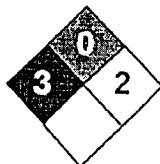

Authorized signatory



Annexure - 15

Material Safety Data Sheet

Material Safety Data Sheet- Sulfuric acid



Health	3
Fire	0
Reactivity	2
Personal Protection	

Section 1: Chemical Product and Company Identification

Product Name: Sulfuric acid

CAS#: 7664-93-9

RTECS: WS5600000

TSCA: TSCA 8(b) inventory: Sulfuric acid

CI#: Not applicable.

Synonym: Oil of Vitriol; Sulfuric Acid

Chemical Name: Hydrogen sulfate

Chemical Formula: H₂-SO₄

Contact Information:

Asian Paints Limited

B5-B10, Sipcot Industrial Complex

Kudikadu,

Cuddalore-607005.

24HR Emergency Telephone, call:

+91 4142-239247, 239248, 239423

Fax: +91 4142 239234

Section 2: Composition and Information on Ingredients

Composition:

Name	CAS #	% by Weight
Sulfuric acid	7664-93-9	95 - 98

Toxicological Data on Ingredients: Sulfuric acid: ORAL (LD50): Acute: 2140 mg/kg [Rat]. VAPOR (LC50): Acute: 510 mg/m 2 hours [Rat]. 320 mg/m 2 hours [Mouse].

Section 3: Hazards Identification

Potential Acute Health Effects:

Very hazardous in case of skin contact (corrosive, irritant, permeator), of eye contact (irritant, corrosive), of ingestion, of inhalation. Liquid or spray mist may produce tissue damage particularly on mucous membranes of eyes, mouth and respiratory tract. Skin contact may produce burns. Inhalation of the spray mist may produce severe irritation of respiratory tract, characterized by coughing, choking, or shortness of breath. Severe over-exposure can result in death. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.

Potential Chronic Health Effects:

CARCINOGENIC EFFECTS: Classified 1 (Proven for human.) by IARC, + (Proven.) by OSHA. Classified A2 (Suspected for human.) by ACGIH. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. The substance may be toxic to kidneys, lungs, heart, cardiovascular system, upper respiratory tract, eyes, teeth. Repeated or prolonged exposure to the substance can produce target organs damage. Repeated or prolonged contact with spray mist may produce chronic eye irritation and severe skin irritation. Repeated or prolonged exposure to spray mist may produce respiratory tract irritation leading to frequent attacks of bronchial infection. Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

Section 4: First Aid Measures**Eye Contact:**

Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention immediately.

Skin Contact:

In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

Serious Skin Contact:

Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention.

Inhalation:

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

Serious Inhalation:

Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. WARNING: It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek immediate medical attention.

Ingestion:

Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms appear.

Serious Ingestion: Not available.

Section 5: Fire and Explosion Data

Flammability of the Product: Non-flammable.

Auto-Ignition Temperature: Not applicable.

Flash Points: Not applicable.

Flammable Limits: Not applicable.

Products of Combustion:

Products of combustion are not available since material is non-flammable. However, products of decomposition include fumes of oxides of sulfur. Will react with water or steam to produce toxic and corrosive fumes. Reacts with carbonates to generate carbon dioxide gas. Reacts with cyanides and sulfides to form poisonous hydrogen cyanide and hydrogen sulfide respectively.

Fire Hazards in Presence of Various Substances: Combustible materials

Explosion Hazards in Presence of Various Substances:

Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available. Slightly explosive in presence of oxidizing materials.

Fire Fighting Media and Instructions: Not applicable.

Special Remarks on Fire Hazards:

Metal acetylides (Monocesium and Monorubidium), and carbides ignite with concentrated sulfuric acid. White Phosphorous + boiling Sulfuric acid or its vapor ignites on contact. May ignite other combustible materials. May cause fire when sulfuric acid is mixed with Cyclopentadiene, cyclopentanone oxime, nitroaryl amines, hexalithium disilicide, phosphorous (III) oxide, and oxidizing agents such as chlorates, halogens, permanganates.

Special Remarks on Explosion Hazards:

Mixtures of sulfuric acid and any of the following can explode : p-nitrotoluene, penta silver trihydroxydiaminophosphate, perchlorates, alcohols with strong hydrogen peroxide, ammonium tetraperoxychromate, mercuric nitrite, potassium chlorate, potassium permanganate with potassium chloride, carbides, nitro compounds, nitrates, carbides, phosphorous, iodides, picrates, fulminats, dienes, alcohols (when heated) Nitramide decomposes explosively on contact with concentrated sulfuric acid. 1,3,5-Trinitrosohexahydro-1,3,5-triazine + sulfuric acid causes explosive decomposition.

Section 6: Accidental Release Measures

Small Spill:

Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container. If necessary: Neutralize the residue with a dilute solution of sodium carbonate.

Large Spill:

Corrosive liquid. Poisonous liquid. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Do not get water inside container. Do not touch spilled material. Use water spray curtain to divert vapor drift. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. Neutralize the residue with a dilute solution of sodium carbonate. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Section 7: Handling and Storage

Precautions:

Keep locked up. Keep container dry. Do not ingest. Do not breathe gas/fumes/ vapor/spray. Never add water to this product. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing



agents, reducing agents, combustible materials, organic materials, metals, acids, alkalis, moisture. May corrode metallic surfaces. Store in a metallic or coated fiber board drum using a strong polyethylene inner package.

Storage:

Hygroscopic. Reacts. violently with water. Keep container tightly closed. Keep container in a cool, well-ventilated area. Do not store above 23°C (73.4°F).

Section 8: Exposure Controls/Personal Protection

Engineering Controls:

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.

Personal Protection:

Face shield. Full suit. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves. Boots.

Personal Protection in Case of a Large Spill:

Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits:

TWA: 1 STEL: 3 (mg/m³) [Australia] Inhalation TWA: 1 (mg/m³) from OSHA (PEL) [United States] Inhalation TWA: 1 STEL: 3 (mg/m³) from ACGIH (TLV) [United States] [1999] Inhalation TWA: 1 (mg/m³) from NIOSH [United States] Inhalation TWA: 1 (mg/m³) [United Kingdom (UK)] Consult local authorities for acceptable exposure limits.

Section 9: Physical and Chemical Properties

Physical state and appearance: Liquid. (Thick oily liquid.)

Odor: Odorless, but has a choking odor when hot.

Taste: Marked acid taste. (Strong.)

Molecular Weight: 98.08 g/mole

Color: Colorless.

pH (1% soln/water): Acidic.

Boiling Point:

270°C (518°F) - 340 deg. C Decomposes at 340 deg. C

Melting Point: -35°C (-31°F) to 10.36 deg. C (93% to 100% purity)

Critical Temperature: Not available.

Specific Gravity: 1.84 (Water = 1)

Vapor Pressure: Not available.

Vapor Density: 3.4 (Air = 1)

Volatility: Not available.

Odor Threshold: Not available.

Water/Oil Dist. Coeff.: Not available.

Ionicity (in Water): Not available.

Dispersion Properties: See solubility in water.

Solubility:

Easily soluble in cold water. Sulfuric is soluble in water with liberation of much heat. Soluble in ethyl alcohol.

Section 10: Stability and Reactivity Data

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability:

Conditions to Avoid: Incompatible materials, excess heat, combustible material materials, organic materials, exposure to moist air or water, oxidizers, amines, bases. Always add the acid to water, never the reverse.

Incompatibility with various substances:

Reactive with oxidizing agents, reducing agents, combustible materials, organic materials, metals, acids, alkalis, moisture.

Corrosivity:

Extremely corrosive in presence of aluminum, of copper, of stainless steel(316). Highly corrosive in presence of stainless steel(304). Non-corrosive in presence of glass.

Special Remarks on Reactivity:

Hygroscopic. Strong oxidizer. Reacts violently with water and alcohol especially when water is added to the product. Incompatible (can react explosively or dangerously) with the following: ACETIC ACID, ACRYLIC ACID, AMMONIUM HYDROXIDE, CRESOL, CUMENE, DICHLOROETHYL ETHER, ETHYLENE CYANOHYDRIN, ETHYLENEIMINE, NITRIC ACID, 2-NITROPROPANE, PROPYLENE OXIDE, SULFOLANE, VINYLIDENE CHLORIDE, DIETHYLENE GLYCOL MONOMETHYL ETHER, ETHYL ACETATE, ETHYLENE CYANOHYDRIN, ETHYLENE GLYCOL MONOETHYL ETHER ACETATE, GLYOXAL, METHYL ETHYL KETONE, dehydrating agents, organic materials, moisture (water), Acetic anhydride, Acetone, cyanohydrin, Acetone+nitric acid, Acetone + potassium dichromate, Acetonitrile, Acrolein, Acrylonitrile, Acrylonitrile +water, Alcohols + hydrogen peroxide, ally compounds such as Allyl alcohol, and Allyl Chloride, 2-Aminoethanol, Ammonium hydroxide, Ammonium triperchromate, Aniline, Bromate + metals, Bromine pentafluoride, n-Butyraldehyde, Carbides, Cesium acetylene carbide, Chlorates, Cyclopentanone oxime, chlorinates, Chlorates + metals, Chlorine trifluoride, Chlorosulfonic acid, 2-cyano-4-nitrobenzenediazonium hydrogen sulfate, Cuprous nitride, p-chloronitrobenzene, 1,5-Dinitronaphthlene + sulfur, Diisobutylene, p-dimethylaminobenzaldehyde, 1,3-Diazidobenzene, Dimethylbenzylcarbinol + hydrogen peroxide, Epichlorohydrin, Ethyl alcohol + hydrogen peroxide, Ethylene diamine, Ethylene glycol and other glycols, , Ethenimine, Fulminates, hydrogen peroxide, Hydrochloric acid, Hydrofluoric acid, Iodine heptafluoride, Indane + nitric acid, Iron, Isoprene, Lithium silicide, Mercuric nitride, Mesityl oxide, Mercury nitride, Metals (powdered), Nitromethane, Nitric acid + glycerides, p-Nitrotoluene, Pentasilver trihydroxydiaminophosphate, Perchlorates, Perchloric acid, Permanganates + benzene, 1-Phenyl-2-methylpropyl alcohol + hydrogen peroxide, Phosphorus, Phosphorus isocyanate, Picrates, Potassium tert-butoxide, Potassium chlorate, Potassium Permanganate and other permanganates, halogens, amines, Potassium Permanganate + Potassium chloride, Potassium Permanganate + water, Propiolactone (beta)-, Pyridine, Rubidium acetylene carbide, Silver permanganate, Sodium, Sodium carbonate, sodium hydroxide, Steel, styrene monomer, toluene + nitric acid, Vinyl acetate, Thallium (I) azidodithiocarbonate, Zinc chlorate, Zinc Iodide, azides, carbonates, cyanides, sulfides, sulfites, alkali hydrides, carboxylic acid anhydrides, nitriles, olefinic organics, aqueous acids, cyclopentadiene, cyano-alcohols, metal acetylides, Hydrogen gas is generated by the action of the acid on most metals (i.e. lead, copper, tin, zinc, aluminum, etc.). Concentrated sulfuric acid oxidizes, dehydrates, or sulfonates most organic compounds.

Special Remarks on Corrosivity:

Non-corrosive to lead and mild steel, but dilute acid attacks most metals. Attacks many metals releasing hydrogen. Minor corrosive effect on bronze. No corrosion data on brass or zinc.

Polymerization: Will not occur.

Section 11: Toxicological Information

Routes of Entry: Absorbed through skin. Dermal contact. Eye contact. Inhalation. Ingestion.

Toxicity to Animals:

WARNING: THE LC50 VALUES HEREUNDER ARE ESTIMATED ON THE BASIS OF A 4-HOUR EXPOSURE. Acute oral toxicity (LD50): 2140 mg/kg [Rat.]. Acute toxicity of the vapor (LC50): 320 mg/m³ 2 hours [Mouse].

Chronic Effects on Humans:

CARCINOGENIC EFFECTS: Classified 1 (Proven for human.) by IARC, + (Proven.) by OSHA. Classified A2 (Suspected for human.) by ACGIH. May cause damage to the following organs: kidneys, lungs, heart, cardiovascular system, upper respiratory tract, eyes, teeth.

Other Toxic Effects on Humans:

Extremely hazardous in case of inhalation (lung corrosive). Very hazardous in case of skin contact (corrosive, irritant, permeator), of eye contact (corrosive), of ingestion.

Special Remarks on Toxicity to Animals: Not available.

Special Remarks on Chronic Effects on Humans:

Mutagenicity: Cytogenetic Analysis: Hamster, ovary = 4mmol/L Reproductive effects: May cause adverse reproductive effects based on animal data. Developmental abnormalities (musculoskeletal) in rabbits at a dose of 20 mg/m³ for 7 hrs.(RTECS) Teratogenicity: neither embryotoxic, fetotoxic, nor teratogenic in mice or rabbits at inhaled doses producing some maternal toxicity

Special Remarks on other Toxic Effects on Humans:

Acute Potential Health Effects: Skin: Causes severe skin irritation and burns. Continued contact can cause tissue necrosis. Eye: Causes severe eye irritation and burns. May cause irreversible eye injury. Ingestion: Harmful if swallowed. May cause permanent damage to the digestive tract. Causes gastrointestinal tract burns. May cause perforation of the stomach, GI bleeding, edema of the glottis, necrosis and scarring, and sudden circulatory collapse(similar to acute inhalation). It may also cause systemic toxicity with acidosis. Inhalation: May cause severe irritation of the respiratory tract and mucous membranes with sore throat, coughing, shortness of breath, and delayed lung edema. Causes chemical burns to the respiratory tract. Inhalation may be fatal as a result of spasm, inflammation, edema of the larynx and bronchi, chemical pneumonitis, and pulmonary edema. Cause corrosive action on mucous membranes. May affect cardiovascular system (hypotension, depressed cardiac output, bradycardia). Circulatory collapse with clammy skin, weak and rapid pulse, shallow respiration, and scanty urine may follow. Circulatory shock is often the immediate cause of death. May also affect teeth(changes in teeth and supporting structures - erosion, discoloration). **Chronic Potential Health Effects:** Inhalation: Prolonged or repeated inhalation may affect behavior (muscle contraction or spasticity), urinary system (kidney damage), and cardiovascular system, heart (ischemic heart lesions), and respiratory system/lungs(pulmonary edema, lung damage), teeth (dental discoloration, erosion). Skin: Prolonged or repeated skin contact may cause dermatitis, an allergic skin reaction.

Section 12: Ecological Information

Ecotoxicity: Ecotoxicity in water (LC50): 49 mg/l 48 hours [bluegill/sunfish].

BOD5 and COD: Not available.

Products of Biodegradation:

Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The products of degradation are less toxic than the product itself.

Special Remarks on the Products of Biodegradation: Not available.

Section 13: Disposal Considerations

Waste Disposal:

Sulfuric acid may be placed in sealed container or absorbed in vermiculite, dry sand, earth, or a similar material. It may also be diluted and neutralized. Be sure to consult with local or regional authorities (waste regulators) prior to any disposal. Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Section 14: Transport Information

DOT Classification: Class 8: Corrosive material

Identification: : Sulfuric acid UNNA: 1830 PG: II

Special Provisions for Transport: Not available.

Section 15: Other Regulatory Information

Federal and State Regulations:

Other Regulations:

OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

Other Classifications:

WHMIS (Canada):

CLASS D-1A: Material causing immediate and serious toxic effects (VERY TOXIC). CLASS E: Corrosive liquid.

DSCL (EEC):

R35- Causes severe burns. S2- Keep out of the reach of children. S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S30- Never add water to this product. S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

HMIS (U.S.A.):

Health Hazard: 3

Fire Hazard: 0

Reactivity: 2

Personal Protection:

National Fire Protection Association (U.S.A.):

Health: 3

Flammability: 0

Reactivity: 2

Specific hazard:



Protective Equipment:

Gloves. Full suit. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Face shield.

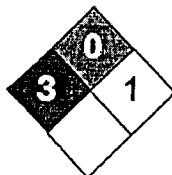
Section 16: Other Information

Other Special Considerations: Not available.

Created: 10/09/2005 11:58 PM

Last Updated: 05/21/2013 12:00 PM

Material Safety Data Sheet- Sodium hydroxide



Health	3
Fire	0
Reactivity	2
Personal Protection	J

Section 1: Chemical Product and Company Identification

Product Name: Sodium hydroxide

CAS#: 1310-73-2

RTECS: WB4900000

TSCA: TSCA 8(b) inventory: Sodium hydroxide

CI#: Not available.

Synonym: Caustic Soda

Chemical Name: Sodium Hydroxide

Chemical Formula: NaOH

Contact Information:

Asian Paints Limited

B5-B10, SIPCOT Industrial Complex

Kudikadu,

Cuddalore-607005.

24HR Emergency Telephone, call:

+91 4142-239247, 239248, 239423

Fax: +91 4142 239234

Section 2: Composition and Information on Ingredients

Composition:

Name	CAS #	% by Weight
Sodium hydroxide	1310-73-2	100

Toxicological Data on Ingredients: Sodium hydroxide LD50: Not available. LC50: Not available.

Section 3: Hazards Identification

Potential Acute Health Effects:

Very hazardous in case of skin contact (corrosive, irritant, permeator), of eye contact (irritant, corrosive), of ingestion, of inhalation. The amount of tissue damage depends on length of contact. Eye contact can result in corneal damage or blindness. Skin contact can produce inflammation and blistering. Inhalation of dust will produce irritation to gastro-intestinal or respiratory tract, characterized by burning, sneezing and coughing. Severe over-exposure can produce lung damage, choking, unconsciousness or death. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.

Potential Chronic Health Effects:

CARCINOGENIC EFFECTS: Not available. **MUTAGENIC EFFECTS:** Mutagenic for mammalian somatic cells. **TERATOGENIC EFFECTS:** Not available. **DEVELOPMENTAL TOXICITY:** Not available. The substance may be toxic to mucous membranes, upper respiratory tract, skin, eyes. Repeated or prolonged exposure to the substance can produce target organs damage. Repeated exposure of the eyes to a low level of dust can produce eye irritation. Repeated skin exposure can produce local skin destruction, or dermatitis. Repeated inhalation of dust can produce varying degree of respiratory irritation or lung damage.

Section 4: First Aid Measures

Eye Contact:

Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention immediately.

Skin Contact:

In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

Serious Skin Contact:

Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek medical attention.

Inhalation:

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

Serious Inhalation:

Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. **WARNING:** It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek immediate medical attention.

Ingestion:

Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

Serious Ingestion: Not available.

Section 5: Fire and Explosion Data

Flammability of the Product: Non-flammable.

Auto-Ignition Temperature: Not applicable.

Flash Points: Not applicable.

Flammable Limits: Not applicable.

Products of Combustion: Not available.

Fire Hazards in Presence of Various Substances: metals

Explosion Hazards in Presence of Various Substances:

Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available. Slightly explosive in presence of heat.

Fire Fighting Media and Instructions: Not available

Special Remarks on Fire Hazards:

sodium hydroxide + zinc metal dust causes ignition of the latter. Under proper conditions of temperature, pressure and state of division, it can ignite or react violently with acetaldehyde, allyl alcohol, allyl chloride, benzene-1,4-diol, chlorine trifluoride, 1,2-dichloroethylene, nitroethane, nitromethane, nitroparaffins, nitropropane, cinnamaldehyde, 2,2-dichloro-3,3-dimethylbutane. Sodium hydroxide in contact with water may generate enough heat to ignite adjacent combustible materials. Phosphorous boiled with NaOH yields mixed phosphines which may ignite spontaneously in air. sodium hydroxide and cinnamaldehyde + heat may cause ignition. Reaction with certain metals releases flammable and explosive hydrogen gas.

Special Remarks on Explosion Hazards:

Sodium hydroxide reacts to form explosive products with ammonia + silver nitrate. Benzene extract of allyl benzenesulfonate prepared from allyl alcohol, and benzene sulfonyl chloride in presence of aqueous sodium hydroxide, under vacuum distillation, residue darkened and exploded. Sodium Hydroxide + impure tetrahydrofuran, which can contain peroxides, can cause serious explosions. Dry mixtures of sodium hydroxide and sodium tetrahydroborate liberate hydrogen explosively at 230-270 deg. C. Sodium Hydroxide reacts with sodium salt of trichlorophenol + methyl alcohol + trichlorobenzene + heat to cause an explosion.

Section 6: Accidental Release Measures

Small Spill:

Use appropriate tools to put the spilled solid in a convenient waste disposal container. If necessary: Neutralize the residue with a dilute solution of acetic acid.

Large Spill:

Corrosive solid. Stop leak if without risk. Do not get water inside container. Do not touch spilled material. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. Neutralize the residue with a dilute solution of acetic acid. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Section 7: Handling and Storage

Precautions:

Keep container dry. Do not breathe dust. Never add water to this product. In case of insufficient ventilation, wear suitable respiratory equipment. If you feel unwell, seek medical attention and show the label when possible. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents, reducing agents, metals, acids, alkalis, moisture.

Storage: Keep container tightly closed. Keep container in a cool, well-ventilated area. Hygroscopic. Deliquescent.

Section 8: Exposure Controls/Personal Protection

Engineering Controls:

Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Personal Protection:

Splash goggles. Synthetic apron. Vapor and dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill:

Splash goggles. Full suit. Vapor and dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits:

STEL: 2 (mg/m³) from ACGIH (TLV) [United States] TWA: 2 CEIL: 2 (mg/m³) from OSHA (PEL) [United States] CEIL: 2 (mg/m³) from NIOSH Consult local authorities for acceptable exposure limits.

Section 9: Physical and Chemical Properties

Physical state and appearance: Solid. (Deliquescent solid.)

Odor: Odorless.

Taste: Not available.

Molecular Weight: 40 g/mole

Color: White.

p. 4

pH (1% soln/water): 13.5 [Basic.]

Boiling Point: 1388°C (2530.4°F)

Melting Point: 323°C (613.4°F)

Critical Temperature: Not available.

Specific Gravity: 2.13 (Water = 1)

Vapor Pressure: Not applicable.

Vapor Density: Not available.

Volatility: Not available.

Odor Threshold: Not available.

Water/Oil Dist. Coeff.: Not available.

Ionicity (in Water): Not available.

Dispersion Properties: See solubility in water.

Solubility: Easily soluble in cold water.

Section 10: Stability and Reactivity Data

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Incompatible materials, moisture, moist air

Incompatibility with various substances:

Highly reactive with metals. Reactive with oxidizing agents, reducing agents, acids, alkalis, moisture.

Corrosivity: Not available.

Special Remarks on Reactivity:

Hygroscopic. Much heat is evolved when solid material is dissolved in water. Therefore cold water and caution must be used for this process. Sodium hydroxide solution and octanol + diborane during a work-up of a reaction mixture of oxime and diborane in tetrahydrofuran is very exothermic, a mild explosion being noted on one occasion. Reactive with water, acids (mineral, non-oxidizing, e.g. hydrochloric, hydrofluoric acid, muriatic acid, phosphoric), acids (mineral, oxidizing e.g. chromic acid, hypochlorous acid, nitric acid, sulfuric acid), acids (organic e.g. acetic acid, benzoic acid, formic acid, methanoic acid, oxalic acid), aldehydes (e.g. acetaldehyde, acrolein, chloral hydrate, formaldehyde), carbamates (e.g. carbanilate, carbofuran), esters (e.g. butyl acetate, ethyl acetate, propyl formate), halogenated organics (dibromoethane, hexachlorobenzene, methylchloride, trichloroethylene), isocyanates (e.g. methyl isocyanate), ketones (acetone, acetophenone, MEK, MIBK), acid chlorides, strong bases, strong oxidizing agents, strong reducing agents, flammable liquids, powdered metals and metals (i.e. aluminum, tin, zinc, hafnium, raney nickel), metals (alkali and alkaline e.g. cesium, potassium, sodium), metal compounds (toxic e.g. beryllium, lead acetate, nickel carbonyl, tetraethyl lead), nitrides (e.g. potassium nitride, sodium nitride), nitriles (e.g. acetonitrile, methyl cyanide), nitro compounds (organic e.g. nitrobenzene, nitromethane), acetic anhydride, chlorohydrin, chlorosulfonic acid, ethylene cyanohydrin, glyoxal, hydrosulfuric acid, oleum, propiolactone, acrylonitrile, phosphorus pentoxide, chloroethanol, chloroform-methanol, tetrahydroborate, cyanogen azide, 1,2,4,5 tetrachlorobenzene, cinnamaldehyde. Reacts with formaldehyde hydroxide to yield formic acid, and hydrogen.

Special Remarks on Corrosivity: Very caustic to aluminum and other metals in presence of moisture.

Polymerization: Will not occur.

Section 11: Toxicological Information

Routes of Entry: Absorbed through skin. Dermal contact. Eye contact. Inhalation. Ingestion.

Toxicity to Animals:

LD50: Not available. LC50: Not available.

Chronic Effects on Humans:

MUTAGENIC EFFECTS: Mutagenic for mammalian somatic cells. May cause damage to the following organs: mucous membranes, upper respiratory tract, skin, eyes.

Other Toxic Effects on Humans:

Extremely hazardous in case of inhalation (lung corrosive). Very hazardous in case of skin contact (corrosive, irritant, permeator), of eye contact (corrosive), of ingestion, .

Special Remarks on Toxicity to Animals:

Lowest Published Lethal Dose: LDL [Rabbit] - Route: Oral; Dose: 500 mg/kg

Special Remarks on Chronic Effects on Humans: May affect genetic material. Investigation as a mutagen (cytogenetic analysis)

Special Remarks on other Toxic Effects on Humans:

Section 12: Ecological Information

Ecotoxicity: Not available.

BOD5 and COD: Not available.

Products of Biodegradation:



Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The product itself and its products of degradation are not toxic.

Special Remarks on the Products of Biodegradation: Not available.

Section 13: Disposal Considerations

Waste Disposal:

Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Section 14: Transport Information

DOT Classification: Class 8: Corrosive material

Identification: : Sodium hydroxide, solid UNNA: 1823 PG: II

Special Provisions for Transport: Not available.

Section 15: Other Regulatory Information

Other Regulations:

OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

EINECS: This product is on the

European Inventory of Existing Commercial Chemical Substances.

Other Classifications:

WHMIS (Canada): CLASS E: Corrosive solid.

DSCL (EEC):

R35- Causes severe burns. S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S37/39- Wear suitable gloves and eye/face protection. S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

HMIS (U.S.A.):

Health Hazard: 3

Fire Hazard: 0

Reactivity: 2

Personal Protection: j

National Fire Protection Association (U.S.A.):

Health: 3

Flammability: 0

Reactivity: 1

Specific hazard:

Protective Equipment:

Gloves. Synthetic apron. Vapor and dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Splash goggles.

Section 16: Other Information

References: Not available.

Other Special Considerations: Not available.

Created: 10/09/2005 06:32 PM

Last Updated: 05/21/2013 12:00 PM

Safety Data Sheet

In accordance with 1907/2006/EC, Article 31

Revision date: 10th Jan 2013

1. Identification of the substance of the company

Product: Pentaerythritol

Trade Name: Tech Pentaerythritol, PE 88, Mono Pentaerythritol – nitration grade, Mono Pentaerythritol – resin grade, PE 98

Application of the substance/the preparation: Chemical Intermediate.

Manufacturer/Supplier:

Asian Paints Ltd.,
6A, Shanti Nagar,
Santacruz (E),
Mumbai 400 055.
India
Tele: +91 22 39818500
Fax: +91 22 39818805
e-mail – suneel.alshi@asianpaints.com
www.asianpaints.com

Information department:

Penta Division – Asian Paints Limited

Emergency information:

In case of emergency information obtainable at – Tel +91 04142 239247, 239248, 239423

2. Hazards Identification

Hazard description: Not classified.

Information concerning particular hazards for human and environment:

The product does not have to be labeled, as it does not fall in Harmonized Classification and Labeling Annex VII table 3.1 and CLP regulation parts 2 to 5 of Annex I.

Additional information: Risk of dust Explosion.

3. Composition/Information on ingredients

Chemical Components:

Ingredient	CAS NO.	Composition
Pentaerythritol	115-77-5	86 – 99.95%
Di Pentaerythritol	126-58-9	0.05 - 14%

4. First aid measures:

After inhalation	: Inhale fresh air and rest.
After skin contact	: The product does not irritate the skin.
After eye contact	: Rinse opened eye under running water.
After swallowing	: Rinse out mouth and then drink plenty of water or milk.
General Information	: Remove any clothing soiled by the product. In case of doubt consult a doctor.

5. Fire fighting measures:

Extinguishing media:

Use fire extinguishing methods appropriate to surrounding conditions.

CO₂, dry chemical powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

For safety reasons unsuitable extinguishing agents: water with full jet.

Protective equipment: No special measures required.

6. Accidental release measures:

Personal precautions, protective equipment and emergency procedures:

Use personal protective device.

Environmental precautions

Do not allow to enter sewers, surface or ground water.

Measures for cleaning/collecting

Pick up mechanically, avoid dust generation.

Additional information

No dangerous substances are released.

7. Handling & Storage:

Precautions for safe handling:

Prevent formation of dust and provide dust extractors if dust is formed.

Any deposit of dust which cannot be avoided must be regularly removed.

Ensure good ventilation/exhaust arrangement at the workplace.

Information about fire – and explosion protection:

Dust can form an explosive mixture with air. Protect against electro static charges.

Storage:

Ground all equipments while emptying the bags. For large bags, grounding cable to be attached. Store in cool, dry conditions in well sealed receptacles. Do not store near incompatible materials, Refer point # 10.

8. Exposure controls/personal protection

Additional information about design of technical facilities: No further data; see item 7.

Ingredients with limit values that require monitoring at the workplace:	
115-77-5 pentaerythritol	
NIOSH	Short term value: **20 mg/m ³ Long term value : 10* 5** mg/m ³ *inhalable dust **respirable dust

PERSONAL PROTECTIVE EQUIPMENTS

Respiratory protection: Suitable respiratory protective device recommended.

Eye protection:

Safety goggles:

**Protection of hands:**

Impervious gloves:

**Material of gloves.**

Chloroprene rubber,
Nitrile rubber, NBR

9. Physical & chemical properties:

Information on basic physical and chemical properties:

Form	Crystals, free-flowing powder
Color	White
Odor	Odorless
Change in condition	
Boiling point/Boiling range	>300° C
Melting point/Melting range	188 -260° C
Flash point	>150° C
Ignition temperature	> 445° C
Self igniting	Product is not self igniting.

Danger of explosion	The product is not explosive. However, formation of explosive air /dust mixtures is possible.
Explosion limits : Lower	30 g/m ³
Vapor pressure at 20 ^o C	< 0.001 Pa
Bulk Density	730 to 830kg/m ³
Solubility in/Miscibility with Water at 20 ^o C	56g/l
pH value at 20 ^o C	4-7
Partition coefficient	1.7log POW (OECD 107)

10. Stability and reactivity:

Reactivity:

Risk of dust explosion.

Thermal decomposition:

No decomposition if stored/used according to specifications.

Dangerous decomposition products:

No dangerous decomposition products known.

Conditions to avoid:

Do not store near incompatible materials.

Incompatible materials:

Incompatible with oxidizing agents.

11. Toxicological information:

Information on toxicological effects:

Acute toxicity:

LD/LC50 values that are relevant for classification:		
115-77-5 Pentaerythritol		
Oral	LD0	> 5110 mg/kg (rat)
	LD50	25 500 mg/kg (rat)
Inhalative	LC50/4h	NOEL > 11 mg/l (rat)
126-58-9 Dipentaerythritol		
Oral	LD50	> 2000 mg/kg (rat)

Primary irritant effect:

On the skin:

No irritating effect.

On the eye:

No irritating effect.

Sensitization:

No sensitization effects known.

Repeated dose toxicity:

Negative.

Additional toxicological information:

Mutagenicity: Negative

12. Ecological information:

Information about persistence and degradability:

115-77-5 Pentaerythritol

BOD28 0.99 g/g
COD 1380 mg/g (-)
TOD 1300 mg/g (-)

126-58-9 Dipentaerythritol

BOD28 2.0 g/g (-)
BOD7 9.5 mg/g (-)
COD 2.0 g/g (-)

Behavior in environmental systems:

Mobility and bioaccumulation potential:

Due to the distribution coefficient n-octanol/water, accumulation in organisms is not expected.

Ecotoxicological effects:

Aquatic toxicity:

115-77-5 Pentaerythritol

EC10/18 h 18 200 mg/l (bacteria)
EC3/7 d 16 500 mg/l (alga)
EC50/24 h 38 900 mg/l (daphnia)
LC0/48 h > 5000 mg/l (fish)

126-58-9 Dipentaerythritol

EC0 > 100 mg/l (alga)
>100 mg/l (daphnia)
LC50/96 h >100mg/l (fish)

Harmless to fish up to the tested concentration

Remark: Don't allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

13 Disposal considerations:

European waste catalogue

07 00 00	Wastes from Organic chemical Processes
07 01 00	Wastes from the manufacture, formulation, supply and use (MFSU) of basic organic chemicals
07 01 99	Wastes not otherwise specified

Disposal should be made according to official regulations.

14 Transport Information:

UN number:

No number assigned.

UN proper shipping name:

No name assigned.

Transport hazard class (es):

Not classified.

Environmental hazards:

Not dangerous according to the chemical properties of the product.

Land transport ARD/RID (cross border)

ADR/RID class:

Maritime transport IMDG:

IMDG class:

Air transport ICAO-TI and IATA-DGR:

15 Regulatory Information:

Labeling according to EU guidelines:

Observe the general safety regulations when handling chemicals. The product is not subject to identification regulations under EU Directives and the Ordinance on Hazardous Materials.

Special labeling of certain preparations:

Safety data sheet available for professional user on request.

16 Other Information:

This information herein is given in good faith and to the best of our knowledge at the current date. In case of mixture with other substances, ensure that other risks are not generated.



Material Safety Data Sheet

In accordance with 1907/2006/EC, Article 31

Revision date: 27th Feb 2013

1. Identification of the substance of the company:

Product: Di Pentaerythritol.

Trade Name: Di Penta

Application of the substance/the preparation: Chemical Intermediate.

Manufacturer/Supplier:

Asian Paints Ltd.,
6A, Shanti Nagar,
Santacruz (E),
Mumbai 400 055.
India
Tele: +91 22 39818500
Fax: +91 22 39818805
e-mail – suneel.alshi@asianpaints.com
www.asianpaints.com

- Information department:

Penta Division – Asian Paints Limited

Emergency information:

In case of emergency information obtainable at – Tel +91 04142 239247, 239248, 239423

2. Hazards identification:

Hazard description: Not classified.

Information concerning particular hazards for human and environment:

The product does not have to be labeled, as it does not fall in Harmonized Classification and Labeling Annex VII table 3.1 and CLP regulation part 2 to 5 of Annex I.

Additional information: Risk of dust Explosion.

3. Composition/Information on Ingredients:

Chemical Components:

Ingredient	CAS NO.	Composition
Pentaerythritol	115-77-5	0 – 8%
Di Pentaerythritol	126-58-9	80% min
Triptaerythritol	78-24-0	0-15%

4. First aid measures:

After inhalation:	Inhale fresh air and rest.
After skin contact:	The product does not irritate the skin.
After eye contact:	Rinse opened eye under running water.
After swallowing:	Rinse out mouth and then drink plenty of water or milk.
General Information:	Remove any clothing soiled by the product. In case of doubt, consult a doctor

5. Fire fighting measures:

Extinguishing media:

Use fire extinguishing methods appropriate to surrounding conditions.

CO₂, dry chemical powder and water spray. Fight larger fires with water spray or alcohol resistant foam.

For safety reasons unsuitable extinguishing agent: water with full jet

Protective equipment: No special measures required.

6. Accidental release measures:

Personal precautions, protective equipment and emergency procedures:

Use personal protective device.

Environmental precautions:

Do not allow to enter sewers, surface or ground water.

Measures for cleaning/collecting: Pick up mechanically, Avoid dust generation.

Additional information: No dangerous substances are released.

7. Handling & Storage:

Precautions for safe handling:

Prevent formation of dust and provide dust extractors if dust is formed.
Any deposit of dust which cannot be avoided must be regularly removed.
Ensure good ventilation/exhaustion at the workplace.

Information about fire – and explosion protection:

Dust can form an explosive mixture with air. Protect against electro static charges.

Storage:

Ground all equipments while emptying the bags. For large bags, grounding cable to be attached. Store in cool, dry conditions in well sealed receptacles.

Do not store near incompatible materials, Refer point # 10.

8. Exposure controls/personal protection:

Additional information about design of technical facilities: No further data; see item 7.

Ingredients with limit values that require monitoring at the workplace:	
115-77-5 pentaerythritol	
NIOSH	Short term value: **20 mg/m ³
	Long term value : 10* 5** mg/m ³
	*inhale dust **respirable dust

PERSONAL PROTECTIVE EQUIPMENTS

Respiratory protection: Suitable respiratory protective device recommended.

Eye protection:

Safety goggles:



Protection of hands:

Impervious gloves:



Material of gloves.
Chloroprene rubber,
Nitrile rubber, NBR

8. Physical & chemical properties:

Information on basic physical and chemical properties:

Form	Granular
Color	Off White
Odor	Odorless
Change in condition	
Melting point/Melting range	200 -220° C
Boiling point/Boiling range	>300° C
Flash point	>150° C
Danger of explosion explosive	The product is not explosive. However, formation of air /dust mixtures are possible.
Explosion limits :Lower	20 g/m ³
Vapor pressure at 20° C	< 0.001 Pa
Bulk Density	750kg/m ³
Solubility in/Miscibility with Water at 20° C	1.8g/l
Partition co-efficient at 25° C	-2 log POW

10. Stability and reactivity:

Reactivity:

Risk of dust explosion.

Thermal decomposition:

No decomposition if stored/used according to specifications.

Dangerous decomposition products:

No dangerous decomposition products known.

Conditions to avoid:

Do not store near incompatible materials.

Incompatible materials:

Incompatible with oxidizing agents.

11. Toxicological information:

Information on toxicological effects:

Acute toxicity:

LD/LC50 values that are relevant for classification:		
126-58-9 Dipentaerythritol		
Oral	LD50	> 2000 mg/kg (rat)
115-77-5 Pentaerythritol		
LD0	> 5110 mg/kg (rat)	
LD50	25 500 mg/kg (rat)	
LC50/4h	NOEL > 11 mg/l (rat)	

Primary irritant effect:

On the skin:

No irritant effect.

On the eye:

No irritating effect.

Sensitization:

No sensitization effects known.

Repeated dose toxicity:

Negative.

Additional toxicological information:

Mutagenicity: Negative

12. Ecological information:

Information about persistence and degradability.

126-58-9 Dipentaerythritol

BOD28 2.0 g/g (-)
BOD7 9.5 mg/g (-)
COD 2.0 g/g (-)

115-77-5 Pentaerythritol

BOD28 0.99 g/g
COD 1380 mg/g (-)
TOD 1300 mg/g (-)

Behavior in environmental systems:

Mobility and bioaccumulation potential:

Due to the distribution coefficient n-octanol/water an accumulation in organisms is not expected.

Ecotoxicological effects:

• **Aquatic toxicity:**

126-58-9 Dipentaerythritol

EC0 > 100 mg/l (alga)
 >100 mg/l (daphnia)
LC50/96 h >100mg/l (fish)

115-77-5 Pentaerythritol

EC10/18 h 18 200 mg/l (bacteria)
EC3/7 d 16 500 mg/l (alga)
EC50/24 h 38 900 mg/l (daphnia)
LC0/48 h > 5000 mg/l (fish)

Harmless to fish up to the tested concentration

Remark: Don't allow undiluted product or large quantities of it to reach ground water, water course or sewage system.



13. Disposal considerations:

European waste catalogue

07 00 00	Wastes from Organic Chemical Processes
07 01 00	Wastes from the manufacture, formulation, supply and use (MFSU) of basic organic chemicals
07 01 99	Wastes not otherwise specified

Disposal should be made according to official regulations.

14. Transport information:

UN number:

No number assigned.

UN proper shipping name:

No name assigned.

Transport hazard class (es):

Not classified.

Environmental hazards:

Not dangerous according to the chemical properties of the product.

Land transport ARD/RID (cross border)

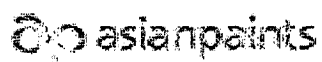
ADR/RID class:

Maritime transport IMDG:

IMDG class:

Air transport ICAO-TI and IATA-DGR:

Not dangerous goods according to above specifications.



15. Regulatory Information:

Labeling according to EU guidelines:

Observe the general safety regulations when handling chemicals. The product is not subject to identification regulations under EU Directives and the Ordinance on Hazardous Materials.

Special labeling of certain preparations:

Safety data sheet available for professional user on request.

16. Other Information:

This information herein is given in good faith and to the best of our knowledge at the current date. In case of mixture with other substances, ensure that other risks are not generated.

Material Safety Data Sheet

35% Sodium Formate Solution

Section 1 - Chemical Product and Company Identification

MSDS Name: 35% Sodium Formate Solution

Synonyms: Solution of Sodium Formate in Water

Company Identification:

Asian Paints Ltd,
B5-B10 Sipcot Industrial Complex,
Kudikadu, Cuddalore 607 005.

For information, call: 04142-239247, 239248, 239423

Emergency Number: 04142- 239247,239248

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
141-53-7	SODIUM FORMATE	35 Max	205-488-0

Hazard Symbols: None listed.

Risk Phrases: None listed.

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: Liquor in greenish tinge. **Caution!** May cause eye irritation. May cause respiratory tract irritation. This is expected to be a low hazard for usual industrial handling. The toxicological properties of this material have not been fully investigated. Hygroscopic. May cause skin irritation.

Target Organs: None known.

Potential Health Effects

Eye: May cause eye irritation.

Skin: Low hazard for usual industrial handling.

Ingestion: Low hazard for usual industrial handling. The toxicological properties of this substance have not been fully investigated.

Inhalation: May cause respiratory tract irritation. The toxicological properties of this substance have not been fully investigated.

Chronic: No information found.

Section 4 - First Aid Measures

Eyes: Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

Skin: Flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists. Wash clothing before reuse.

Ingestion: If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid.

Inhalation: Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid if cough or other symptoms appear.

Notes to Physician: Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. As this liquor has 40% water it doesn't catch fire.

Extinguishing Media: For small fires, use water spray, dry chemical, carbon dioxide or chemical foam.

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Clean up spills immediately, observing precautions in the Protective Equipment section. Sweep up, then place into a suitable container for disposal.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Avoid contact with skin and eyes. Avoid ingestion and inhalation.

Storage: Store in a cool, dry, well-ventilated area away from incompatible substances.

Section 8 - Exposure Controls, Personal Protection

Personal Protective Equipment

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin: Wear appropriate gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to minimize contact with skin.

Respirators: Follow the OSHA respirator regulations found in 29CFR 1910.134 or European Standard EN 149. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

Section 9 - Physical and Chemical Properties

Physical State: Liquid

Appearance: Greenish

Odor: formic acid-like - weak odor

pH: 6.0 - 7.0

Vapor Pressure: Negligible.

Vapor Density: Not available

Evaporation Rate: negligible

Viscosity: Not available.

Boiling Point: Solution starts boil at around 120 Deg C.

Freezing/Melting Point: -5 deg C.

Auto ignition Temperature: Not available.

Flash Point: Not available.

Decomposition Temperature: Not available

NFPA Rating: (estimated) Health: 1; Flammability: 0; Reactivity: 0

Explosion Limits, Lower: N/A

Upper: N/A

Solubility: Slightly soluble.

Specific Gravity/Density: 1.29

Molecular Formula: HCOONa

Molecular Weight: 67.9956

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.

Conditions to Avoid: High temperatures, incompatible materials, moisture.

Incompatibilities with Other Materials: Strong oxidizing agents, strong acids.

Hazardous Decomposition Products: Carbon monoxide, carbon dioxide, sodium oxide.

Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

RTECS#:

CAS# 141-53-7: LR0350000

LD50/LC50:

CAS# 141-53-7:

Oral, mouse: LD50 = 11200 mg/kg; <BR.

Carcinogenicity:

CAS# 141-53-7: Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.

Epidemiology: No information available.

Teratogenicity: No information available.

Reproductive Effects: No information available.

Neurotoxicity: No information available.

Mutagenicity: No information available.

Other Studies: None.

Section 12 - Ecological Information

Ecotoxicity: No data available. No information available.

Environmental: No information reported.

Physical: No information available.

Other: No information available.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Can be diluted and treated in any biological treatment system.

Section 14 - Transport Information

Land Transport ADR/RID(cross border)-Not regulated

Section 15 - Regulatory Information

Labeling according to EU guide lines:

N.A. Observe general safety regulations for handling chemicals.

Section 16 - Additional Information

MSDS Creation Date: 05/04/2002

Revision Date:

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Asian Paints Ltd be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Asian Paints Ltd has been advised of the possibility of such damages.

Material Safety Data Sheet

25% Pentaerythritols Solution

Section 1 - Chemical Product and Company Identification

MSDS Name: 25% Pentaerythritols Solution

Synonyms: Solution of Pentaerythritols in water

Company Identification:

Asian Paints Ltd,
B5-B10 Sipcot Industrial Complex,
Kudikadu, Cuddalore 607 005.

For information, call: 04142-239247, 239248, 239423

Emergency Number: 04142- 239247,239248

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent
	Pentaerythritols	25 Max

Hazard Symbols: None listed.

Risk Phrases: None listed.

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: Off white Liquor. **Caution!** This is expected to be a low hazard for usual industrial handling. The toxicological properties of this material have not been fully investigated.

Target Organs: None known.

Potential Health Effects

Eye: May cause eye irritation.

Skin: Low hazard for usual industrial handling.

Ingestion: Low hazard for usual industrial handling. The toxicological properties of this substance have not been fully investigated.

Inhalation: May cause respiratory tract irritation. The toxicological properties of this substance have not been fully investigated.

Chronic: No information found.

Section 4 - First Aid Measures

Eyes: Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

Skin: Flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists. Wash clothing before reuse.

Ingestion: If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid.

Inhalation: Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid if cough or other symptoms appear.

Notes to Physician: Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. As this liquor has 45% water it doesn't catch fire.

Extinguishing Media: For small fires, use water spray, dry chemical, carbon dioxide or chemical foam.

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Clean up spills immediately, observing precautions in the Protective Equipment section. Sweep up, then place into a suitable container for disposal.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Avoid contact with skin and eyes. Avoid ingestion and inhalation.

Storage: Store in a cool, dry, well-ventilated area away from incompatible substances.

Section 8 - Exposure Controls, Personal Protection

Personal Protective Equipment

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin: Wear appropriate gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to minimize contact with skin.

Respirators: Follow the OSHA respirator regulations found in 29CFR 1910.134 or European Standard EN 149. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

Section 9 - Physical and Chemical Properties

Physical State: Liquid

Appearance: Off White colour

Odor: Odorless

pH: 3.0-6.0

Vapor Pressure: Negligible.

Vapor Density: Not available

Evaporation Rate: negligible

Viscosity: Not available.

Boiling Point: Solution starts boil at around 105 Deg C.

Freezing/Melting Point: -5 deg C.

Auto ignition Temperature: Not available.

Flash Point: Not available.

Decomposition Temperature: Not available

NFPA Rating: (estimated) Health: 1; Flammability: 0; Reactivity: 0

Explosion Limits, Lower: N/A

Upper: N/A

Solubility: soluble in water.

Specific Gravity/Density: 1.2

Molecular Formula:

Molecular Weight:

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.

Conditions to Avoid: High temperatures, incompatible materials.

Incompatibilities with Other Materials: Strong oxidizing agents, strong acids.

Hazardous Decomposition Products: Carbon monoxide, carbon dioxide

Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

Carcinogenicity:

Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.

Epidemiology: No information available.

Teratogenicity: No information available.

Reproductive Effects: No information available.

Neurotoxicity: No information available.

Mutagenicity: No information available.

Other Studies: None.

Section 12 - Ecological Information

Ecotoxicity: No data available. No information available.

Environmental: No information reported.

Physical: No information available.

Other: No information available.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Can be diluted and treated in any biological treatment system.

Section 14 - Transport Information

Land Transport ADR/RID(cross border)-Not regulated

Section 15 - Regulatory Information

Labeling according to EU guide lines:

N.A. Observe general safety regulations for handling chemicals.

Section 16 - Additional Information

MSDS Creation Date: 05/04/2002

Revision Date:

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Asian Paints Ltd be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Asian Paints Ltd has been advised of the possibility of such damages.

Material Safety data sheet
High Speed Diesel

MATERIAL SAFETY DATA SHEET
Diesel oil/HSD

1. Chemical identity

<i>Chemical name:</i> Diesel Oil		<i>Chemical classification:</i> Flammable liquid	
<i>Synonyms:</i> Automotive Diesel Oil		<i>Trade name:</i> HSD	
<i>Formula Range:</i> C ₁₃ - C ₁₈		<i>C.A.S. NO.</i> 68476-30-2.	<i>U.N.NO.</i> 1202
<i>Regulated identification</i>		<i>Shipping name:</i> HSD	
<i>Codes/Label:</i>		<i>Hazchem code</i> class 3	
		<i>Hazardous waste</i> : N.A.	
<i>Hazardous ingredients</i>	<i>C.A.S.NO.</i>	<i>Hazardous ingredients</i>	<i>C.A.S.NO.</i>
Diesel	68476-30-2	Benzene Trace	71-43-2
		Naphthalene Trace	91-20-3
		Sulphur Trace	7704-34-9
Diesel is complex mixture of hydrocarbons. It's exact composition depends on the source of crude oil from which it is produced and the refining methods used			

2. Physical and chemical data

<i>Boiling point/Range (deg.C)</i> : 215 - 376. <i>Physical state:</i> Liquid. <i>Appearance:</i> yellowish brown	
<i>Melting/freezing point (deg.C)</i> : N. A.	
<i>Vapour pressure:</i> 2.12 to 26mm Hg at 21 deg C.	
<i>Odour:</i> Perceptible odour	
<i>Vapour density:</i> N.A.	
<i>Solubility in water @ 30 deg.C:</i> Insoluble	
<i>Specific gravity:</i> 0.86 - 0.90 at 20 deg C	
<i>Others:</i> Pour Point: 6 - 18 deg. C.	

3. Fire and explosion Hazard data

<i>Flammability:</i> Yes	<i>LEL:</i> 0.6%	<i>Flash point(deg C)</i> : 32 (OC)
<i>TDG Flammability:</i> class 3 .	<i>UEL:</i> 6%	<i>Flash point(deg C)</i> : N.A. (CC)
<i>Auto Ignition Temp</i> : 225 deg. C		
<i>Explosion sensitivity to impact:</i> not sensitive to Mechanical Impact.		
<i>Explosion sensitivity to static electricity:</i> For vapors sensitivity exist		
<i>Hazardous Combustion Products:</i> carbon monoxide, Nitrogen oxide. and other aromatic hydrocarbons		
<i>Hazardous Polymerization:</i> N.A.		

Material Safety data sheet

High Speed Diesel

<i>Combustible liquid:</i> Yes	<i>Explosive material:</i> Yes	<i>Corrosive material:</i> No
<i>Flammable material ;</i> yes	<i>Oxidiser:</i> N.A.	
<i>Pyrophoric material:</i> N.A.	<i>Organic peroxide:</i> N.A.	

4. Reactivity data

<i>Chemical stability:</i> Stable
<i>Incompatibility with other material:</i> oxidizers such Peroxides ,Nitric acid and Perchorates
<i>Hazardous reaction products:</i> on fire it will liberate some amount of carbon monoxide, sulphur dioxide Nitrogen oxide. and other aromatic hydrocarbons

5. Health Hazard data

<i>Routes of entry:</i> : Inhalation, Skin absorption ,ingestion				
<i>Effects of Exposure / symptoms:</i> excessive inhalation Vapors cause rapid breathing, excitability, staggering, headache, fatigue, nausea and vomiting, dizziness, drowsiness, narcosis convulsions, coma,				
<i>Skin Contact:</i> Skin-dryness, cracking, irritation eyes watering, stinging and inflammation.				
<i>Emergency treatment:</i> In case of eye or Skin contact, flush with plenty of water. Remove soaked clothing. in case of excessive inhalation move the victim to fresh air, obtain medical assistance				
<i>L.D₅₀ (Oral-Rat) :</i> > 5g/kg		<i>L.C₅₀: (rat 4hrs)</i> 5g/m3		
<i>Permissible Exposure limit:</i> N.A.		<i>Odour threshold:</i> N.A.		
<i>TLV (ACGIH) :</i> 800 ppm		<i>STEL:</i> N.A.		
<i>NFPA Hazard signals</i>	<i>Health</i>	<i>Flammability</i>	<i>Reactivity/Stability</i>	<i>Special</i>
	1	2	0	-

6. Preventive measures

<i>Personal Protective equipment:</i> Canister type gas mask. PVC or Rubber. Goggles giving complete protection to eyes. Eye wash fountain with safety shower.
<i>Handling and storage precautions:</i> Do not expose to heat and naked lights, keep containers and valves closed when not in use.

7. Emergency and first aid measures

<i>Fire:</i>

Material Safety data sheet

High Speed Diesel

<p>Fire extinguishing media: Foam, Carbon dioxide, Dry Chemical Powder. Water may be used to cool fire-exposed containers.</p> <p>Special procedure: Shut off leak, if safe to do so, .Keep non-involved people away from spill site. Eliminate all sources of ignition.</p> <p>Unusual hazards: it will spread along the ground and collect in sewers</p>
<p>Exposure:</p> <p>Skin contact ; in case of contact with Skin flush with fresh water, remove containment clothing,</p> <p>Inhalation: in case of excessive inhalation move the victim to fresh air, If problem in breathing give artificial respiration; give oxygen. obtain medical assistance</p> <p>Ingestion: Give water to conscious victim to drink; do not induce vomiting.</p> <p>Antidotes/Dosages: N.A.</p>
<p>Spills:</p> <p>Steps to be taken Shut off leak, if safe to do so, .Keep non-involved people away from spill site. Eliminate all sources of ignition. Prevent spill entering in to sewers, for Major spillage contact Emergency services</p> <p>Waste Disposal method: N.A.</p>

8 . Additional Information /reference

9 . Manufacture/Suppliers Data

Manufacture(Name Of Firm.) : Hindustan Petroleum Corporation
Supplier/Dealers Data.
Name
Mailing address
Telephone
Contact Persons

10 . DISCLAIMER

Information contained in this material data sheet is believed to be reliable but no representation, guaranty or warranties of any kind are made for suitability for particular application or result o be obtained from it. It is up the seller to ensure the Product sold by them is relevant to information contained in MSDS

Material Safety Data Sheet

Sodium Formate

Section 1 - Chemical Product and Company Identification

MSDS Name: Sodium Formate

Synonyms: Sodium Salt of Formic acid.

Company Identification:

Asian Paints Ltd,
B5-B10 Sipcot Industrial Complex,
Kudikadu, Cuddalore 607 005.

For information, call: 04142-239247,239248,239423

Emergency Number: 04142- 239247,239248

Section 2 - Composition, Information on Ingredients

CAS No	Chemical Name	EINECS No
141-53-7	SODIUM FORMATE	205-488-0
115-77-5	PENTAERYTHRITOL	204-104-9

Hazard Symbols: None listed.

Risk Phrases: None listed.

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: White Crystalline powder Hygroscopic.

Caution! Harmful if swallowed or inhaled. May cause irritation to eyes, skin, respiratory tract and gastronomical tracts. This is expected to be a low hazard for usual industrial handling. The toxicological properties of this material have not been fully investigated.

Target Organs: None known.

Section 4 - First Aid Measures

Eyes: Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

Skin: Flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists. Wash clothing before reuse.

Ingestion: If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid.

Inhalation: Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid if cough or other symptoms appear.

Notes to Physician: Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. This powder does not catch fire.

Extinguishing Media: For small fires use water spray, dry chemical, carbon dioxide or chemical foam.

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Clean up spills immediately, observing precautions in the Protective Equipment section. Sweep up, then place into a suitable container for disposal.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Avoid contact with skin and eyes. Avoid ingestion and inhalation.

Storage: Store in a cool, dry, well-ventilated area away from incompatible substances. While transferring follow proper grounding procedure. Avoid generation of excessive dust.

Section 8 - Exposure Controls, Personal Protection

Sodium Formate:

OES: Short term value *15 mg/m³

Long term value *10 mg/m³, ** 5 mg/m³

Pentaerythritol:

OES: Short term value *20 mg/m³

Long term value *10 mg/m³, ** 4 mg/m³

*Total inhalable dust **Respirable dust

Personal Protective Equipment

Eyes: Wear appropriate protective eye glasses or chemical safety goggles

Skin: Wear appropriate gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to minimize contact with skin.

Respirators: Suitable respiratory protective device recommended.

Section 9 - Physical and Chemical Properties

Physical State: Powder

Appearance: White Crystalline

Odor: Odourless

pH of 5% solution: 6.0 – 8.0

Vapor Pressure: Negligible.

Vapor Density: Not available

Evaporation Rate: negligible

Viscosity: Not available.

Boiling Point: Not available.

Melting Point: 253 deg C.

Autoignition Temperature: Not available.

Flash Point: Not available.

Decomposition Temperature: Not available

NFPA Rating: (estimated) Health: 1; Flammability: 0; Reactivity: 0

Explosion Limits, Lower: N/A

Upper: N/A

Solubility: soluble in water. 0.5 Kg/L

Specific Gravity/Density at 20 deg C: 1200-1400 Kg/m³

Molecular Formula: HCOONa

Molecular Weight: 67.9956

Section 10 - Stability and Reactivity

The product is hygroscopic. Readily absorbs moisture from atmosphere-solutions are strong base.

Chemical Stability: Stable under normal temperatures and pressures.

Conditions to Avoid: High temperatures, incompatible materials, moisture.

Incompatibilities with Other Materials: Strong oxidizing agents, strong acids.

Hazardous Decomposition Products: At high temperatures decomposes into Sodium oxalate and hydrogen, then into Sodium carbonate. Carbon monoxide and carbon dioxide may form.

Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

LD50/LC50:

CAS# 141-53-7:

Oral, mouse: LD50 = 11200 mg/kg; <BR.

Carcinogenicity:

CAS# 141-53-7: Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.

Epidemiology: No information available.

Teratogenicity: No information available.

Reproductive Effects: No information available.

Neurotoxicity: No information available.

Mutagenicity: No information available.

Other Studies: None.

Section 12 - Ecological Information

Ecotoxicity: No data available. No information available.

Environmental: No information reported.

Physical: No information available.

Other: No information available.

Section 13 - Disposal Considerations

Whatever cannot be recycled should be transferred to appropriate and approved waste disposal facility. Dispose waste containers and unused contents in accordance with official regulations.

Section 14 - Transport Information

Land Transport ADR/RID(cross border)-Not regulated

Section 15 - Regulatory Information

Labeling according to EU guide lines:

N.A. Observe general safety regulations for handling chemicals.

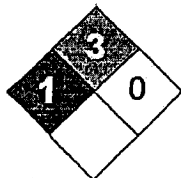
Section 16 - Additional Information

MSDS issue Date: 01/7/2012

Revision Date: 30.6.2017

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Asian Paints Ltd be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Asian Paints Ltd has been advised of the possibility of such damages.

Material Safety Data Sheet- Methyl alcohol



Health	2
Fire	3
Reactivity	0
Personal Protection	H

Section 1: Chemical Product and Company Identification

Product Name: Methyl alcohol

CAS#: 67-56-1

RTECS: PC1400000

TSCA: TSCA 8(b) inventory: Methyl alcohol

CI#: Not applicable.

Synonym: Wood alcohol, Methanol; Methylol; Wood Spirit; Carbinol

Chemical Name: Methanol

Chemical Formula: CH₃OH

Contact Information:

Asian Paints Limited

B5-B10, Sipcot Industrial Complex

Kudikadu,

Cuddalore-607005.

24HR Emergency Telephone, call:

+91 4142-239247, 239248, 239423

Fax: +91 4142 239234

Section 2: Composition and Information on Ingredients

Composition:

Name	CAS #	% by Weight
Methyl alcohol	67-56-1	100

Toxicological Data on Ingredients: Methyl alcohol: ORAL (LD₅₀): Acute: 5628 mg/kg [Rat]. DERMAL (LD₅₀): Acute: 15800 mg/kg [Rabbit]. VAPOR (LC₅₀): Acute: 64000 ppm 4 hours [Rat].

Section 3: Hazards Identification

Potential Acute Health Effects:

Hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation. Slightly hazardous in case of skin contact (permeator). Severe over-exposure can result in death.

Potential Chronic Health Effects:

Slightly hazardous in case of skin contact (sensitizer). CARCINOGENIC EFFECTS: Not available. MUTAGENIC EFFECTS: Mutagenic for mammalian somatic cells. Mutagenic for bacteria and/or yeast. TERATOGENIC EFFECTS: Classified POSSIBLE for human.

DEVELOPMENTAL TOXICITY: Not available. The substance is toxic to eyes. The substance may be toxic to blood, kidneys, liver, brain, peripheral nervous system, upper respiratory tract, skin, central nervous system (CNS), optic nerve. Repeated or prolonged exposure to the substance can produce target organs damage. Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

Section 4: First Aid Measures

Eye Contact:

Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Cold water may be used. Get medical attention.

Skin Contact:

In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

Serious Skin Contact:

Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention.

Inhalation:

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

Serious Inhalation:

Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. **WARNING:** It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek immediate medical attention.

Ingestion:

If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

Serious Ingestion: Not available.

Section 5: Fire and Explosion Data

Flammability of the Product: Flammable.

Auto-Ignition Temperature: 464°C (867.2°F)

Flash Points: CLOSED CUP: 12°C (53.6°F). OPEN CUP: 16°C (60.8°F).

Flammable Limits: LOWER: 6% UPPER: 36.5%

Products of Combustion: These products are carbon oxides (CO, CO₂).

Fire Hazards in Presence of Various Substances:

Highly flammable in presence of open flames and sparks, of heat. Non-flammable in presence of shocks.

Explosion Hazards in Presence of Various Substances:

Risks of explosion of the product in presence of mechanical impact: Not available. Explosive in presence of open flames and sparks, of heat.

Fire Fighting Media and Instructions:

Flammable liquid, soluble or dispersed in water. SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use alcohol foam, water spray or fog.

Special Remarks on Fire Hazards:

Explosive in the form of vapor when exposed to heat or flame. Vapor may travel considerable distance to source of ignition and flash back. When heated to decomposition, it emits acrid smoke and irritating fumes. CAUTION: MAY BURN WITH NEAR INVISIBLE FLAME

Special Remarks on Explosion Hazards:

Forms an explosive mixture with air due to its low flash point. Explosive when mixed with Chloroform + sodium methoxide and diethyl zinc. It boils violently and explodes.

Section 6: Accidental Release Measures**Small Spill:**

Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container.

Large Spill:

Flammable liquid. Poisonous liquid. Keep away from heat. Keep away from sources of ignition. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Do not get water inside container. Do not touch spilled material. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Section 7: Handling and Storage**Precautions:**

Keep locked up.. Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not ingest. Do not breathe gas/fumes/ vapor/spray. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents, metals, acids.

Storage:

Store in a segregated and approved area. Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition (spark or flame).

Section 8: Exposure Controls/Personal Protection**Engineering Controls:**

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.

Personal Protection:

Splash goggles. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill:

Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits:

TWA: 200 from OSHA (PEL) [United States] TWA: 200 STEL: 250 (ppm) from ACGIH (TLV) [United States] [1999] STEL: 250 from NIOSH [United States] TWA: 200 STEL: 250 (ppm) from NIOSH SKIN TWA: 200 STEL: 250 (ppm) [Canada] Consult local authorities for acceptable exposure limits.

Section 9: Physical and Chemical Properties

Physical state and appearance: Liquid.

Odor: Alcohol like. Pungent when crude.

Taste: Not available.

Molecular Weight: 32.04 g/mole

Color: Colorless.

pH (1% soln/water): Not available.

Boiling Point: 64.5°C (148.1°F)

Melting Point: -97.8°C (-144°F)

Critical Temperature: 240°C (464°F)

Specific Gravity: 0.7915 (Water = 1)

Vapor Pressure: 12.3 kPa (@ 20°C)

Vapor Density: 1.11 (Air = 1)

Volatility: Not available.

Odor Threshold: 100 ppm

Water/Oil Dist. Coeff.: The product is more soluble in water; $\log(\text{oil/water}) = -0.8$

Ionicity (in Water): Non-ionic.

Dispersion Properties: See solubility in water.

Solubility: Easily soluble in cold water, hot water.

Section 10: Stability and Reactivity Data

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Heat, ignition sources, incompatible materials

Incompatibility with various substances: Reactive with oxidizing agents, metals, acids.

Corrosivity: Non-corrosive in presence of glass.

Special Remarks on Reactivity:

Can react vigorously with oxidizers. Violent reaction with alkyl aluminum salts, acetyl bromide, chloroform + sodium methoxide, chromic anhydride, cyanuric chloride, lead perchlorate, phosphorous trioxide, nitric acid. Exothermic reaction with sodium hydroxide + chloroform. Incompatible with beryllium dihydride, metals (potassium and magnesium), oxidants (barium perchlorate, bromine, sodium hypochlorite, chlorine, hydrogen peroxide), potassium tert-butoxide, carbon tetrachloride, alkali metals, metals (aluminum, potassium magnesium, zinc), and dichloromethane. Rapid autocatalytic dissolution of aluminum, magnesium or zinc in 9:1 methanol + carbon tetrachloride - sufficiently vigorous to be rated as potentially hazardous. May attack some plastics, rubber, and coatings.

Special Remarks on Corrosivity: Not available.

Polymerization: Will not occur.

Section 11: Toxicological Information

Routes of Entry: Absorbed through skin. Eye contact. Inhalation. Ingestion.

Toxicity to Animals:

WARNING: THE LC50 VALUES HEREUNDER ARE ESTIMATED ON THE BASIS OF A 4-HOUR EXPOSURE. Acute oral toxicity (LD50): 5628 mg/kg [Rat]. Acute dermal toxicity (LD50): 15800 mg/kg [Rabbit]. Acute toxicity of the vapor (LC50): 64000 4 hours [Rat].

Chronic Effects on Humans:

MUTAGENIC EFFECTS: Mutagenic for mammalian somatic cells. Mutagenic for bacteria and/or yeast. **TERATOGENIC EFFECTS:** Classified POSSIBLE for human. Causes damage to the following organs: eyes. May cause damage to the following organs: blood, kidneys, liver, brain, peripheral nervous system, upper respiratory tract, skin, central nervous system (CNS), optic nerve.

Other Toxic Effects on Humans:

Hazardous in case of skin contact (irritant), of ingestion, of inhalation. Slightly hazardous in case of skin contact (permeator).

Special Remarks on Toxicity to Animals: Not available.

Special Remarks on Chronic Effects on Humans:

Passes through the placental barrier. May affect genetic material. May cause birth defects and adverse reproductive effects (paternal and maternal effects and fetotoxicity) based on animal studies.

Special Remarks on other Toxic Effects on Humans:

Section 12: Ecological Information

Ecotoxicity: Ecotoxicity in water (LC50): 29400 mg/l 96 hours [Fathead Minnow].

BOD5 and COD: Not available.

Products of Biodegradation:

Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The products of degradation are less toxic than the product itself.

Special Remarks on the Products of Biodegradation:

Methanol in water is rapidly biodegraded and volatilized. Aquatic hydrolysis, oxidation, photolysis, adsorption to sediment, and bioconcentration are not significant fate processes. The half-life of methanol in surface water ranges from 24 hrs. to 168 hrs. Based on its vapor pressure, methanol exists almost entirely in the vapor phase in the ambient atmosphere. It is degraded by reaction with photochemically produced hydroxyl radicals and has an estimated half-life of 17.8 days. Methanol is physically removed from air by rain due to its solubility. Methanol can react with NO₂ in polluted air to form methyl nitrate. The half-life of methanol in air ranges from 71 hrs. (3 days) to 713 hrs. (29.7 days) based on photooxidation half-life in air.

Section 13: Disposal Considerations

Waste Disposal:

Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Section 14: Transport Information

DOT Classification: CLASS 3: Flammable liquid.

Identification: : Methyl alcohol UNNA: 1230 PG: II

Special Provisions for Transport: Not available.

Section 15: Other Regulatory Information

Other Regulations:

OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

Other Classifications:

WHMIS (Canada):

CLASS B-2: Flammable liquid with a flash point lower than 37.8°C (100°F). CLASS D-1B: Material causing immediate and serious toxic effects (TOXIC). CLASS D-2A: Material causing other toxic effects (VERY TOXIC). Class D-2B: Material causing other toxic effects (TOXIC).

DSCL (EEC):

R11- Highly flammable. R23/24/25- Toxic by inhalation, in contact with skin and if swallowed. R39- Danger of very serious irreversible effects. R39/23/24/25- Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed. S7- Keep container tightly closed. S16- Keep away from sources of ignition - No smoking. S36/37- Wear suitable protective clothing and gloves. S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

HMIS (U.S.A.):

Health Hazard: 2

Fire Hazard: 3

Reactivity: 0

Personal Protection: h

National Fire Protection Association (U.S.A.):

Health: 1

Flammability: 3

Reactivity: 0

Specific hazard:

Protective Equipment:

Gloves. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Splash goggles.

Section 16: Other Information

Other Special Considerations: Not available.

Created: 10/10/2005 08:23 PM

Last Updated: 05/21/2013 12:00 PM



MATERIAL SAFETY DATA SHEET (MSDS)

1. CHEMICAL IDENTITY

Chemical Name	Liquified petroleum gas	Trade name	LPG
Synonyms	LPG, Propane, Butane, Propylene, Purofax, Bottled gas	Chemical classification	Aromatic mixture
Formula	C ₃ H ₆ -C ₃ H ₆ -C ₄ H ₁₀ (Mixture)	CAS Number	68476-85-7
UN number	1075	UN Hazard class	2
Hazchem code (EAC)	2WE		
REGULATED IDENTIFICATION		Hazardous ingredients	CAS No.
Shipping Name	Petroleum gases, liquified	Propane	74-98-6
Shipping code/ Label	Flammable, class2	Butane	106-97-8
Hazardous waste Id No.	5	Propylene	115-07-1
Uses:			

2. PHYSICAL AND CHEMICAL DATA

Boiling point/ Range	>40	Physical state	Gas at 15 c and 1 atm	Appearance	Colourless
Melting/ Freezing Point C	NP	Vapour Pressure(at 20 C) mm Hg	DNA	Odour	Mercaptane added for Odour
Vapour Density (Air =1)	1.5	Solubility in water (at 30 C)	Floats	Other Informations	
Specific gravity (at 50 C) (water =1)	0.51-0.58	pH	Not pertinent	Soluble in Organic solvents, Alcohol	

3. FIRE AND EXPLOSION HAZARD DATA

Flash point C (CC) (OC)	NA	Flammability LFL % v	1.9	TDG Flammability	2
		UFL % v	9.5		
Explosion sensitivity to impact	May explode	Explosion sensitivity to static electricity	May explode	Autoignition Temperature C	466.1
Combustible Material	No	Explosive Material	No	Hazardous Polymerization	will not occur
Flammable Material	YES	Oxidiser	No	Corrosive Material	No
Pyrophoric Material	NO	Organic Peroxide	No	Other information	
Hazardous Combustion Products	Emits CO, CO ₂				

4. REACTIVITY DATA

Chemical stability	Stable
Incompatibility with other Materials	Strong oxidiser
Reactivity	No reaction with common materials but may react with oxidising materials.
Hazardous Reaction Products	Not available.

5. HEALTH HAZARD DATA

Route of entry	Inhalation, Skin			
Effect of exposure/ Symptoms	Concentration in air greater than 10 % causes dizziness in few minutes. 1 % conc. gives the same symptoms in 10 mts. High concentration causes asphyxiation. Liquid on skin causes frostbite.			
Emergency treatment	If inhaled remove the victim to fresh air area. Provide artificial respiration. Skin : Remove the wetted cloths and wash the affected area with plenty of water. Eyes : Flush with plenty of water for 15 min. seeks medical aid.			
Permissible Exposure Limit	TLV-TWA (ACGIH)	1000 ppm	STEL(ACGIH)	Not listed
LD 50 orl-rat: Not listed	IDLH		Odour threshold	5000 to 20000 ppm
LCLo ihl-hmn:				
NFPA Hazard signals	Health 1	Flammability 4	Reactivity 0	Special

**MATERIAL SAFETY DATA SHEET (MSDS)****6. PREVENTIVE MEASURES**

PERSONAL PROTECTIVE MATERIAL	Avoid contact with liquid or gas. Provide hand gloves, safety goggles, gas mask, protective clothing and shoes.
HANDLING AND STORAGE PRECAUTIONS	Keep in tightly closed cylinders in a cool, well ventilated area, away from heat, flame, sparks.

7. EMERGENCY AND FIRST AID MEASURES

FIRE (Class of fire : C)	
Fire extinguish media	Water spray, DCP, CO ₂
Special Procedures	keep the containers cool by spraying water if exposed to fire or hear.
Unusual Hazards	Otherwise containers will explode in fire.
EXPOSURE	
First Aid Measures	Eyes : Flush with plenty of water for atleast 10 minutes Skin : Remove contaminated clothing and wash affected skin with water. Inhalation : Remove victims to fresh air. If not breathing , give artificial respiration. Ingestion : if conscious, have victim drink water or milk. Do not induced vomiting. Obtain medical attention immediately.
Antidotes/ Dosages	No specific antidote. Treat symptomatically.
SPILLS	
Steps to be taken	Shut off leaks if without risk. Warn everybody that air mixture is explosive.
Waste Disposal Method	Allow gas to burn under control.

8. ADDITIONAL INFORMATION/ REFERENCES

ECOLOGICAL INFORMATION	
Ecotoxicity	DNA
Persistence	DNA
OTHER INFORMATION	A common air contaminant. Flammable when exposed to heat or flame. Keep containers tightly closed. Slightly explosion hazard. No food chain concentration potential
REFERENCES (FOR OBTAINING MORE INFORMATION)	
1. Hazardous chemicals Data Book: G Weiss: Noyes Data corp USA	1. Hand book of environmental data: Karen Verschuere: van Nostrand Reinhold Co., USA

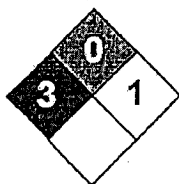
9. MANUFACTURER/SUPPLIER'S DATA

Haldia Petrochemicals Limited, Durgachak, Haldia, Purba Medinipur, WB- 721 602	Contact person in Emergency	Emergency leader
PH: (03224) 274400/007	Local Bodies Involved	The District Magistrate
Fax: (03224) 274420	Standard Packing	By pipeline
	Termcard details/ Ref	Not pertinent
	Others	-

10. DISCLAIMER

Information contained in this material safety data sheet is believed to be reliable but no representation, guarantee or warranties of any kind are made as to its accuracy, suitability for a particular application or results to be obtained from them. It is upto the user/ distributor to ensure that the information contained in the material safety data sheet is relevant to the product manufactured/ handled or sold by him as the case may be. HPL makes no warranties, expressed or implied, in respect of the adequacy of this document for any particular purpose.

Material Safety Data Sheet- Hydrochloric acid



Health	3
Fire	0
Reactivity	1
Personal Protection	

Section 1: Chemical Product and Company Identification

Product Name: Hydrochloric acid

CAS#: Mixture.

RTECS: MW4025000

TSCA: TSCA 8(b) inventory: Hydrochloric acid

CI#: Not applicable.

Synonym: Hydrochloric Acid; Muriatic Acid

Chemical Name: Not applicable.

Chemical Formula: Not applicable.

Contact Information:

Asian Paints Limited

B5-B10, SIPCOT Industrial Complex

Kudikadu,

Cuddalore-607005.

24HR Emergency Telephone, call:

+91 4142-239247, 239248, 239423

Fax: +91 4142 239234

Section 2: Composition and Information on Ingredients

Composition:

Name	CAS #	% by Weight
Hydrogen chloride	7647-01-0	20-38
Water	7732-18-5	62-80

Toxicological Data on Ingredients: Hydrogen chloride: GAS (LC50): Acute: 4701 ppm 0.5 hours [Rat].

Section 3: Hazards Identification

Potential Acute Health Effects:

Very hazardous in case of skin contact (corrosive, irritant, permeator), of eye contact (irritant, corrosive), of ingestion, Slightly hazardous in case of inhalation (lung sensitizer). Non-corrosive for lungs. Liquid or spray mist may produce tissue damage particularly on mucous membranes of eyes, mouth and respiratory tract. Skin contact may produce burns. Inhalation of the spray mist may produce severe irritation of respiratory tract, characterized by coughing, choking, or shortness of breath. Severe over-exposure can result in death. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.

Potential Chronic Health Effects:

Slightly hazardous in case of skin contact (sensitizer). CARCINOGENIC EFFECTS: Classified 3 (Not classifiable for human.) by IARC [Hydrochloric acid]. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. The substance may be toxic to kidneys, liver, mucous membranes, upper respiratory tract, skin, eyes, Circulatory System, teeth. Repeated or prolonged exposure to the substance can produce target organs damage. Repeated or prolonged contact with spray mist may produce chronic eye irritation and severe skin irritation. Repeated or prolonged exposure to spray mist may produce respiratory tract irritation leading to frequent attacks of bronchial infection. Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

Section 4: First Aid Measures**Eye Contact:**

Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention immediately.

Skin Contact:

In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

Serious Skin Contact:

Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention.

Inhalation:

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

Serious Inhalation:

Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. WARNING: It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek immediate medical attention.

Ingestion:

If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

Serious Ingestion: Not available.

Section 5: Fire and Explosion Data

Flammability of the Product: Non-flammable.

Auto-Ignition Temperature: Not applicable.

Flash Points: Not applicable.

Flammable Limits: Not applicable.

Products of Combustion: Not available.

Fire Hazards in Presence of Various Substances: of metals

Explosion Hazards in Presence of Various Substances: Non-explosive in presence of open flames and sparks, of shocks.

Fire Fighting Media and Instructions: Not applicable.

Special Remarks on Fire Hazards:

Non combustible. Calcium carbide reacts with hydrogen chloride gas with incandescence. Uranium phosphide reacts with hydrochloric acid to release spontaneously flammable phosphine. Rubidium acetylene carbides burns with slightly warm hydrochloric acid. Lithium silicide in contact with hydrogen chloride becomes incandescent. When dilute hydrochloric acid is used, gas spontaneously flammable in air is evolved. Magnesium boride treated with concentrated hydrochloric acid produces spontaneously flammable gas. Cesium acetylene carbide burns hydrogen chloride gas. Cesium carbide ignites in contact with hydrochloric acid unless acid is dilute. Reacts with most metals to produce flammable Hydrogen gas.

Special Remarks on Explosion Hazards:

Hydrogen chloride in contact with the following can cause an explosion, ignition on contact, or other violent/vigorous reaction: Acetic anhydride AgClO_4 CCl_4 Alcohols + hydrogen cyanide, Aluminum Aluminum-titanium alloys (with HCl vapor), 2-Amino ethanol, Ammonium hydroxide, Calcium carbide Ca_3P_2 Chlorine + dinitroanilines (evolves gas), Chlorosulfonic acid Cesium carbide Cesium acetylene carbide, 1,1-Difluoroethylene Ethylene diamine Ethylene imine, Fluorine, HClO_4 Hexalithium disilicide H_2SO_4 Metal acetylides or carbides, Magnesium boride, Mercuric sulfate, Oleum, Potassium permanganate, beta-Propiolactone Propylene oxide Rubidium carbide, Rubidium, acetylene carbide Sodium (with aqueous HCl), Sodium hydroxide Sodium tetraselenium, Sulfonic acid, Tetraselenium tetranitride, U_3P_4 , Vinyl acetate. Silver perchlorate with carbon tetrachloride in the presence of hydrochloric acid produces trichloromethyl perchlorate which detonates at 40 deg. C.

Section 6: Accidental Release Measures

Small Spill:

Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container. If necessary: Neutralize the residue with a dilute solution of sodium carbonate.

Large Spill:

Corrosive liquid. Poisonous liquid. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Do not get water inside container. Do not touch spilled material. Use water spray curtain to divert vapor drift. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. Neutralize the residue with a dilute solution of sodium carbonate. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Section 7: Handling and Storage

Precautions:

Keep locked up. Keep container dry. Do not ingest. Do not breathe gas/fumes/ vapor/spray. Never add water to this product. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the

label. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents, organic materials, metals, alkalis, moisture. May corrode metallic surfaces. Store in a metallic or coated fiber board drum using a strong polyethylene inner package.

Storage: Keep container tightly closed. Keep container in a cool, well-ventilated area.

Section 8: Exposure Controls/Personal Protection

Engineering Controls:

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.

Personal Protection:

Face shield. Full suit. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves. Boots.

Personal Protection in Case of a Large Spill:

Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits:

CEIL: 5 (ppm) from OSHA (PEL) [United States] CEIL: 7 (mg/m³) from OSHA (PEL) [United States] CEIL: 5 from NIOSH CEIL: 7 (mg/m³) from NIOSH TWA: 1 STEL: 5 (ppm) [United Kingdom (UK)] TWA: 2 STEL: 8 (mg/m³) [United Kingdom (UK)] Consult local authorities for acceptable exposure limits.

Section 9: Physical and Chemical Properties

Physical state and appearance: Liquid.

Odor: Pungent. Irritating (Strong.)

Taste: Not available.

Molecular Weight: Not applicable.

Color: Colorless to light yellow.

pH (1% soln/water): Acidic.

Boiling Point:

108.58 C @ 760 mm Hg (for 20.22% HCl in water) 83 C @ 760 mm Hg (for 31% HCl in water)
50.5 C (for 37% HCl in water)

Melting Point:

-62.25°C (-80°F) (20.69% HCl in water) -46.2 C (31.24% HCl in water) -25.4 C (39.17% HCl in water)

Critical Temperature: Not available.

Specific Gravity:

1.1- 1.19 (Water = 1) 1.10 (20% and 22% HCl solutions) 1.12 (24% HCl solution) 1.15 (29.57% HCl solution) 1.16 (32% HCl solution) 1.19 (37% and 38% HCl solutions)

Vapor Pressure: 16 kPa (@ 20°C) average

Vapor Density: 1.267 (Air = 1)

Volatility: Not available.

Odor Threshold: 0.25 to 10 ppm

Water/Oil Dist. Coeff.: Not available.

Ionicity (in Water): Not available.

Dispersion Properties: See solubility in water, diethyl ether.

Solubility: Soluble in cold water, hot water, diethyl ether.

Section 10: Stability and Reactivity Data

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Incompatible materials, water

Incompatibility with various substances:

Highly reactive with metals. Reactive with oxidizing agents, organic materials, alkalis, water.

Corrosivity:

Extremely corrosive in presence of aluminum, of copper, of stainless steel(304), of stainless steel(316). Non-corrosive in presence of glass.

Special Remarks on Reactivity:

Reacts with water especially when water is added to the product. Absorption of gaseous hydrogen chloride on mercuric sulfate becomes violent @ 125 deg. C. Sodium reacts very violently with gaseous hydrogen chloride. Calcium phosphide and hydrochloric acid undergo very energetic reaction. It reacts with oxidizers releasing chlorine gas. Incompatible with, alkali metals, carbides, borides, metal oxides, vinyl acetate, acetylides, sulphides, phosphides, cyanides, carbonates. Reacts with most metals to produce flammable Hydrogen gas. Reacts violently (moderate reaction with heat of evolution) with water especially when water is added to the product. Isolate hydrogen chloride from heat, direct sunlight, alkalies (reacts vigorously), organic materials, and oxidizers (especially nitric acid and chlorates), amines, metals, copper and alloys (e.g.brass), hydroxides, zinc (galvanized materials), lithium silicide (incandescence), sulfuric acid(increase in temperature and pressure) Hydrogen chloride gas is emitted when this product is in contact with sulfuric acid. Adsorption of Hydrochloric Acid onto silicon dioxide results in exothermic reaction. Hydrogen chloride causes aldehydes and epoxides to violently polymerize. Hydrogen chloride or Hydrochloric Acid in contact with the following can cause explosion or ignition on contact or

Special Remarks on Corrosivity:

Highly corrosive. Incompatible with copper and copper alloys. It attacks nearly all metals (mercury, gold, platinum, tantalum, silver, and certain alloys are exceptions). It is one of the most corrosive of the nonoxidizing acids in contact with copper alloys. No corrosivity data on zinc, steel. Severe Corrosive effect on brass and bronze

Polymerization: Will not occur.

Section 11: Toxicological Information

Routes of Entry: Absorbed through skin. Dermal contact. Eye contact. Inhalation.

Toxicity to Animals:

Acute oral toxicity (LD50): 900 mg/kg [Rabbit]. Acute toxicity of the vapor (LC50): 1108 ppm, 1 hours [Mouse]. Acute toxicity of the vapor (LC50): 3124 ppm, 1 hours [Rat].

Chronic Effects on Humans:

CARCINOGENIC EFFECTS: Classified 3 (Not classifiable for human.) by IARC [Hydrochloric acid]. May cause damage to the following organs: kidneys, liver, mucous membranes, upper respiratory tract, skin, eyes, Circulatory System, teeth.

Other Toxic Effects on Humans:

Very hazardous in case of skin contact (corrosive, irritant, permeator), of ingestion, . Hazardous in case of eye contact (corrosive), of inhalation (lung corrosive).

Special Remarks on Toxicity to Animals:

Lowest Published Lethal Doses (LDL/LCL) LDL [Man] -Route: Oral; 2857 ug/kg LCL [Human] -Route: Inhalation; Dose: 1300 ppm/30M LCL [Rabbit] - Route: Inhalation; Dose: 4413 ppm/30M

Special Remarks on Chronic Effects on Humans:

May cause adverse reproductive effects (fetotoxicity). May affect genetic material.

Special Remarks on other Toxic Effects on Humans:

Acute Potential Health Effects: Skin: Corrosive. Causes severe skin irritation and burns. Eyes: Corrosive. Causes severe eye irritation/conjunctivitis, burns, corneal necrosis. Inhalation: May be fatal if inhaled. Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract. Inhalation of hydrochloric acid fumes produces nose, throat, and laryngeal burning, and irritation, pain and inflammation, coughing, sneezing, choking sensation, hoarseness, laryngeal spasms, upper respiratory tract edema, chest pains, as well as headache, and palpitations. Inhalation of high concentrations can result in corrosive burns, necrosis of bronchial epithelium, constriction of the larynx and bronchi, nasospetal perforation, glottal closure, occur, particularly if exposure is prolonged. May affect the liver. Ingestion: May be fatal if swallowed. Causes irritation and burning, ulceration, or perforation of the gastrointestinal tract and resultant peritonitis, gastric hemorrhage and infection. Can also cause nausea, vomiting (with "coffee ground" emesis), diarrhea, thirst, difficulty swallowing, salivation, chills, fever, uneasiness, shock, strictures and stenosis (esophageal, gastric, pyloric). May affect behavior (excitement), the cardiovascular system (weak rapid pulse, tachycardia), respiration (shallow respiration), and urinary system (kidneys- renal failure, nephritis). Acute exposure via inhalation or ingestion can also cause erosion of tooth enamel. Chronic Potential Health Effects: dyspnea, bronchitis. Chemical pneumonitis and pulmonary edema can also

Section 12: Ecological Information

Ecotoxicity: Not available.

BOD5 and COD: Not available.

Products of Biodegradation:

Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The products of degradation are less toxic than the product itself.

Special Remarks on the Products of Biodegradation: Not available.

Section 13: Disposal Considerations**Waste Disposal:**

Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Section 14: Transport Information

DOT Classification: Class 8: Corrosive material

Identification: : Hydrochloric acid, solution UNNA: 1789 PG: II

Special Provisions for Transport: Not available.

Section 15: Other Regulatory Information

Other Regulations:

OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

Other Classifications:

WHMIS (Canada):

CLASS D-2A: Material causing other toxic effects (VERY TOXIC). CLASS E: Corrosive liquid.

DSCL (EEC):

R34- Causes burns. R37- Irritating to respiratory system. S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

HMIS (U.S.A.):

Health Hazard: 3

Fire Hazard: 0

Reactivity: 1

Personal Protection:

National Fire Protection Association (U.S.A.):

Health: 3

Flammability: 0

Reactivity: 1

Specific hazard:

Protective Equipment:

Gloves. Full suit. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Face shield.

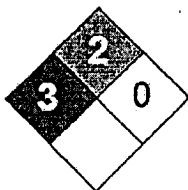
Section 16: Other Information

Other Special Considerations: Not available.

Created: 10/09/2005 05:45 PM

Last Updated: 05/21/2013 12:00 PM

Material Safety Data Sheet- Formic acid



Health	3
Fire	2
Reactivity	0
Personal Protection	

Section 1: Chemical Product and Company Identification

Product Name: Formic acid, 85%, F.C.C

CAS#: Mixture.

RTECS: Not applicable.

TSCA: TSCA 8(b) inventory: Formic acid; Water

CI#: Not applicable.

Synonym: Formic Acid, 85%

Chemical Name: Not applicable.

Chemical Formula: Not applicable.

Contact Information:

Asian Paints Limited

B5-B10,Sipcot Industrial Complex

Kudikadu,

Cuddalore-607005.

24HR Emergency Telephone, call:

+91 4142-239247,239248, 239423

Fax:+91 4142 239234

Section 2: Composition and Information on Ingredients

Composition:

Name	CAS #	% by Weight
Formic acid	64-18-6	85
Water	7732-18-5	15

Toxicological Data on Ingredients: Formic acid: ORAL (LD50): Acute: 700 mg/kg [Mouse].

1100 mg/kg [Rat]. 4000 mg/kg

[Dog]. VAPOR (LC50): Acute: 6200 mg/m 0.25 hours [Mouse].

Section 3: Hazards Identification

Potential Acute Health Effects:

Very hazardous in case of skin contact (irritant), of eye contact (irritant, corrosive), of ingestion, . Hazardous in case of skin contact (corrosive, permeator). Slightly hazardous in case of inhalation (lung sensitizer). Non-corrosive for lungs. Liquid or spray mist may produce tissue damage particularly on mucous membranes of eyes, mouth and respiratory tract. Skin contact may produce burns. Inhalation of the spray mist may produce severe irritation of respiratory tract, characterized by coughing, choking, or shortness of breath.

Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.

Potential Chronic Health Effects:

Slightly hazardous in case of skin contact (sensitizer). CARCINOGENIC EFFECTS: Not available. MUTAGENIC EFFECTS: Mutagenic for mammalian somatic cells. [Formic acid]. Mutagenic for bacteria and/or yeast. [Formic acid]. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. The substance may be toxic to kidneys, liver, upper respiratory tract, skin, eyes, central nervous system (CNS). Repeated or prolonged exposure to the substance can produce target organs damage. Repeated or prolonged contact with spray mist may produce chronic eye irritation and severe skin irritation. Repeated or prolonged exposure to spray mist may produce respiratory tract irritation leading to frequent attacks of bronchial infection.

Section 4: First Aid Measures

Eye Contact:

Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention immediately.

Skin Contact:

In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

Serious Skin Contact:

Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention.

Inhalation:

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

Serious Inhalation:

Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. WARNING: It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek medical attention.

Ingestion:

Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

Serious Ingestion: Not available.

Section 5: Fire and Explosion Data

Flammability of the Product: Combustible.

Auto-Ignition Temperature: The lowest known value is 539°C (1002.2°F) (Formic acid).

Flash Points: The lowest known value is OPEN CUP: 69°C (156.2°F). (Formic acid)

Flammable Limits: The greatest known range is LOWER: 18% UPPER: 57% (Formic acid)

Products of Combustion: These products are carbon oxides (CO, CO₂).

Fire Hazards in Presence of Various Substances:

Flammable in presence of open flames and sparks, of heat. Slightly flammable to flammable in presence of metals. Nonflammable in presence of shocks, of oxidizing materials, of reducing materials, of combustible materials, of organic materials, of acids, of alkalis, of moisture.

Explosion Hazards in Presence of Various Substances:

Explosive in presence of oxidizing materials. Slightly explosive in presence of organic materials, of metals. Non-explosive in presence of open flames and sparks, of shocks.

Fire Fighting Media and Instructions:

SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. Do not use water jet.

Special Remarks on Fire Hazards:

Decomposes more rapidly under fire conditions, forming carbon monoxide. Aluminum reduces formic acid (itself a reductant) with incandescence. (Formic acid)

Special Remarks on Explosion Hazards:

Formic acid forms explosive reactions with the following: Furfuryl alcohol, Hydrogen Peroxide + organic matter; Nitromethane, P₂O₅, Thallic nitrate trihydrate +vanillin, and oxidizing agents Explosive decomposition of Formic Acid on clean nickel. (Formic acid)

Section 6: Accidental Release Measures

Small Spill:

Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container. If necessary: Neutralize the residue with a dilute solution of sodium carbonate.

Large Spill:

Combustible material. Corrosive liquid. Keep away from heat. Keep away from sources of ignition. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Do not get water inside container. Do not touch spilled material. Use water spray curtain to divert vapor drift. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. Neutralize the residue with a dilute solution of sodium carbonate. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Section 7: Handling and Storage

Precautions:

Keep locked up.. Keep container dry. Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not ingest. Do not breathe gas/fumes/ vapor/spray. Never add water to this product. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents, organic materials, acids, alkalis.

Storage:

Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition (spark or flame).

Section 8: Exposure Controls/Personal Protection

Engineering Controls:

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.

Personal Protection:

Face shield. Full suit. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves. Boots.

Personal Protection in Case of a Large Spill:

Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits:

Formic acid TWA: 5 STEL: 10 (ppm) from ACGIH (TLV) [United States] [1999] TWA: 9 (mg/m³) from NIOSH TWA: 5 (ppm) from NIOSH TWA: 9 (mg/m³) from OSHA (PEL) [United States] TWA: 5 (ppm) from OSHA (PEL) [United States] TWA: 5 (ppm) [United Kingdom (UK)] TWA: 9.3 (mg/m³) [United Kingdom (UK)]³ Consult local authorities for acceptable exposure limits.

Section 9: Physical and Chemical Properties

Physical state and appearance: Liquid.

Odor: Pungent. Penetrating. Benzaldehyde-like

Taste: Sour

Molecular Weight: Not applicable.

Color: Clear Colorless.

pH (1% soln/water): Acidic.

Boiling Point: The lowest known value is 100°C (212°F) (Water). Weighted average: 100.67°C (213.2°F)

Melting Point: May start to solidify at 8.4°C (47.1°F) based on data for: Formic acid.

Critical Temperature: Not available.

Specific Gravity: Weighted average: 1.21 (Water = 1)

Vapor Pressure: The highest known value is 4.7 kPa (@ 20°C) (Formic acid). Weighted average: 4.6 kPa (@ 20°C)

Vapor Density: The highest known value is 1.59 (Air = 1) (Formic acid). Weighted average: 1.55 (Air = 1)

Volatility: Not available.

Odor Threshold: The highest known value is 0.625 ppm (Formic acid)

Water/Oil Dist. Coeff.: Not available.

Ionicity (in Water): Not available.

Dispersion Properties: See solubility in water, diethyl ether, acetone.

Solubility:

Easily soluble in acetone. Soluble in cold water, hot water, diethyl ether.

Section 10: Stability and Reactivity Data

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Heat, ignition sources, incompatible materials

Incompatibility with various substances:

Highly reactive with oxidizing agents. Reactive with organic materials, metals, acids, alkalis.

Corrosivity:

Highly corrosive in presence of copper. Corrosive in presence of stainless steel(304). Non-corrosive in presence of glass, of aluminum, of stainless steel(316).

Special Remarks on Reactivity:

Formic acid is a strong reducing agent. Decomposes slowly during storage! Vent Container At Least Monthly. Formic acid may react with alkalies and oxidizing materials such as peroxides, nitric acid, and chromic acid. It is also incompatible with concentrated Sulfuric Acid, Nitromethane, finely powdered metals, permanganates, strong bases, oxidizing agents. (Formic acid)

Special Remarks on Corrosivity: Corrosive to metals

Polymerization: Will not occur.

Section 11: Toxicological Information

Routes of Entry: Absorbed through skin. Dermal contact. Eye contact. Inhalation. Ingestion.

Toxicity to Animals: Acute oral toxicity (LD50): 729 mg/kg (Mouse) (Calculated value for the mixture).

Chronic Effects on Humans:

MUTAGENIC EFFECTS: Mutagenic for mammalian somatic cells. [Formic acid]. Mutagenic for bacteria and/or yeast. [Formic acid]. May cause damage to the following organs: kidneys, liver, upper respiratory tract, skin, eyes, central nervous system (CNS).

Other Toxic Effects on Humans:

Extremely hazardous in case of inhalation (lung corrosive). Very hazardous in case of skin contact (irritant), of eye contact (corrosive), of ingestion, . Hazardous in case of skin contact (corrosive, permeator).

Special Remarks on Toxicity to Animals: Not available.

Special Remarks on Chronic Effects on Humans: May affect genetic material (mutagenic)

Special Remarks on other Toxic Effects on Humans:

Acute Potential Health Effects: Skin: Corrosive. Causes skin irritation and burns . Absorbed through the skin. May cause erythema and blistering. Eyes: Corrosive. Causes eye irritation and burns. Lachrymator. May cause corneal edema, ulceration and scarring. Vapors may cause itching, burning and swelling of the eyes. Inhalation: Affects respiration and causes respiratory tract irritation and burns. Vapors may affect behavior (brain) and sense organs and cause dizziness, and nausea. May also affect the urinary system and liver Ingestion: May be harmful if swallowed. Causes digestive tract irritation and burns with abdominal pain, vomiting, and possible death. May product corrosive ulceration and bleeding, and necrosis of the gastrointestinal tract. May also affect the cardiovascular system, urinary system, blood, behavior, and metabolism. **Chronic Potential Health Effects:** Prolonged or repeated skin contact may cause dermatitis. May cause liver and kidney damage. Effects may be delayed. Laboratory experiments have resulted in mutagenic effects.

Section 12: Ecological Information

Ecotoxicity: Not available.

BOD5 and COD: Not available.

Products of Biodegradation:

Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The products of degradation are less toxic than the product itself.

Special Remarks on the Products of Biodegradation: Not available.

Section 13: Disposal Considerations

Waste Disposal:

Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Section 14: Transport Information

DOT Classification: Class 8: Corrosive material

Identification: : Formic acid (Formic acid) UNNA: 1779 PG: II

Special Provisions for Transport: Not available.

Section 15: Other Regulatory Information

Other Regulations: OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

Other Classifications:

WHMIS (Canada):

CLASS B-3: Combustible liquid with a flash point between 37.8°C (100°F) and 93.3°C (200°F).

CLASS E: Corrosive liquid.

DSCL (EEC):

HMIS (U.S.A.):

Health Hazard: 3

Fire Hazard: 2

Reactivity: 0

Personal Protection:

National Fire Protection Association (U.S.A.):

Health: 3

Flammability: 2

Reactivity: 0

Specific hazard:

Protective Equipment:

Gloves. Full suit. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Face shield.

Section 16: Other Information

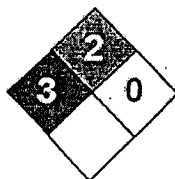
References: Not available.

Other Special Considerations: Not available.

Created: 10/09/2005 05:35 PM

Last Updated: 05/21/2013 12:00 PM

Material Safety Data Sheet- Formaldehyde solution



Health	3
Fire	2
Reactivity	0
Personal Protection	G

Section 1: Chemical Product and Company Identification

Product Name: Formaldehyde 37% solution

CAS#: Mixture.

RTECS: LP8925000

TSCA: TSCA 8(b) inventory: Formaldehyde; Methyl alcohol; Water

CI#: Not applicable.

Synonym: Formalin

Chemical Name: Formaldehyde

Chemical Formula: HCHO

Contact Information:

Asian Paints Limited

B5-B10, SIPCOT Industrial Complex

Kudikadu,

Cuddalore-607005.

24HR Emergency Telephone, call:

+91 4142-239247, 239248, 239423

Fax: +91 4142 239234

Section 2: Composition and Information on Ingredients

Composition:

Name	CAS #	% by Weight
Formaldehyde	50-00-0	25-38
Methyl alcohol	67-56-1	0-15
Water	7732-18-5	47-75

Toxicological Data on Ingredients: Formaldehyde: ORAL (LD50): Acute: 100 mg/kg [Rat]. 42 mg/kg [Mouse]. 260 mg/kg [Guinea pig]. MIST (LC50): Acute: 454000 mg/m 4 hours [Mouse]. Methyl alcohol: ORAL (LD50): Acute: 5628 mg/kg [Rat]. DERMAL (LD50): Acute: 15800 mg/kg [Rabbit]. VAPOR (LC50): Acute: 64000 ppm 4 hours [Rat].

Section 3: Hazards Identification

Potential Acute Health Effects:

Very hazardous in case of eye contact (irritant), of ingestion, . Hazardous in case of skin contact (irritant, sensitizer, per meator), of eye contact (corrosive). Slightly hazardous in case

of skin contact (corrosive). Severe over-exposure can result in death. Inflammation of the eye is characterized by redness, watering, and itching.

Potential Chronic Health Effects:

Hazardous in case of skin contact (sensitizer). CARCINOGENIC EFFECTS: Classified A2 (Suspected for human.) by ACGIH, 2A (Probable for human.) by IARC [Formaldehyde]. MUTAGENIC EFFECTS: Mutagenic for mammalian somatic cells. [Formaldehyde]. Mutagenic for bacteria and/or yeast. [Formaldehyde]. Mutagenic for mammalian somatic cells. [Methyl alcohol]. Mutagenic for bacteria and/or yeast. [Methyl alcohol]. TERATOGENIC EFFECTS: Classified POSSIBLE for human [Methyl alcohol]. DEVELOPMENTAL TOXICITY: Not available. The substance may be toxic to kidneys, liver, skin, central nervous system (CNS). Repeated or prolonged exposure to the substance can produce target organs damage. Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

Section 4: First Aid Measures

Eye Contact:

Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Cold water may be used. Get medical attention immediately.

Skin Contact:

In case of contact, immediately flush skin with plenty of water. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.

Serious Skin Contact:

Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention.

Inhalation:

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

Serious Inhalation:

Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. WARNING: It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek immediate medical attention.

Ingestion:

If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

Serious Ingestion: Not available.

Section 5: Fire and Explosion Data

Flammability of the Product: Flammable.

Auto-Ignition Temperature: 430°C (806°F)

Flash Points: CLOSED CUP: 50°C (122°F). OPEN CUP: 60°C (140°F).

Flammable Limits: The greatest known range is LOWER: 6% UPPER: 36.5% (Methyl alcohol)

Section 8: Exposure Controls/Personal Protection

Engineering Controls:

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.

Personal Protection:

Safety glasses. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves (impervious).

Personal Protection in Case of a Large Spill:

Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits:

Formaldehyde gas STEL: 0.3 (ppm) from ACGIH (TLV) [United States] STEL: 0.37 (mg/m³) from ACGIH (TLV) [United States] TWA: 0.75 STEL: 2 (ppm) from OSHA (PEL) [United States] TWA: 2 STEL: 2 (ppm) [United Kingdom (UK)] TWA: 2.5 STEL: 2.5 (mg/m³) [United Kingdom (UK)] Methyl alcohol TWA: 200 from OSHA (PEL) [United States] TWA: 200 STEL: 250 (ppm) from ACGIH (TLV) [United States] [1999] STEL: 250 from NIOSH [United States] TWA: 200 STEL: 250 (ppm) from NIOSH SKIN TWA: 200 STEL: 250 (ppm) [Canada] Consult local authorities for acceptable exposure limits.

Section 9: Physical and Chemical Properties

Physical state and appearance: Liquid.

Odor: Pungent. Suffocating. (Strong.)

Taste: Not available.

Molecular Weight: 30.02

Color: Clear Colorless.

pH (1% soln./water): 3 [Acidic.] pH of the solution as is.

Boiling Point: 98°C (208.4°F)

Melting Point: -15°C (5°F)

Critical Temperature: The lowest known value is 240°C (464°F) (Methyl alcohol).

Specific Gravity: 1.08 (Water = 1)

Vapor Pressure: 2.4 kPa (@ 20°C)

Vapor Density: 1.03 (Air = 1)

Volatility: 100% (w/w).

Odor Threshold: The highest known value is 100 ppm (Methyl alcohol)

Water/Oil Dist. Coeff.: Not available.

Ionicity (in Water): Non-ionic.

Dispersion Properties: See solubility in water, diethyl ether, acetone.

Solubility:

Easily soluble in cold water, hot water. Soluble in diethyl ether, acetone; alcohol

Section 10: Stability and Reactivity Data

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Heat, ignition sources (flames, sparks), incompatible materials

Products of Combustion: These products are carbon oxides (CO, CO₂).

Fire Hazards in Presence of Various Substances:

Flammable in presence of open flames and sparks, of heat. Non-flammable in presence of shocks, of oxidizing materials, of reducing materials, of combustible materials, of organic materials, of metals, of acids, of alkalis.

Explosion Hazards in Presence of Various Substances: Non-explosive in presence of open flames and sparks, of shocks.

Fire Fighting Media and Instructions:

Flammable liquid, soluble or dispersed in water. **SMALL FIRE:** Use DRY chemical powder. **LARGE FIRE:** Use alcohol foam, water spray or fog. Cool containing vessels with water jet in order to prevent pressure build-up, autoignition or explosion.

Special Remarks on Fire Hazards:

Explosive in the form of vapor when exposed to heat or flame. Vapor may travel considerable distance to source of ignition and flash back. When heated to decomposition, it emits acrid smoke and irritating fumes. **CAUTION: MAY BURN WITH NEAR INVISIBLE FLAME (Methyl alcohol)**

Special Remarks on Explosion Hazards:

Reaction with peroxide, nitrogen dioxide, and permformic acid can cause an explosion. (Formaldehyde gas)

Section 6: Accidental Release Measures

Small Spill:

Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container. If necessary: Neutralize the residue with a dilute solution of sodium carbonate.

Large Spill:

Flammable liquid. Poisonous liquid. Keep away from heat. Keep away from sources of ignition. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Do not get water inside container. Do not touch spilled material. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. Neutralize the residue with a dilute solution of sodium carbonate. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Section 7: Handling and Storage

Precautions:

Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not ingest. Do not breathe gas/fumes/ vapor/spray. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents, reducing agents, acids, alkalis, moisture.

Storage:

Store in a segregated and approved area. Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition (spark or flame).

Incompatibility with various substances:

Reactive with oxidizing agents, reducing agents, acids, alkalis. Slightly reactive to reactive with metals.

Corrosivity: Non-corrosive in presence of glass.

Special Remarks on Reactivity:

Also incompatible with urea, phenol, isocyanates, anhydrides, amines, AZO compounds, carbonyl compounds, oxides(e.g. nitrogen dioxide), performic acid, dithiocarbamates, or peroxides. Polymerization can be inhibited by the addition of methanol or stabilizers such as hydroxypropyl methyl cellulose, methyl ethyl celluloses, or isophthalobisguanamine.

Special Remarks on Corrosivity: Not available.

Polymerization: Will not occur.

Section 11: Toxicological Information

Routes of Entry: Absorbed through skin. Dermal contact. Eye contact. Inhalation.

Toxicity to Animals:

Acute oral toxicity (LD50): 42 mg/kg [Mouse]. (Formaldehyde) Acute dermal toxicity (LD50): 15800 mg/kg [Rabbit]. (Methyl alcohol). Acute toxicity of the mist(LC50): 454000 mg/m 4 hours [Mouse]. (Formaldehyde) 3

Chronic Effects on Humans:

CARCINOGENIC EFFECTS: Classified A2 (Suspected for human.) by ACGIH, 2A (Probable for human.) by IARC [Formaldehyde]. MUTAGENIC EFFECTS: Mutagenic for mammalian somatic cells. [Formaldehyde]. Mutagenic for bacteria and/or yeast. [Formaldehyde]. Mutagenic for mammalian somatic cells. [Methyl alcohol]. Mutagenic for bacteria and/or yeast. [Methyl alcohol]. TERATOGENIC EFFECTS: Classified POSSIBLE for human [Methyl alcohol]. DEVELOPMENTAL TOXICITY: Not available May cause damage to the following organs: kidneys, liver, central nervous system (CNS).

Other Toxic Effects on Humans:

Very hazardous in case of ingestion, . Hazardous in case of skin contact (irritant, sensitizer, permeator), of eye contact (corrosive), of inhalation (lung corrosive). Slightly hazardous in case of skin contact (corrosive).

Special Remarks on Toxicity to Animals:

Formaldehyde: LD50 [Rabbit] - Route: Skin; Dose: 270 ul/kg

Special Remarks on Chronic Effects on Humans:

Exposure to Formaldehyde and Methanol may affect genetic material (mutagenic). Exposure to Formaldehyde and Methanol may cause adverse reproductive effects and birth defects (teratogenic). Adverse reproductive effects of Formaldehyde as well as Methanol are primarily based on animal studies. Very few human studies have been done on the adverse reproductive effects from exposure to Formaldehyde. Studies produced a weak association (limited evidence) between adverse human female reproductive effects and occupational exposure. Furthermore, no human data could be found on adverse reproductive effects from occupational exposure to Methanol. Exposure to Formaldehyde may cause cancer.

Special Remarks on other Toxic Effects on Humans:

Acute Potential Health Effects: Skin: Corrosive. Causes skin irritation which may range from mild to severe with possible burns depending on the extent of exposure and concentration of solution. Other symptoms may include brownish discoloration of the skin, urticaria, and pustulovesicffular eruptions. May be absorbed through skin with symptoms paralleling those of ingestion. Eyes: Corrosive. Contact with liquid causes severe eye irritation and

burns. It may cause irreversible eye damage (severe corneal Solutions containing low formaldehyde concentrations may produce transient discomfort and irritation. Inhalation: Causes irritation of the respiratory tract (nose, throat, airways). Symptoms may include dry and sore mouth and throat, thirst, and sleep disturbances, difficulty breathing, shortness of breath, coughing, sneezing, wheezing rhinitis, chest tightness, pulmonary edema, bronchitis, tracheitis, laryngospasm, pneumonia, palpitations. It may also affect metabolism weight loss, metabolic acidosis), behavior/central nervous system (excitement, central nervous system depression, somnolence, convulsions, stupor, aggression, headache, weakness, dizziness, drowsiness, coma), peripheral nervous system, and blood. Ingestion: Harmful if swallowed. May be fatal. Causes gastrointestinal irritation with nausea, vomiting (possibly with blood), diarrhea, severe pain in mouth, throat and stomach, and possible corrosive injury to the gastrointestinal mucosa/ulceration or bleeding from stomach. May also affect the liver(jaundice), urinary system/kidneys (difficulty urinating, albuminuria, hematuria, anuria), blood, endocrine system, respiration (respiratory obstruction, pulmonary edema, bronchiolar obstruction), cardiovascular system (hypotension), metabolism (metabolic acidosis), eyes (retinal changes, visual field changes), and behavior/central nervous system (symptoms similar to those for inhalation). Contains Methanol which may cause blindness if swallowed. Chronic Potential Health Effects: Skin: Prolonged or repeated exposure may cause contact dermatitis both irritant and allergic. It may also cause skin discoloration. Inhalation: Although there is no clear evidence, prolonged or repeated exposure may induce allergic asthma. Other effects are similar to that of acute exposure. Ingestion: Prolonged or repeated ingestion may cause gastrointestinal tract irritation and ulceration or bleeding from the stomach. Other effects may be similar to that of acute ingestion.

Section 12: Ecological Information

Ecotoxicity: Not available.

BOD5 and COD: Not available.

Products of Biodegradation:

Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The products of degradation are less toxic than the product itself.

Special Remarks on the Products of Biodegradation:

Methanol in water is rapidly biodegraded and volatilized. Aquatic hydrolysis, oxidation, photolysis, adsorption to sediment, and bioconcentration are not significant fate processes. The half-life of methanol in surface water ranges from 24 hrs. to 168 hrs. Based on its vapor pressure, methanol exists almost entirely in the vapor phase in the ambient atmosphere. It is degraded by reaction with photochemically produced hydroxyl radicals and has an estimated half-life of 17.8 days. Methanol is physically removed from air by rain due to its solubility. Methanol can react with NO₂ in polluted air to form methyl nitrate. The half-life of methanol in air ranges from 71 hrs. (3 days) to 713 hrs. (29.7 days) based on photooxidation half-life in air. (Methyl alcohol)

Section 13: Disposal Considerations

Waste Disposal:

Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Section 14: Transport Information

DOT Classification:

CLASS 3: Flammable liquid. Class 8: Corrosive material

Identification: : Formaldehyde Solution, flammable (Methyl alcohol) UNNA: 1198 PG: III

Special Provisions for Transport: Not available.

Section 15: Other Regulatory Information

Other Regulations:

OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

Other Classifications:

WHMIS (Canada):

CLASS B-3: Combustible liquid with a flash point between 37.8°C (100°F) and 93.3°C (200°F).

CLASS D-1A: Material causing immediate and serious toxic effects (VERY TOXIC). CLASS D-2A:

Material causing other toxic effects (VERY TOXIC).

DSCL (EEC):

HMIS (U.S.A.):

Health Hazard: 3

Fire Hazard: 2

Reactivity: 0

Personal Protection: G

National Fire Protection Association (U.S.A.):

Health: 3

Flammability: 2

Reactivity: 0

Specific hazard:

Protective Equipment:

Gloves (impervious). Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Safety glasses.

Section 16: Other Information

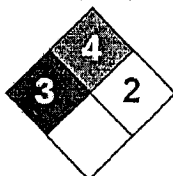
References: Not available.

Other Special Considerations: Not available.

Created: 10/09/2005 05:35 PM

Last Updated: 05/21/2013 12:00 PM

Material Safety Data Sheet



Health	2
Fire	4
Reactivity	0
Personal Protection	J

Acetaldehyde MSDS

Section 1: Chemical Product and Company Identification

Product Name: Acetaldehyde

CAS#: 75-07-0

RTECS: AB1925000

TSCA: TSCA 8(b) inventory: Acetaldehyde

CI#: Not applicable.

Synonym: Ethyl Aldehyde; Ethanal; Acetic Aldehyde

Chemical Name: Acetaldehyde

Chemical Formula: CH₃CHO

Contact Information:

Asian Paints Limited

B5-B10, SIPCOT Industrial Complex

Kudikadu,

Cuddalore-607005.

24HR Emergency Telephone, call:

+91 4142-239247, 239248, 239423

Fax: +91 4142 239234

Section 2: Composition and Information on Ingredients

Composition:

Name	CAS #	% by Weight
Acetaldehyde	75-07-0	100

Toxicological Data on Ingredients: Acetaldehyde: ORAL (LD₅₀): Acute: 661 mg/kg [Rat.]. 900 mg/kg [Mouse]. DERMAL (LD₅₀): Acute: 3540 mg/kg [Rabbit]. VAPOR (LC₅₀): Acute: 13300 ppm 4 hours [Rat]. 23000 mg/m 4 hours [Mouse].

Section 3: Hazards Identification

Potential Acute Health Effects:

Hazardous in case of eye contact (irritant), of ingestion, of inhalation (lung irritant). Slightly hazardous in case of skin contact (irritant, permeator).

Potential Chronic Health Effects:

Hazardous in case of skin contact (irritant). Slightly hazardous in case of skin contact (sensitizer). **CARCINOGENIC EFFECTS:** Classified 2B (Possible for human.) by IARC. **MUTAGENIC EFFECTS:** Mutagenic for mammalian somatic cells. Mutagenic for bacteria



and/or yeast. TERATOGENIC EFFECTS: Classified POSSIBLE for human. DEVELOPMENTAL TOXICITY: Not available. The substance may be toxic to liver. Repeated or prolonged exposure to the substance can produce target organs damage.

Section 4: First Aid Measures

Eye Contact:

Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Cold water may be used. Get medical attention.

Skin Contact:

In case of contact, immediately flush skin with plenty of water. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.

Serious Skin Contact: Not available.

Inhalation:

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Serious Inhalation:

Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek medical attention.

Ingestion:

Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

Serious Ingestion: Not available.

Section 5: Fire and Explosion Data

Flammability of the Product: Flammable.

Auto-Ignition Temperature: 175°C (347°F) (ACGIH, 1996; Lewis, 1996; NFPA, 1994); 185 deg. C (ILO, 1998)

Flash Points:

CLOSED CUP: -38°C (-36.4°F) (Buvardi (1996); Clayton and Clayton, 1993; Lewis, 1996); -38.89 deg. C (American Conference of Governmental Industrial Hygienists) OPEN CUP: -40°C (-40°F) (Lewis, 1997; ACGIH, 1996 (Cleveland).

Flammable Limits:

LOWER: 4% UPPER: 55% (Clayton; Patty's Industrial Hygiene and Toxicology); 57% (American Conference of Governmental Industrial Hygienists); 60% (National Fire Protection Association)

Products of Combustion: These products are carbon oxides (CO, CO₂).

Fire Hazards in Presence of Various Substances:

Extremely flammable in presence of open flames and sparks, of heat. Non-flammable in presence of shocks.

Explosion Hazards in Presence of Various Substances:

Risks of explosion of the product in presence of static discharge: Not available. Explosive in presence of heat, of acids, of alkalis. Non-explosive in presence of shocks.

**Fire Fighting Media and Instructions:**

Flammable liquid, soluble or dispersed in water. SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use alcohol foam, water spray or fog. Cool containing vessels with water jet in order to prevent pressure build-up, auto ignition or explosion.

Special Remarks on Fire Hazards: When heated to decomposition it emits acrid smoke and fumes.

Special Remarks on Explosion Hazards:

Hazardous or explosive polymerization may occur with acids, alkaline materials, heat, strong bases, trace metals. Forms explosive peroxides on exposure to air, heat or sunlight.

Section 6: Accidental Release Measures**Small Spill:**

Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container.

Large Spill:

Flammable liquid. Keep away from heat. Keep away from sources of ignition. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Do not touch spilled material. Prevent entry into sewers, basements or confined areas; dike if needed. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Section 7: Handling and Storage**Precautions:**

Keep locked up.. Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not ingest. Do not breathe gas/fumes/ vapor/spray. Avoid contact with eyes. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Keep away from incompatibles such as oxidizing agents, combustible materials, organic materials, metals, acids, alkalis.

Storage:

Store in a segregated and approved area. Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition (spark or flame).

Section 8: Exposure Controls/Personal Protection**Engineering Controls:**

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.

Personal Protection:

Splash goggles. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves (impervious).

Personal Protection in Case of a Large Spill:

Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits:

TWA: 25 (ppm) from ACGIH (TLV) [United States] TWA: 200 STEL: 150 (ppm) from OSHA (PEL) [United States] TWA: 360 STEL: 270 (mg/m³) from OSHA (PEL) [United States] Consult local authorities for acceptable exposure limits.

Section 9: Physical and Chemical Properties

Physical state and appearance: Liquid. (Fuming liquid.)

Odor: Fruity. Pungent. (Strong.)

Taste: Leafy green

Molecular Weight: 44.05 g/mole

Color: Colorless.

pH (1% soln/water): Not available.

Boiling Point: 21°C (69.8°F)

Melting Point: -123.5°C (-190.3°F)

Critical Temperature: 188°C (370.4°F)

Specific Gravity: 0.78 (Water = 1)

Vapor Pressure: 101.3 kPa (@ 20°C)

Vapor Density: 1.52 (Air = 1)

Volatility: Not available.

Odor Threshold: 0.21 ppm

Water/Oil Dist. Coeff.: Not available.

Ionicity (in Water): Not available.

Dispersion Properties: See solubility in water, diethyl ether, acetone.

Solubility:

Easily soluble in cold water, hot water. Soluble in diethyl ether, acetone. Miscible with benzene, gasoline, solvent naphtha, toluene, xylene, turpentine. Solubility in water: 1000 g/l @ 25 deg. C.

Section 10: Stability and Reactivity Data

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Heat, ignition sources (flames, sparks), incompatible materials

Incompatibility with various substances:

Highly reactive with metals, acids, alkalis. Reactive with oxidizing agents, combustible materials, organic materials.

Corrosivity: Non-corrosive in presence of glass.

Special Remarks on Reactivity:

Reacts with oxidizing materials, halogens, amines, strong alkalis (bases), and acids, cobalt acetate, phenols, ketones, ammonia, hydrogen cyanide, hydrogen sulfide, hydrogen peroxide, mercury (II) salts (chlorate or perchlorate), acid anhydrides, alcohols, iodine, isocyanates, phosphorus, phosphorus isocyanate, tris(2-chlorobutyl)amine. It can slowly polymerize to paraldehyde. Polymerization may occur in presence of acid traces causing exothermic reaction, increased vessel pressure, fire, and explosion. Impure material

polymerizes readily in presence of traces of metals (iron) or acids. Acetaldehyde is polymerized violently by concentrated sulfuric acid. Acetaldehyde can dissolve rubber.

Special Remarks on Corrosivity: Not available.

Polymerization: Not available.

Section 11: Toxicological Information

Routes of Entry: Absorbed through skin. Eye contact. Inhalation. Ingestion.

Toxicity to Animals:

WARNING: THE LC50 VALUES HEREUNDER ARE ESTIMATED ON THE BASIS OF A 4-HOUR EXPOSURE. Acute oral toxicity (LD50): 661 mg/kg [Rat.]. Acute dermal toxicity (LD50): 3540 mg/kg [Rabbit]. Acute toxicity of the vapor (LC50): 23000 mg/m³ 4 hours [Mouse].

Chronic Effects on Humans:

CARCINOGENIC EFFECTS: Classified 2B (Possible for human.) by IARC. **MUTAGENIC EFFECTS:** Mutagenic for mammalian somatic cells. Mutagenic for bacteria and/or yeast. **TERATOGENIC EFFECTS:** Classified POSSIBLE for human. May cause damage to the following organs: liver.

Other Toxic Effects on Humans:

Hazardous in case of ingestion, of inhalation (lung irritant). Slightly hazardous in case of skin contact (irritant, permeator).

Special Remarks on Toxicity to Animals: Not available.

Special Remarks on Chronic Effects on Humans:

May cause adverse reproductive effects and birth defects (teratogenic) based on animal test data May affect genetic material (mutagenic). May cause cancer based on animal test data

Special Remarks on other Toxic Effects on Humans:

Acute Potential Health Effects: Skin: Causes mild skin irritation. It can be absorbed through intact skin. Eyes: Causes severe eye irritation. Eye splashes produce painful but superficial corneal injuries which heal rapidly. Inhalation: It causes upper respiratory tract and mucous membrane irritation. It decreases the amount of pulmonary macrophages. It may cause bronchitis. It may cause pulmonary edema, often the cause of delayed death. It may affect respiration (dyspnoea) and respiratory arrest and death may occur. It may affect behaviour/central nervous and cause central nervous system depression. Irritation usually prevents voluntary exposure to airborne concentrations high enough to cause CNS depression, although this effect has occurred in experimental animals. It may also affect the peripheral nervous system and cardiovascular system (hypotension or hypertension, tachycardia, bradycardia), kidneys (albuminuria) **Chronic Potential Health Effects:** Skin: Prolonged direct skin contact causes erythema and burns. Repeated exposure may cause dermatitis secondary to primary irritation or sensitization. Ingestion: Symptoms of chronic Acetaldehyde exposure may resemble those of chronic alcoholism. Acetaldehyde is the a metabolite of ethanol in humans and has been implicated as the active agent damaging the liver in ethanol-induced liver disease.

Section 12: Ecological Information

Ecotoxicity: Not available.

BOD5 and COD: Not available.

Products of Biodegradation:



Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The products of degradation are less toxic than the product itself.

Special Remarks on the Products of Biodegradation: Not available.

Section 13: Disposal Considerations

Waste Disposal:

Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Section 14: Transport Information

DOT Classification: CLASS 3: Flammable liquid.

Identification: : Acetaldehyde UNNA: 1089 PG: I

Special Provisions for Transport: Marine Pollutant

Section 15: Other Regulatory Information

Other Regulations:

OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

Other Classifications:

WHMIS (Canada):

CLASS B-2: Flammable liquid with a flash point lower than 37.8°C (100°F). CLASS D-2A: Material causing other toxic effects (VERY TOXIC).

DSCL (EEC):

R12- Extremely flammable. R36/37/38- Irritating to eyes, respiratory system and skin. R40- Possible risks of irreversible effects. S16- Keep away from sources of ignition - No smoking. S33- Take precautionary measures against static discharges. S36/37/39- Wear suitable protective clothing, gloves and eye/face protection.

HMIS (U.S.A.):

Health Hazard: 2

Fire Hazard: 4

Reactivity: 0

Personal Protection: j

National Fire Protection Association (U.S.A.):

Health: 3

Flammability: 4

Reactivity: 2

Specific hazard:

Protective Equipment:

Gloves (impervious). Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Splash goggles.

**Section 16: Other Information**

Other Special Considerations: Not available.

Created: 10/09/2005 03:35 PM

Last Updated: 05/21/2013 12:00 PM



Annexure - 16

Statutory Approvals & Licenses

Statutory Approvals & License

S No	Particular
2	Factory License
3	Plan Approval
4	State Environment Clearance(EC)
5	Consent Order (Air & Water)
7	Fire License
8	PESO License
9	DI2 License (Methyl Alcohol)



Form No.4 - Registration and Licence to work a factory

[Prescribed under Rule 4 (6) of the Tamil Nadu Factories Rules 1950]



Registration Number : CDR00674

Licence Fee : ₹ 352800.00

Licence is hereby granted / renewed to Mr. Amit Syngle valid only for the premises detailed below for use as a factory employing not more than 500 workers on any one day during the year and using installed horse power inclusive of mobile equipment not exceeding 5000 horse power subject to the provisions of the Factories Act, 1948 and the Rules made thereunder.

This licence shall remain in force till the 31st day of December 2021 unless such licence is cancelled before that date under rule 109.

Name of the factory : **ASIAN PAINTS LIMITED**

Description of Licensed Premises

The licensed premises shown on Plan No. R.Dis (T1)/6101/2020 dated 13/03/2020 are situated in Door No. / Plot No.: B5/B10, Sipcot Industrial Complex, Kudikadu, Cuddalore, Cuddalore Taluk, Cuddalore District - 607005.

Date : 05/02/2021

Joint Director of Industrial Safety and Health, Cuddalore

Renewals				
Sl.No.	Date of Renewal	Fee for Renewal	Date of Expiry	Signature of Joint Director
1	05/02/2021	352800.00	31/12/2022	
Amendments				
Sl.No.	Amended to Install horse power	Amended to Employ maximum number of workers	Additional fee	Signature of Joint Director
1.				
2.				
Transfers				
Sl.No.	Name of the person to whom transfered	Name of the factory	Signature of Joint Director	
1.				
2.				

பதிவுஞ்சல் மூலமாக

தொழிலைப் பாதுகாப்பு மற்றும் சுகாதார இயக்ககம்

அனுப்பினர்.

திரு. கு. காளியண்ணன், எம்.டெக்,
இயக்குநர்,
தொழிலைப் பாதுகாப்பு மற்றும் சுகாதாரம்,
கிண்டி, சென்னை - 600 032.

பெறுநர்.

உரிமையாளர்
Asian Paints Limited, Penta Division,
B5 - B10, Sipcot Industrial Complex,
Kudikadu Village,
Cuddalore - 607005.

நி.ம. (டி.1) /20202/2018 நாள். 17.09.2018

அப்பா,

பொருள்: தொழிற்சாலைகள் சட்டம் 1948 மற்றும் தமிழ்நாடு தொழிற்சாலைகள் விதிகள்
1950 -வரைபடங்கள்- (பதிவு எண். CDR - 674) - Asian Paints Limited,
Penta Division, B5 - B10, Sipcot Industrial Complex, Kudikadu
Village, Cuddalore - கூடுதல் ஒப்புதல் அளிக்கப்பட்டன.

பார்வை: தங்களின் படிவம் எண்.1, நாள். 13.08.2018 (03.09.2018 அன்று பெறப்பட்டது)

தங்களிடமிருந்து பெறப்பட்ட வரைபடங்கள் கீழ்க்கண்ட நிபந்தனைகளுக்குப்பட்டு
ஒப்புதல் அளிக்கப்படுகின்றது.

1. கூடுதலாக கட்டப்படும் Workshop (14.77 x 7.47 மீட்டர்) - (80) பயன்பாட்டு
விவரம் குறிப்பிடவேண்டும்.
2. RO Plant ல் 60 HP க்கான பொறிகளின் நிர்மாண விவரம் வரைபடத்தில்
காட்டப்படவேண்டும்.
3. இவ்வலுவலக கடித எண் நிழ/36679/2016 நாள் 26.01.2017 ல் கூறப்பட்டுள்ள
கீழ்க்காணும் நிபந்தனைகள் சரிசெய்யப்படவேண்டும்.
- அ. அனைத்து பொறிகளையும் அளவு விவரங்களுடன் நிறுவி காட்டவேண்டும்.
- ஆ. மேல்தள கூடத்திற்கு குறைந்தபட்சம் இரண்டு புகட்டுகள் அமைக்கவேண்டும்.
- இ. இவ்வலுவலக கடித எண் நிழ/9385/15 நாள் 12.05.2015 இல் விதிக்கப்பட்ட
நிபந்தனைகள் சரிசெய்யப்படவேண்டும்.
4. தமிழ்நாடு தொழிற்சாலைகள் விதி 61 (11) (13) (15) இன் வரைமுறைகளின்படி
தொழிற்கூட பகுதிகளுக்கு பொதிய fire hydrant - fire fighting arrangements
அமைக்கப்பட்டு, அவற்றின் Layout வரைபடம் அனுப்ப வேண்டும்.
5. கதவு, சன்னல்களின் அளவு முறையே 1.2 x 2.0 மீட்டர் மற்றும் 0.91 x 1.52 மீட்டருக்கு
குறையாமல் இருக்க வேண்டும்.
6. எல்லா கதவுகளும், சன்னல்களும் முழுவதும் வெளிப்புறமாய்த் திறக்குமாறு
பொருத்தப்பட வேண்டும்.
7. எல்லா சன்னல்களின் அடிமட்டம் தரையிலிருந்து 1 மீட்டருக்கு மேற்படாமல் இருத்தல்
வேண்டும்.
8. பொறிகளுக்கு இடையே குறைந்தது 60 செமீ இடைவெளி விட வேண்டும்.

9. தொழிற்சாலையின் உரிமம் தேவைப்பட்டால், திருத்தம் செய்ய விண்ணப்பிக்க வேண்டும்.
10. கட்டிட உறுதிச்சான்றிதழ் அளித்திட வேண்டும்.
11. ஒப்புதல் அளிக்கப்பட்ட வரைபடங்களின்படியே எல்னாக் கட்டிடங்களும் கட்டப்பட்டதாகச் சான்றிதழ் அளித்திட வேண்டும்.
12. ஒப்புதல் அளிக்கப்பட்ட வரைபடங்களின்படியே எல்னாப் பொறிகளும் அமைக்கப்பட்டதாகச் சான்றிதழ் அளித்திட வேண்டும்.
13. இவ்வரைபட ஒப்புதல் தொழிற்சாலைகள் சட்ட விதிகளின்படி, கட்டிடங்கள் & இயந்திரங்கள் நிறுவனத்திற்கான / நிறுவனத்திற்கான ஒப்புதல் மட்டுமே ஆகும்.
14. இத்தொழிற்சாலையிலிருந்து வெளியேற்றப்படும் கழிவு நீர் மற்றும் எல்னாவிற்கு கழிவுப் பொருட்களையும், தமிழ்நாடு சுற்றுப்புறச் சூழ்நிலை பாசுக் கட்டுப்பாடு வாரியத்தின் வரைமுறைக்கிணங்க அப்படிப்படுத்தப்படுவதாகச் சான்றிதழ் பெறப்பட வேண்டும்.
15. தொழிற்சாலைகள் சட்டம் பிரிவு 87 மற்றும் 1950 தமிழ்நாடு தொழிற்சாலைகள் விதிகளின் விதி எண்.95-ன் அட்டவணை XVI & XXXI - இன் அனைத்து பாதுகாப்பு முறைகளும் கடைபிடிக்கப்பட வேண்டும்.

ஒரு தொகுதி ஒப்புதல் அளித்த வரைபடங்கள் இணைக்கப்பட்டுள்ளன.

இணைப்பு : ஒரு தொகுதி வரைபடங்கள்,

(எண்ணிக்கை - 4)

தி. 02.04.2015

இயக்குநருக்காக

தொழிலகப் பாதுகாப்பு மற்றும் சுகாதாரம்,
19/9 சென்னை-32.

நகல்:

இணை இயக்குநர், தொழிலகப் பாதுகாப்பு மற்றும் சுகாதாரம், கடலூர். (ஒரு தொகுதி வரைபடங்கள் மற்றும் படிவம் எண்.1-ன் ஒரு நகல் இணைக்கப்பட்டுள்ளது)
துணை இயக்குநர், தொழிலகப் பாதுகாப்பு மற்றும் சுகாதாரம், கடலூர்.

உதிரி

Category of the Industry :

RED

CONSENT ORDER NO. 2008231144842 DATED: 16/08/2020.

PROCEEDINGS NO.T2/TNPCB/F.0020CUD/RL/CUD/A/2020 DATED: 16/08/2020

SUB: Tamil Nadu Pollution Control Board - RENEWAL OF CONSENT -M/s. ASIAN PAINTS LTD,PENTA DIVISION , S.F.No. SF.NO 126,127,128,129,130,137 & 165, KUDIKADU village, Cuddalore Taluk and Cuddalore District - Renewal of Consent for the operation of the plant and discharge of emissions under Section 21 of the Air (Prevention and Control of Pollution) Act, 1981 as amended in 1987 (Central Act 14 of 1981) -Issued- Reg.

REF: 1.Procuds No.T2/TNPCB/F.0020CUD/RL/CUD/W&A/2019 DATED: 26/06/2019
2. Unit's Application No.31144842Dated: 11.02.2020
3.IR.No : F.0020CUD/RL/DEE/CUD/2020 dated 06/07/2020

RENEWAL OF CONSENT is hereby granted under Section 21 of the Air (Prevention and Control of Pollution) Act, 1981 as amended in 1987 (Central Act 14 of 1981) (hereinafter referred to as "The Act") and the rules and orders made there under to

The Factory Manager
M/s. ASIAN PAINTS LTD,PENTA DIVISION,
S.F.No. SF.NO 126,127,128,129,130,137 & 165,
KUDIKADU village,
Cuddalore Taluk,
Cuddalore District.

Authorizing the occupier to operate the industrial plant in the Air Pollution Control Area as notified by the Government and to make discharge of emission from the stacks/chimneys.

This is subject to the provisions of the Act, the rules and the orders made there under and the terms and conditions incorporated under the Special and General conditions stipulated in the Consent Order issued earlier and subject to the special conditions annexed.

This RENEWAL OF CONSENT is valid for the period ending March 31, 2022

R. Kannan
Digitally signed by R.
Kannan
Date: 2020.08.17 21:25:47
+05'30'
For Member Secretary,
Tamil Nadu Pollution Control Board,
Chennai

SPECIAL CONDITIONS

1. This renewal of consent is valid for operating the facility for the manufacture of products (Col. 2) at the rate (Col. 3) mentioned below. Any change in the products and its quantity has to be brought to the notice of the Board and fresh consent has to be obtained.

Sl. No.	Description	Quantity	Unit
Product Details			
1.	Formaldehyde	675	MTPM
2.	Penta Erythritols (Powder & Solution Form)	730	MTPM
By-Product Details			
1.	Sodium Formate (Powder and Solution form)	480	MTPM
Intermediate Product Details			
1.	Nil	0.0	

2. This renewal of consent is valid for operating the facility with the below mentioned emission/noise sources along with the control measures and/or stack. Any change in the emission source/control measures/change in stack height has to be brought to the notice of the Board and fresh consent/Amendment has to be obtained.

I Point source emission with stack :				
Stack No.	Point Emission Source	Air pollution Control measures	Stack height from Ground Level in m	Gaseous Discharge in Nm ³ /hr
1	Sodium Formate Dryer	Wet scrubber with stack	18	3200
2	Mono Pentaerythritol Dryer	Wet scrubber with stack	12	1360
3	Di PE Dryer	Wet scrubber with stack	18	1360
4	Fluidized Bed Dryer	Bag Filter/ Dust Collector with stack	10.5	6685
7	DG- 365 KVA-2 Nos.	Stack	9.5	
8	DG - 500 KVA - 1 No.	Stack	12	1055
9	DG - 600 KVA - 1 No.	Stack	12	1055
II Fugitive/Noise emission :				
Sl. No.	Fugitive or Noise Emission sources	Type of emission	Control measures	
1.	VOC emissions	Fugitive	Tank vents are connected to Fa blower suction	

Special Additional Conditions:

The unit shall install the approved retrofit emission control device/equipment with at least 70% Particulate matter reduction efficiency on all DG sets with capacity of 125 KVA and above or otherwise the unit shall be shift to gas based generators within the time frame prescribed in the notification No. TNPCB/Labs/DD(L)02151/2019 dated 10.06.2020 issued by TNPCB.

Additional Conditions:

1. The unit shall operate and maintain the Air Pollution Control measures efficiently and continuously so that the emission shall satisfy the Ambient Air Quality/Emission standards prescribed by the Board.
2. The unit shall adhere to the Ambient Air Quality/Stack Emission/ Ambient Noise Level standards prescribed by the Board.
3. The unit shall conduct the Ambient Air Quality/Stack Emission/Fugitive Emission/Ambient TVOC/THC survey through MoEF approved Laboratory once in three months and furnish the report to the Board without fail.
4. The unit shall operate and maintain the Continuous Ambient Air Quality Monitoring Station (PM2.5, PM10, SO2, NOx) continuously and ensure the connectivity without any interruption with CARE AIR Centre, TNPC Board, Chennai.
5. The unit shall maintain the online sensors connected with CARE AIR Centre, Tamilnadu Pollution Control Board, Chennai and upload the data without any interruption.

R. Kannan

Digitally signed by R.
Kannan
Date: 2020.08.17 21:26:06
+05'30'

**For Member Secretary,
Tamil Nadu Pollution Control Board,
Chennai**

To
The Factory Manager,
M/s. ASIAN PAINTS LTD,PENTA DIVISION,
6-A Shanthi Nagar,
Opp to Hotel Grand Hyatt,
Santacruz(E),PO Box No.6818
Mumbai,
Pin: 400055

Copy to:

1. The Commissioner, CUDDALORE-Panchayat Union, Cuddalore Taluk, Cuddalore District .
2. The District Environmental Engineer, Tamil Nadu Pollution Control Board, CUDDALORE.
3. The JCEE-Monitoring, Tamil Nadu Pollution Control Board, Triuchirappalli.
4. File

Category of the Industry :

RED

CONSENT ORDER NO. 2008131144842 DATED: 16/08/2020.

PROCEEDINGS NO.T2/TNPCB/F.0020CUD/RL/CUD/W/2020 DATED: 16/08/2020

SUB: Tamil Nadu Pollution Control Board - RENEWAL OF CONSENT - M/s. ASIAN PAINTS LTD,PENTA DIVISION , S.F.No. SF.NO 126,127,128,129,130,137 & 165, KUDIKADU village, Cuddalore Taluk and Cuddalore District - Renewal of Consent for the operation of the plant and discharge of sewage and/or trade effluent under Section 25 of the Water (Prevention and Control of Pollution) Act, 1974 as amended in 1988 (Central Act 6 of 1974) - Issued- Reg.

REF: 1.Procda No.T2/TNPCB/F.0020CUD/RL/CUD/W&A/2019 DATED: 26/06/2019
2. Unit's Application No.31144842Dated: 11.02.2020
3.IR.No : F.0020CUD/RL/DEE/CUD/2020 dated 06/07/2020

RENEWAL OF CONSENT is hereby granted under Section 25 of the Water (Prevention and Control of Pollution) Act, 1974 as amended in 1988 (Central Act, 6 of 1974) (hereinafter referred to as "The Act") and the rules and orders made there under to

The Factory Manager
M/s. ASIAN PAINTS LTD,PENTA DIVISION,
S.F.No. SF.NO 126,127,128,129,130,137 & 165,
KUDIKADU Village ,
Cuddalore Taluk ,
Cuddalore District .

Authorising the occupier to make discharge of sewage and /or trade effluent.

This is subject to the provisions of the Act, the rules and the orders made there under and the terms and conditions incorporated under the Special and General conditions stipulated in the Consent Order issued earlier and subject to the special conditions annexed.

This RENEWAL OF CONSENT is valid for the period ending March 31, 2022

R. Kannan

Digitally signed by R.
Kannan
Date: 2020.08.17 21:26:34
+05'30'

For Member Secretary,
Tamil Nadu Pollution Control Board,
Chennai

SPECIAL CONDITIONS

1. This renewal of consent is valid for operating the facility for the manufacture of products/byproducts (Col. 2) at the rate (Col 3) mentioned below. Any change in the product/byproduct and its quantity has to be brought to the notice of the Board and fresh consent has to be obtained.

Sl. No.	Description	Quantity	Unit
Product Details			
1.	Formaldehyde	675	MTPM
2.	Penta Erythritols (Powder & Solution Form)	730	MTPM
By-Product Details			
1.	Sodium Formate (Powder and Solution form)	480	MTPM
Intermediate Product Details			
1.	Nil	0.0	

2. This renewal of consent is valid for operating the facility with the below mentioned outlets for the discharge of sewage/trade effluent. Any change in the outlets and the quantity has to be brought to the notice of the Board and fresh consent has to be obtained.

Outlet No.	Description of Outlet	Maximum daily discharge in KLD	Point of disposal
Effluent Type : Sewage			
1.	Sewage	45.0	On land for gardening
Effluent Type : Trade Effluent			
1.	Trade effluent	131.0	Recycling to process

Additional Conditions:

1. The unit shall comply with the conditions stipulated in the Environmental Clearance obtained for expansion activity vide Letter No. SEIAA/TN/ F.6495/5(f)/ EC60/2018 Dated:24.04.2018 obtained from SEIAA, Chennai from time to time.
2. The unit shall operate and maintain the Zero Liquid Discharge System for the treatment and disposal of trade effluent generated from the unit.
3. The unit shall operate and maintain the Sewage Treatment Plant for the treatment of the sewage generated and the treated sewage shall be utilized for green belt development/gardening purposes inside the premises.
4. The unit shall operate and maintain the online pH and TDS meter provided in the storm water drains to ensure that no chemical contamination takes place during rains outside the premises at all the time.
5. The unit shall take necessary follow up with Directorate of Industrial safety and Health (DISH) and obtain Offsite emergency preparedness plan with due approval from the District Collector.
6. The unit shall ensure that a rehearsal of the Offsite emergency plan is conducted at least once in calendar year.
7. The unit shall analyse the parameters viz. pH, BOD, TSS, COD, Nitrogen-Total, and Fecal Coliform(in MPN) for the treated sewage being discharged inside the unit premises for green belt development and shall comply with the STP standards prescribed by CPCB.
8. The unit shall further continue to develop greenbelt inside/outside the premises of the unit.
9. The unit shall provide rain water harvesting facility for all the buildings so as to recharge the ground water.
10. The unit shall furnish the details of activities done through 'Corporate Social Responsibility' along with the amount spent and evidences every year.
11. The unit shall not increase the production without the valid consent of the Board.
12. In case of revision of consent fee by the Government, the unit shall remit the difference in amount within one month from the date of notification. Failing to remit the consent fee, this consent order will be withdrawn without any notice and further action will be initiated against the unit as per law.
13. The Unit shall not use 'use and throwaway plastic' such as plastic sheets used for food wrapping, spreading on dining table etc., plastic plates, plastic coated tea cups, plastic tumbler, water pouches and packets, plastic straw, plastic carry bag and plastic flags irrespective of thickness, within the industry premises. Instead unit shall encourage use of eco friendly alternative such as banana leaf, arecanut palm plate, stainless steel, glass, porcelain plates / cups, cloth bag, jute bag etc.

R. Kannan

Digitally signed by R. Kannan
Date: 2020.06.17 21:26:53
+05'30'

**For Member Secretary,
Tamil Nadu Pollution Control Board,
Chennai**

To
The Factory Manager,
M/s. ASIAN PAINTS LTD,PENTA DIVISION,
6-A Shanthi Nagar,
Opp to Hotel Grand Hyatt,
Santacruz(E),PO Box No.6818
Mumbai,
Pin: 400055

Copy to:

1. The Commissioner, CUDDALORE-Panchayat Union, Cuddalore Taluk, Cuddalore District .
 2. The District Environmental Engineer, Tamil Nadu Pollution Control Board, CUDDALORE.
 3. The JCEE-Monitoring, Tamil Nadu Pollution Control Board, Triuchirappalli.
 4. File
-

**TAMILNADU FIRE AND RESCUE SERVICES DEPARTMENT
FIRE LICENCE**

UNDER SECTION 13 OF THE TAMILNADU FIRE SERVICE ACTS 1985 AND WITH TAMIL NADU FIRE SERVICE RULES
1990 APPENDIX III

LICENCE NO: TNCIT00004648526

L.Dis.No.12283 /A2/2021

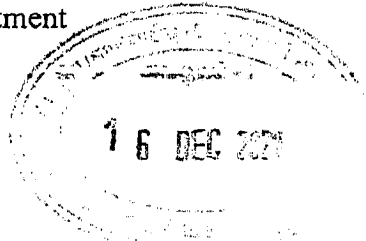
Dated: 16.12.2021

License is hereby granted under section 13 of the Tamilnadu Fire Service Act, 1985 for TO RUN MANUFACTURING OF PENTAERYTHRITOL & SODIUM FORMATE, (730MT Per month of Pentaerythritol, 675 MT Per month of Formaldehyde (100%) 480 MT Per month of Sodium Formate) in the name of "ASIAN PAINTS LIMITED, PENTA DIVISION," at the premises at No.B5, B10, Sipcot Industrial Complex, Kudikadu, Cuddalore-5 within the jurisdiction of Cuddalore-Sipcot Subject to the conditions noted thereon and such conditions as may be prescribed. The above premises was Joint inspected by Mr.P.Loganathan, District Officer, Cuddalore & Mr.D.Veerabagu, Station Officer, Cuddalore-Sipcot on 06.12.2021

Conditions:

- As per col.13 of Appendix V to the Rules under Section 13 of the Act.
- 1. This Licence is valid for one year from the date of issued.
- 2. All Fixed installation should be maintained properly.
- 3. All the Extinguishers have to be recharged and maintained periodically as per code practice in 2190:2010
- 4. The Following Fire & Life Safety Systems / Arrangements provided in the building should be kept in good working condition always.
 - i) Sufficient Portable Fire Extinguisher and Fire Buckets Provided.
 - ii) Fire Hydrant Point 42 No's Provided.
 - iii) Sprinkler system Provided.
 - iv) Over Head Tank 800 KL Provided.
 - v) Electrical Pump 273 cum/Hr Provided.
 - vi) Jockey Pump 2 No's Provided.
 - vii) One Diesel Pump 273 cum/Hr Provided.
 - viii) One Electric Main Pump 171 cum/Hr Provided.
- 5. Necessary NOC/License has to be obtained from various competent authorities.
- 6. If there is any deviation from the Government Rules and Act, the NOC issued will be cancelled.
- 7. Mock drill should be conducted TNFRS Department.
- 8. Elementary fire fighting training should be given to the employee's from fire service department

OFFICE SEAL



District Officer
Fire and Rescue Services
Cuddalore

To - The General Works Manager,
M/s Asian Panits Limited., Penta Division,
No.B5 to B10 Sipcot Industrial Complex, Kudikadu(Village)
Cuddalore - 5



भारत सरकार

Government of India

वाणिज्य और उद्योग मंत्रालय

Ministry of Commerce & Industry

पेट्रोलियम तथा विस्फोटक सुरक्षा संगठन (पैसो)

Petroleum & Explosives Safety Organisation (PESO)

A और D - विंग, ब्लॉक 1-8, द्वितीय मंज, शास्त्री भवन, 26 हड्डोस रोड, नुंगम्बक्कम

चेन्नई - 600006

A & D - Wing, Block 1-8, IInd Floor, Shastry Bhavan, 26 Haddous Road, Nungambakkam, Chennai - 600006

E-mail : jtccechennai@explosives.gov.in

Phone/Fax No : 044 - 28287118, 28284848

संख्या /No. : PI/HQ/TN/15/947 (P14661)

दिनांक /Dated : 10/02/2019

सेवा में /To,

M/s Asian Paints Limited, (Penta Division),
P-5 to B-10, SIPCOT Industrial Complex,,
Village Kudikadu,
Cuddalore,
District: CUDDALORE,
State: Tamil Nadu
PIN: 607005

विषय /Sub : Plot No, NA, KUDIKADU VILLAGE, CUDDALORE, District: CUDDALORE, State: Tamil Nadu, PIN: 999999 में स्थित विद्यमान पेट्रोलियम वर्ग A अधिष्ठापन में अनुमति सं PI/HQ/TN/15/947 (P14661) के नवीकरण के संदर्भ में।
Existing Petroleum Class A Installation at Plot No, NA, KUDIKADU VILLAGE, CUDDALORE, District: CUDDALORE, State: Tamil Nadu, PIN: 999999 - Licence No. PI/HQ/TN/15/947 (P14661) - Renewal regarding.

भल्लेदार /Sir

(5)

कृपया आपके पत्र क्रमांक x दिनांक 11/02/2019 का अवलोकन करें।

Please refer to your letter No.: x. dated 11/02/2019

अनुमति संख्या PI/HQ/TN/15/947 (P14661) दिनांक 10/02/2010 को दिनांक 31/12/2022 तक नवीनीकृत कर इस पत्र के साथ अद्यतित की जा रही है।

Licence No. PI/HQ/TN/15/947 (P14661) dated 10/02/2010 is forwarded herewith duly renewed upto 31/12/2022.

कृपया पेट्रोलियम नियम 2002 के अधीन बनाए गए नियम 148 में दी गई प्रक्रिया का कड़ाई से पालन करें। अनुमति के नवीकरण हेतु सम्स्त दस्तावेजों को अनुमति की वैधता समाप्त होने की तिथि से कम से कम 30 दिन पूर्व JL Chief Controller of Explosives, South Circle Office, Chennai कार्यालय को प्रेषित करें।

Please follow the procedure strictly as laid down in rule 148 of the Petroleum Rules, 2002 and submit complete documents for the Renewal of the licence to JL Chief Controller of Explosives, South Circle Office, Chennai, so as to reach his office on or before the date on which Licence expires.

कृपया पावती दें।

Please acknowledge the receipt.

Note : Your Balance Amount with the Organisation is Rs.31875, which will be used for processing of the same Licence in future.

भवदीय /Yours faithfully,

(Sumran Kumar)

Dy. Controller of Explosives
कुल संयुक्त मुख्य विस्फोटक नियंत्रक
For JL Chief Controller of Explosives
चेन्नई/Chennai

अधिक जानकारी जैसे आवेदन की स्थिति, शुल्क तथा अन्य विवरण के लिए हमारी वेबसाइट : <http://peso.gov.in> देखें।
(For more information regarding status, fees and other details please visit our website: <http://peso.gov.in>)

फॉर्म XV
(प्रथम अनुसूची का अनुच्छेद 6 देखिए)
FORM XV
(see Article 6 of the First Schedule)

अधिष्ठापनों में पेट्रोलियम के आयात और भंडारण के लिए अनुमति
LICENCE TO IMPORT AND STORE PETROLEUM IN AN INSTALLATION

अनुमति सं. (Licence No.): P/HQ/TN/15/947(P14661)

फीस रूप (Fee Rs.) 42500/- per year

M/s Asian Paints Limited, (Penta Division), B-5 to B-10, SIPCOT Industrial Complex,, Village Kudikadu, Cuddalore, District: CUDDALORE, State: Tamil Nadu, PIN: 607005 को केवल इसमें यथा विनिर्दिष्ट वर्ग और मात्राओं में पेट्रोलियम 800.00 KL आयात करने के लिए और उसका नीचे वर्णित और अनुमोदित नक्शा संख्या P/HQ/TN/15/947(P14661) तारीख 15/02/2019 जो कि इससे उपाबद्ध है, में दिखाए गए स्थान पर भण्डारण के लिए पेट्रोलियम अधिनियम, 1934 के उपबंधों या उसके अधीन बनाए गए नियमों तथा इस अनुमति की अतिरिक्त शर्तों के अधीन रहते हुए, यह अनुमति अन्ततः की जाती है।

Licence is hereby granted to M/s Asian Paints Limited, (Penta Division), B-5 to B-10, SIPCOT Industrial Complex,, Village Kudikadu, Cuddalore, District: CUDDALORE, State: Tamil Nadu, PIN: 607005 valid only for the importation and storage of 800.00 KL Petroleum of the class and quantities as herein specified and storage thereof in the place described below and shown on the approved plan No P/HQ/TN/15/947(P14661) dated 15/02/2019 attached hereto subject to the provisions of the Petroleum Act, 1934 and the rule made thereunder and to the further conditions of this Licence.

यह अनुमति 31st day of December 2022 तक प्रवृत्त रहेगी।
The Licence shall remain in force till the 31st day of December 2022.

पेट्रोलियम का विवरण /Description of Petroleum	अनुमति मात्रा (किलोलीटरों में) /Quantity licenced in KL
वर्ग क प्रपुंज पेट्रोलियम /Petroleum Class A in bulk	800.00 KL
वर्ग क प्रपुंज पेट्रोलियम से भिन्न /Petroleum Class A, otherwise than in bulk	NIL
वर्ग ख प्रपुंज पेट्रोलियम /Petroleum Class B in bulk	NIL
वर्ग ख प्रपुंज पेट्रोलियम से भिन्न /Petroleum Class B, otherwise than in bulk	NIL
वर्ग ग प्रपुंज पेट्रोलियम /Petroleum Class C in bulk	NIL
वर्ग ग प्रपुंज पेट्रोलियम से भिन्न /Petroleum Class C, otherwise than in bulk	NIL
कुल क्षमता /Total Capacity	800.00 KL

December 4, 1986

Chief Controller of Explosives

अनुमति परिसरों का विवरण और अवस्थान
DESCRIPTION AND LOCATION OF THE LICENSED PREMISES

अनुमति परिसर जिसकी विन्यास सीमाएं अन्य विशिष्टियां संलग्न अनुमोदित नक्शों में दिखाई गई हैं Plot No: NA, KUDIKADU VILLAGE, CUDDALORE, District: CUDDALORE, State: Tamil Nadu, PIN: 999999 स्थान पर अवस्थित है तथा उसमें निम्नलिखित FOUR ABOVE GROUND PETROLEUM CLASS A STORAGE TANK TOGETHER WITH CONNECTED FACILITIES. सम्मिलित हैं।

The licensed premises, the layout, boundaries and other particulars of which are shown in the attached approved plan are situated at Plot No: NA, KUDIKADU VILLAGE, CUDDALORE, District: CUDDALORE, State: Tamil Nadu, PIN: 999999 and consists of FOUR ABOVE GROUND PETROLEUM CLASS A STORAGE TANK TOGETHER WITH CONNECTED FACILITIES. together with connected facilities.

पृष्ठ सं. 2

अनुमति संख्या-(Licence No.) P/HQ/TN/15/947 (P14661)

नवीनीकरण के पुष्टिकरण के लिए स्थान
SPACE FOR ENDORSEMENT OF RENEWALS

पेट्रोलियम अधिनियम, 1934 के उपबन्धों या उनके अधीन बनाए गए नियमों या इस अनुमति की शर्तों का उल्लंघन न होने की दशा में यह अनुमति फिर से बिना किसी छूट के दस वर्ष तक नवीकृत की जा सकेगी।
This licence shall be renewable without any concession in fee for ten years in the absence of contravention of any provisions of the Petroleum Act, 1934 or of the rules framed thereunder or of any of the conditions of this licence.

नवीकरण की तारीख
Date of
Renewal

समाप्ति की तारीख
Date of
Expiry of license

अनुमति प्राधिकारी के हस्ताक्षर और स्टाम्प
Signature and office stamp of the licensing
authority.

1).		31/12/2009	Sd/- PESO ADMIN
2).	13/03/2006	31/12/2006	Sd/- Dr T L THANULINGAM
3).	11/01/2007	31/12/2009	Sd/- S G Kadam
4).	09/02/2010	31/12/2012	Sd/- T R Thomas
5).	09/02/2013	31/12/2015	Sd/- For Jt. Chief Controller of Explosives Chennai
6).	21/12/2015	31/12/2018	Sd/- Mridul Kumar Pandey Controller of Explosives For Jt. Chief Controller of Explosives Chennai
7).	15/02/2019	31/12/2022	Sd/- Sunil Kumar Dy. Controller of Explosives For Jt. Chief Controller of Explosives Chennai

यदि अनुमति परिसर इसमें उपायय विवरण और शर्तों के अनुरूप नहीं पाए जाते हैं और जिन नियमों और शर्तों के अधीन यह अनुमति मंजूर की गई है अगले से किसी भी उल्लंघन होने की दशा में यह अनुमति रद्द की जा सकती है और अनुमतिप्रापी प्रथम अपराध के लिए साधारण कारावास से, जो एक मास तक हो सकता है, या जुर्माने से, जो एक हजार रुपये तक हो सकता है, या दोनों से, और बन्धक पर्याप्ततः अपराध के लिए साधारण कारावास से जो तीन मास तक हो सकता है, या जुर्माने से, जो पांच हजार रुपये तक हो सकता है, या दोनों से, दण्डनीय होगा।
This licence is liable to be cancelled if the licensed premises are not found conforming to the description given on the approved plan attached hereto and contravention of any of the rules and conditions under which this licence is granted and the holder of this licence is also punishable for the first offence with simple imprisonment which may be extend to one month, or with fine which may extend to one thousand rupees, or with both and for every subsequent offence with simple imprisonment which may extend to three months, or with fine which may extend to five thousand rupees or with both.

Proceedings of the Additional Collector (Revenue) , Cuddalore
Present : Thiru. Ranjeet Singh, I.A.S.,

Roc No. (R2)/4568/2021

Dated : 02.09.2021

Sub : Prohibition and Excise, Cuddalore – DL2 –Licence under Tamil Nadu Denatured Spirit, Methyl Alcohol and Varnish (French Polish) Rules, 1959 DL2 License No.14/2008-09, issued to Tvl. Asian paints limited, Kudikadu village, Cuddalore Renewal for the year 2021-22 - Regarding.

Read : 1) Application dated: 16.02.2021 received from the licensee.
2) From Divisional Excise Officer, Cuddalore Lr. No. P1/34/2021 dated .07.2021 .
3) Inspection Report of the Assistant Commissioner (Excise) 28.07.2021.

ORDER :-

The DL2 (Methyl Alcohol) Licence bearing No.14/2008-09 issued to Tvl. Asian paints limited, Kudikadu village, Cuddalore & Taluk, is renewed for the year 2021-22 with the following possessional limit.

Kind of Commodity	Quantity allowed to be possessed and issued under the licence		
	At a time (in litres)	In a quarter (in litres)	In a year (in litres)
Methyl Alcohol	8,00,000	29,66,250	1,18,65,000

The Licence is valid upto 31.03.2022

The Licensee is informed that the application for renewal of licence should be submitted two months before the date of expiry of the license.

Encl: Original License and Fly leaf.

Sd/- Ranjeet Singh,
Additional Collector(Revenue),
Cuddalore.

for Additonal Collector(Revenue),
Cuddalore.

To  8.9.21

Tvl. Asian paints limited,
Kudikadu village, Cuddalore & Taluk,
Copy to the Divisional Excise Officer, Cuddalore.

REVENUE DEPARTMENT

R2/4568/2021 dated: 02.09.2021

Collector Office,
Cuddalore.

FORM - DL 2

Valid upto 31.03.2022

FLY LEAF OF THE LICENCE

(To be used whenever licensee indents for supply)

District : CUDDALORE DISTRICT

Kind and No. of the licence : DL2 (Methyl Alcohol)
Licence bearing No.14/2008-09

Name of the Licensee : Tvl. Asian paints limited.

Address of the Licensee : Kudikadu village Cuddalore & Taluk

Kind of Commodity	Quantity allowed to be possessed and issued under the licence		
	At a time (in litres)	In a quarter (in litres)	In a year (in litres)
Methyl Alcohol	8,00,000	29,66,250	1,18,65,000

Sd/- Ranjeet Singh,
Additional Collector(Revenue),
Cuddalore.

for Additional Collector(Revenue),
Cuddalore.

6-9-21

Date of Supply	Indent No.& Date.	Transport Permit Issued	Towards the Indent	Up to date	Initials or Sign of remarks Supplying Licencee or the authority issued import permit.	Remarks
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ADDITIONAL SHEET

Roc.No.R2/4568/2021 dt:02 .09.2021

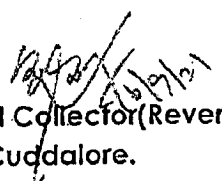
Collector's Office,
Cuddalore.


Name and Address
of the Licencee : Tvl.Asian Paints ,
Kudikadu

Licence No. : DL2.No. 14/2008-09

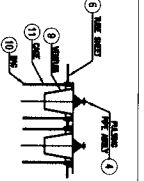
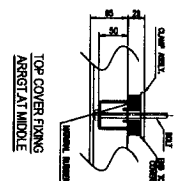
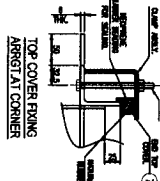
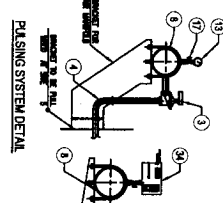
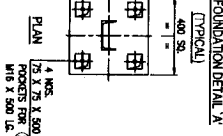
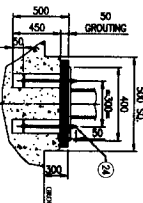
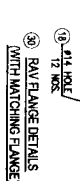
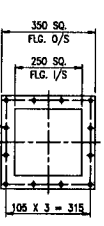
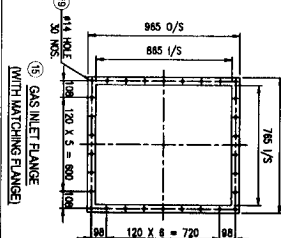
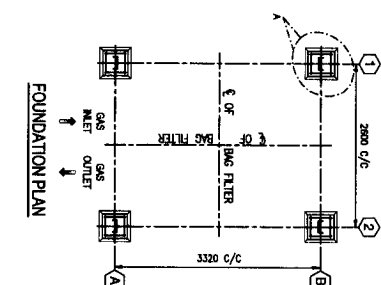
The above License is renewed for the year 2021-22 and it
is valid upto 31.03.2022.

Sd/- Ranjeet Singh,
Additional Collector(Revenue),
Cuddalore.


for Additional Collector(Revenue),
Cuddalore.

 6-9-21

Annexure 14
ONLINE VOC METER, SCRUBBER
AND BAG FILTER

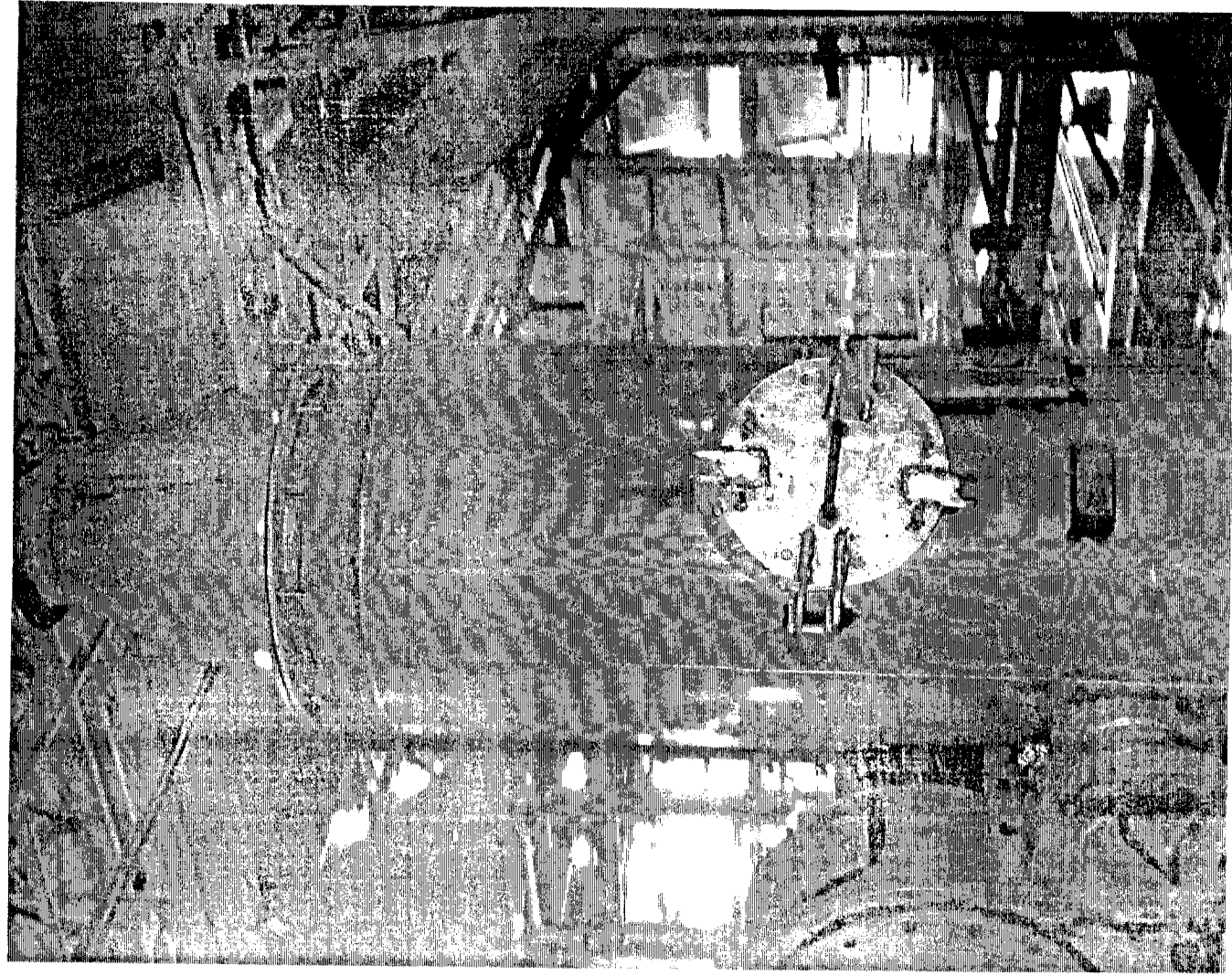


ITEM NO.	DESCRIPTION	QTY.
34	PRESSURE SWITCH	1 NO.
35	HOPPER WATER PUMP	1 NO.
36	ZERO SPEED SWITCH FOR RV	1 NO.
37	DP SWITCH	1 NO.
38	RV FLANGE	1 NO.
39	RAV VALVE	1 NO.
40	RAV VALVE	1 NO.
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98	RAV VALVE	1 NO.
99	RAV VALVE	1 NO.
100	RAV VALVE	1 NO.

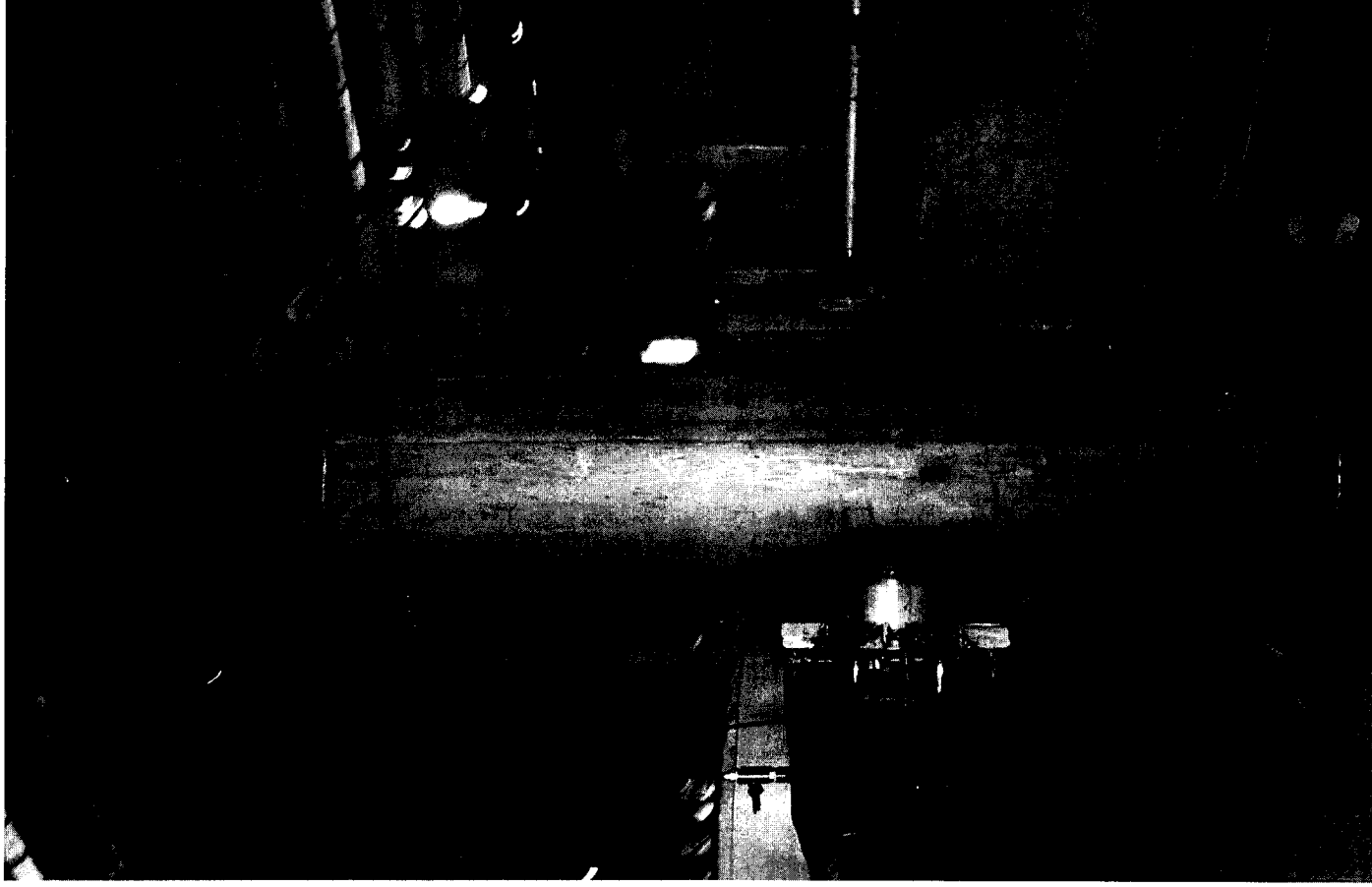
PROJECT
1718

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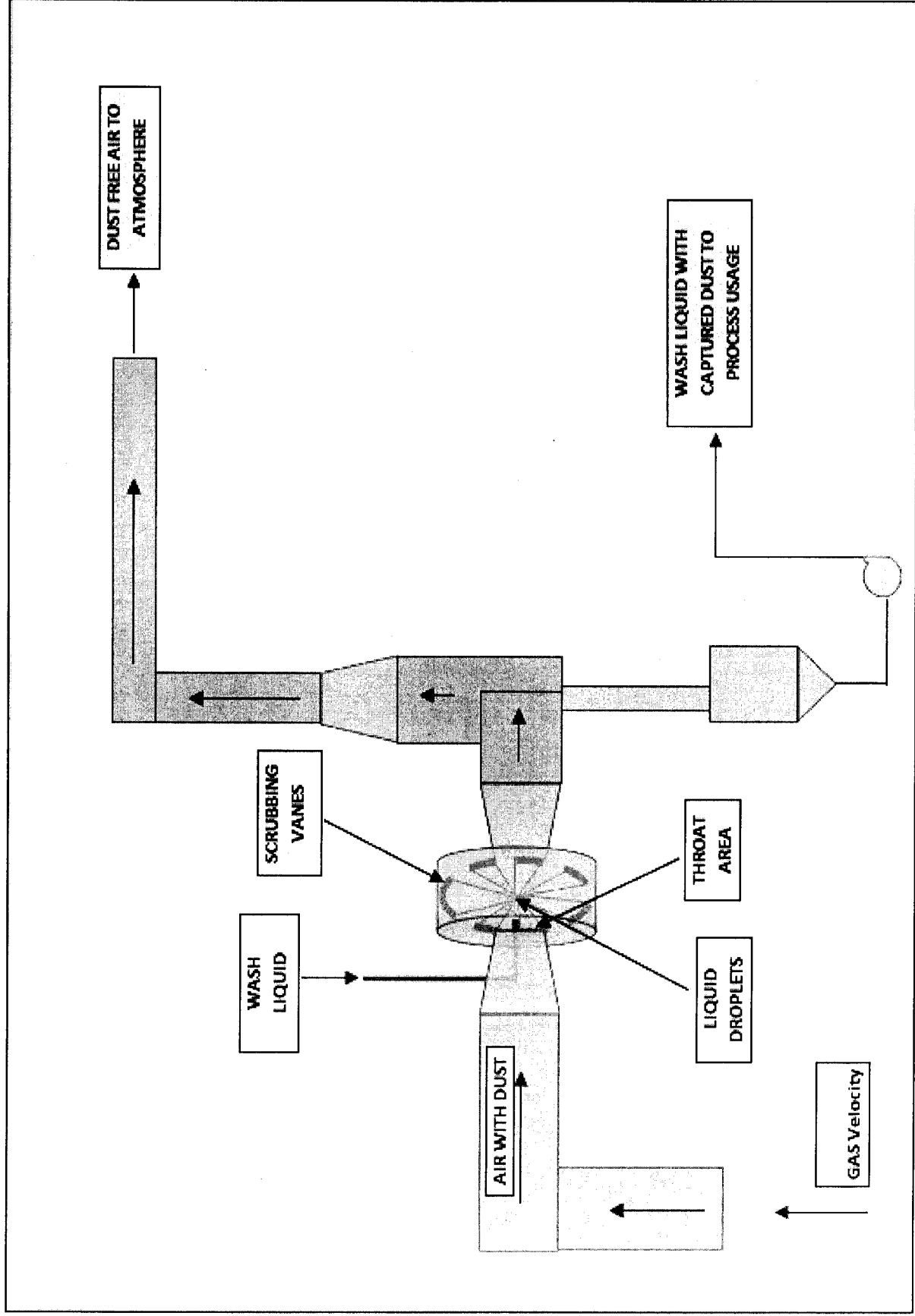
MONO SCRUBBER



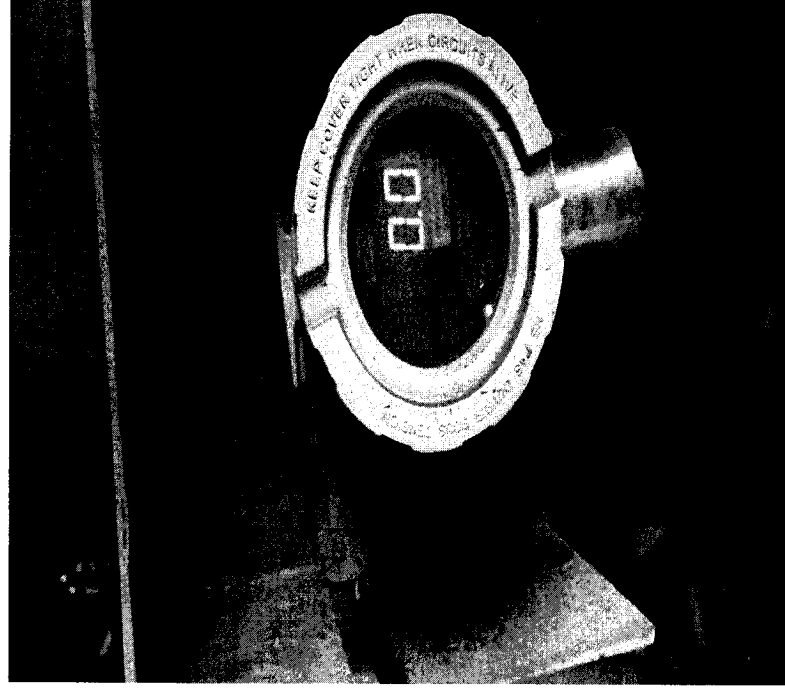
DIPE SCRUBBER



Existing Scrubbers block diagram



Online VOC meter installed in Penta plant





SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT

Report No : QEN250308023-09 (Part B)

Page 1 of 1
Report Date : 13 Mar 2025

Customer Name : M/s. Asian Paints Limited
Customer Address : B5-B10, SIPCOT Industrial Complex, Kudikadu Village, Cuddalore-607005.
Sample Name : Ambient VOC Monitoring
Sample Description : Ambient VOC Monitoring
Reference : Test Request Form Dated 06.03.2025
Sample Drawn By : Laboratory
Sample Location : Near Coal Yard (Down Wind)
Sample Procedure : NIOSH & SOP'S

Sampling Date : 06 Mar 2025
Sample Received on : 08 Mar 2025
Test Started on : 08 Mar 2025
Test Completed on : 12 Mar 2025

TEST RESULTS

S.NO	Parameter	Test Method	Unit	Results
Aldehydes				
1	Acetaldehyde	NIOSH 2538 - 1994	mg/m3	BLQ(LOQ:0.1)

Note : BLQ : Below Limit of Quantification LOQ : Limit of Quantification.

/***** End of the Report *****/


M. Sarathkumar
Authorized Signatory-Chemical

Laboratory Address: 39/6, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124.

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SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT



TC-6118

ULR - TC611825000013673F

Page 1 of 1

Report No : QEN250308023-09 (Part A)

Report Date : 13 Mar 2025

Customer Name : M/s. Asian Paints Limited
Customer Address : B5-B10, SIPCOT Industrial Complex, Kudikadu Village, Cuddalore-607005.
Sample Name : Ambient VOC Monitoring
Sample Description : Ambient VOC Monitoring
Reference : Test Request Form Dated 06.03.2025
Sample Drawn By : Laboratory
Sample Location : Near Coal Yard (Down Wind)
Sample Procedure : NIOSH & SOP'S

Sampling Date : 06 Mar 2025
Sample Received on : 08 Mar 2025
Test Started on : 08 Mar 2025
Test Completed on : 12 Mar 2025

TEST RESULTS

S.NO	Parameter	Test Method	Unit	Results
Chemical				
1	Formaldehyde	SMSLA/EN/SOP/026 - 2024	ppm	BLQ(LOQ:0.1)
Hydrocarbons				
2	Total Hydrocarbons	SMSLA/GC/SOP/47 - 2024	mg/m ³	BLQ(LOQ:0.025)
Volatile Organic Compounds				
3	Methanol	SMSLA/GC/SOP/36 - 2024	mg/m ³	BLQ(LOQ:0.1)

Note : BLQ : Below Limit of Quantification LOQ : Limit of Quantification.

/***** End of the Report *****/


M. Sarathkumar
Authorized Signatory-Chemical

Laboratory Address: 39/6, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124.

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SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT

Page 1 of 1

Report No : QEN250308023-08 (Part B)

Report Date : 13 Mar 2025

Customer Name : M/s. Asian Paints Limited
Customer Address : B5-B10, SIPCOT Industrial Complex, Kudikadu Village, Cuddalore-607005.
Sample Name : Ambient VOC Monitoring
Sample Description : Ambient VOC Monitoring
Reference : Test Request Form Dated 06.03.2025
Sample Drawn By : Laboratory
Sample Location : Near Weigh Bridge (Up Wind)
Sample Procedure : NIOSH & SOP'S

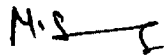
Sampling Date : 06 Mar 2025
Sample Received on : 08 Mar 2025
Test Started on : 08 Mar 2025
Test Completed on : 12 Mar 2025

TEST RESULTS

S.NO	Parameter	Test Method	Unit	Results
Aldehydes				
1	Acetaldehyde	NIOSH 2538 - 1994	mg/m3	BLQ(LOQ:0.1)

Note : BLQ : Below Limit of Quantification LOQ : Limit of Quantification.

/***** End of the Report *****/

M.S. 
M. Sarathkumar
Authorized Signatory-Chemical

Laboratory Address: 39/6, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124

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SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT



TC-6118

ULR - TC611825000013671F

Page 1 of 1

Report No : QEN250308023-08 (Part A)

Report Date : 13 Mar 2025

Customer Name : M/s. Asian Paints Limited
Customer Address : B5-B10, SIPCOT Industrial Complex, Kudikadu Village, Cuddalore-607005.
Sample Name : Ambient VOC Monitoring
Sample Description : Ambient VOC Monitoring
Reference : Test Request Form Dated 06.03.2025
Sample Drawn By : Laboratory
Sample Location : Near Weigh Bridge (Up Wind)
Sample Procedure : NIOSH & SOP'S

Sampling Date : 06 Mar 2025
Sample Received on : 08 Mar 2025
Test Started on : 08 Mar 2025
Test Completed on : 12 Mar 2025

TEST RESULTS

S.NO	Parameter	Test Method	Unit	Results
Chemical				
1	Formaldehyde	SMSLA/EN/SOP/026 - 2024	ppm	BLQ(LOQ:0.1)
Hydrocarbons				
2	Total Hydrocarbons	SMSLA/GC/SOP/47 - 2024	mg/m ³	BLQ(LOQ:0.025)
Volatile Organic Compounds				
3	Methanol	SMSLA/GC/SOP/36 - 2024	mg/m ³	BLQ(LOQ:0.1)

Note : BLQ : Below Limit of Quantification LOQ : Limit of Quantification.

/***** End of the Report *****/

M. Sarathkumar
Authorized Signatory-Chemical

Laboratory Address: 39/6, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124.

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SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT



TC-6118

ULR - TC611824000004399F

Report No : QEN24100650-10 (Part A)

Page 1 of 1

Report Date : 02 Nov 2024

Customer Name : M/s. Asian Paints Limited. (Penta Division)
Customer Address : B5-B10, SIPCOT Industrial Complex, Kudikadu, Cuddalore-607005.
Sample Name : Ambient VOC Monitoring
Sample Description : Ambient VOC Monitoring
Reference : Test Request Form Dated 24.10.2024
Sample Drawn By : Laboratory
Sample Location : Near Coal Yard (Down Wind)
Sample Procedure : NIOSH & SOP'S

Sampling Date : 23 Oct 2024
Sample Received on : 28 Oct 2024
Test Started on : 28 Oct 2024
Test Completed on : 02 Nov 2024

TEST RESULTS

S.NO	Parameter	Test Method	Unit	Results
Chemical				
1	Formaldehyde	SMSLA/EN/SOP/026 - 2024	mg/m ³	BLQ(LOQ:0.1)
Hydrocarbons				
2	Total Hydrocarbons	SMSLA/GC/SOP/47 - 2024	mg/m ³	BLQ(LOQ:0.025)
Volatile Organic Compounds				
3	Methanol	SMSLA/GC/SOP/54 - 2024	mg/m ³	BLQ(LOQ:0.1)

Note : BLQ : Below Limit of Quantification LOQ : Limit of Quantification.

/***** End of the Report *****/

S.Kanimozhi
Authorized Signatory-Chemical

Laboratory Address: 39-6, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124

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SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT

Page 1 of 1

Report No : QEN24100650-10 (Part B)

Report Date : 02 Nov 2024

Customer Name : M/s. Asian Paints Limited. (Penta Division)
Customer Address : B5-B10, SIPCOT Industrial Complex, Kudikadu, Cuddalore-607005.
Sample Name : Ambient VOC Monitoring
Sample Description : Ambient VOC Monitoring
Reference : Test Request Form Dated 24.10.2024
Sample Drawn By : Laboratory
Sample Location : Near Coal Yard (Down Wind)
Sample Procedure : NIOSH & SOP'S

Sampling Date : 23 Oct 2024
Sample Received on : 28 Oct 2024
Test Started on : 28 Oct 2024
Test Completed on : 02 Nov 2024

TEST RESULTS

S.NO	Parameter	Test Method	Unit	Results
Aldehydes				
1	Acetaldehyde	NIOSH 2538 - 1994	mg/m ³	BLQ(LOQ:0.1)

Note : BLQ : Below Limit of Quantification LOQ : Limit of Quantification.

/***** End of the Report *****/

S.Kanimozhi

Authorized Signatory-Chemical

Laboratory Address: 39/6, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124.

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SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT



TC-6118

ULR - TC611824000004401F

Report No : QEN24100650-11 (Part A)

Page 1 of 1

Report Date : 02 Nov 2024

Customer Name : M/s. Asian Paints Limited. (Penta Division)
Customer Address : B5-B10, SIPCOT Industrial Complex, Kudikadu, Cuddalore-607005.
Sample Name : Ambient VOC Monitoring
Sample Description : Ambient VOC Monitoring
Reference : Test Request Form Dated 24.10.2024
Sample Drawn By : Laboratory
Sample Location : Near Weigh Bridge (Up Wind)
Sample Procedure : NIOSH & SOP'S

Sampling Date : 23 Oct 2024
Sample Received on : 28 Oct 2024
Test Started on : 28 Oct 2024
Test Completed on : 02 Nov 2024

TEST RESULTS

S.NO	Parameter	Test Method	Unit	Results
Chemical				
1	Formaldehyde	SMSLA/EN/SOP/026 - 2024	mg/m ³	BLQ(LOQ:0.1)
Hydrocarbons				
2	Total Hydrocarbons	SMSLA/GC/SOP/47 - 2024	mg/m ³	BLQ(LOQ:0.025)
Volatile Organic Compounds				
3	Methanol	SMSLA/GC/SOP/54 - 2024	mg/m ³	BLQ(LOQ:0.1)

Note : BLQ : Below Limit of Quantification LOQ : Limit of Quantification.

/***** End of the Report *****/

S. Kanimozhi
Authorized Signatory-Chemical

Laboratory Address: 39/6, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124.

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SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT

Page 1 of 1

Report No : QEN24100650-11 (Part B)

Report Date : 02 Nov 2024

Customer Name : M/s. Asian Paints Limited. (Penta Division)
Customer Address : B5-B10, SIPCOT Industrial Complex, Kudikadu, Cuddalore-607005.
Sample Name : Ambient VOC Monitoring
Sample Description : Ambient VOC Monitoring
Reference : Test Request Form Dated 24.10.2024
Sample Drawn By : Laboratory
Sample Location : Near Weigh Bridge (Up Wind)
Sample Procedure : NIOSH & SOP'S

Sampling Date : 23 Oct 2024
Sample Received on : 28 Oct 2024
Test Started on : 28 Oct 2024
Test Completed on : 02 Nov 2024

TEST RESULTS

S.NO	Parameter	Test Method	Unit	Results
Aldehydes				
1	Acetaldehyde	NIOSH 2538 - 1994	mg/m ³	BLQ(LOQ:0.1)

Note : BLQ : Below Limit of Quantification LOQ : Limit of Quantification.

/***** End of the Report *****/

S.Kanimozhi

Authorized Signatory-Chemical

Laboratory Address: 39/6, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124.

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SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT



TC-6118

ULR - TC611824000006284F

Report No : QEN24110134-10 (Part A)

Page 1 of 1

Report Date: 13 Nov 2024

Customer Name : M/s. Asian Paints Limited. (Penta Division)
Customer Address : B5-B10, SIPCOT Industrial Complex, Kudikadu, Cuddalore-607005.
Sample Name : Ambient VOC Monitoring
Sample Description : Ambient VOC Monitoring
Reference : Test Request Form Dated 07.11.2024
Sample Drawn By : Laboratory
Sample Location : Near Coal Yard (Down Wind)
Sample Procedure : NIOSH & SOP'S
Sampling Date : 07 Nov 2024
Sample Received on : 08 Nov 2024
Test Started on : 08 Nov 2024
Test Completed on : 13 Nov 2024

TEST RESULTS

S.NO	Parameter	Test Method	Unit	Results
Chemical				
1	Formaldehyde	SMSLA/EN/SOP/026 - 2024	ppm	BLQ(LOQ:0.1)
Hydrocarbons				
2	Total Hydrocarbons	SMSLA/GC/SOP/47 - 2024	mg/m ³	BLQ(LOQ:0.025)
Volatile Organic Compounds				
3	Methanol	SMSLA/GC/SOP/54 - 2024	mg/m ³	BLQ(LOQ:0.1)

Note : BLQ : Below Limit of Quantification LOQ : Limit of Quantification.

/***** End of the Report *****/

S.Kanimozhi
Authorized Signatory-Chemical

Laboratory Address: 39/6, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124.

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SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT

Page 1 of 1

Report No : QEN24110134-10 (Part B)

Report Date : 13 Nov 2024

Customer Name : M/s. Asian Paints Limited. (Penta Division)
Customer Address : B5-B10, SIPCOT Industrial Complex, Kudikadu, Cuddalore-607005.
Sample Name : Ambient VOC Monitoring
Sample Description : Ambient VOC Monitoring
Reference : Test Request Form Dated 07.11.2024
Sample Drawn By : Laboratory
Sample Location : Near Coal Yard (Down Wind)
Sample Procedure : NIOSH & SOP'S
Sampling Date : 06 Nov 2024
Sample Received on : 08 Nov 2024
Test Started on : 08 Nov 2024
Test Completed on : 13 Nov 2024

TEST RESULTS

S.NO	Parameter	Test Method	Unit	Results
Aldehydes				
1	Acetaldehyde	NIOSH 2538 - 1994	mg/m ³	BLQ(LOQ:0.1)

Note : BLQ : Below Limit of Quantification LOQ : Limit of Quantification.

/***** End of the Report *****/

S. Kanimozhi
Authorized Signatory-Chemical

Laboratory Address: 39/6, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124.

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SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT



TC-6118

ULR - TC611824000006285F

Report No : QEN24110134-11 (Part A)

Page 1 of 1

Report Date : 13 Nov 2024

Customer Name : M/s. Asian Paints Limited. (Penta Division)
Customer Address : B5-B10, SIPCOT Industrial Complex, Kudikadu, Cuddalore-607005.
Sample Name : Ambient VOC Monitoring
Sample Description : Ambient VOC Monitoring
Reference : Test Request Form Dated 07.11.2024
Sample Drawn By : Laboratory
Sample Location : Near Weigh Bridge (Up Wind)
Sample Procedure : NIOSH & SOP'S


Sampling Date : 06 Nov 2024
Sample Received on : 08 Nov 2024
Test Started on : 08 Nov 2024
Test Completed on : 13 Nov 2024

TEST RESULTS

S.NO	Parameter	Test Method	Unit	Results
Chemical				
1	Formaldehyde	SMSLA/EN/SOP/026 - 2024	ppm	BLQ(LOQ:0.1)
Hydrocarbons				
2	Total Hydrocarbons	SMSLA/GC/SOP/47 - 2024	mg/m ³	BLQ(LOQ:0.025)
Volatile Organic Compounds				
3	Methanol	SMSLA/GC/SOP/54 - 2024	mg/m ³	BLQ(LOQ:0.1)

Note : BLQ : Below Limit of Quantification LOQ : Limit of Quantification.

/***** End of the Report *****/


S.Kanimozhi
Authorized Signatory-Chemical

Laboratory Address: 39/6, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124.

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SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT

Page 1 of 1

Report No : QEN24110134-11 (Part B)

Report Date : 13 Nov 2024

Customer Name : M/s. Asian Paints Limited. (Penta Division)

Customer Address : B5-B10, SIPCOT Industrial Complex, Kudikadu, Cuddalore-607005.

Sample Name : Ambient VOC Monitoring

Sample Description : Ambient VOC Monitoring

Reference : Test Request Form Dated 07.11.2024

Sample Drawn By : Laboratory

Sample Location : Near Weigh Bridge (Up Wind)

Sample Procedure : NIOSH & SOP'S

Sampling Date : 06 Nov 2024

Sample Received on : 08 Nov 2024

Test Started on : 08 Nov 2024


Test Completed on : 13 Nov 2024

TEST RESULTS

S.NO	Parameter	Test Method	Unit	Results
Aldehydes				
1	Acetaldehyde	NIOSH 2538 - 1994	mg/m ³	BLQ(LOQ:0.1)

Note : BLQ : Below Limit of Quantification LOQ : Limit of Quantification.

/***** End of the Report *****/


S. Kanimozhi
Authorized Signatory-Chemical

Laboratory Address : 39/6, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124

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SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT



TC-6118

ULR - TC611824000011077F

Report No : QEN241207024-10 (Part A)

Page 1 of 1

Report Date : 12 Dec 2024

Customer Name : M/s. ASIAN PAINTS LIMITED. (PENTA DIVISION)
Customer Address : B5 - B10, Sipcot Industrial Complex, Kudikadu Village, Cuddalore - 607005.
Sample Name : Ambient VOC Monitoring
Sample Description : Ambient VOC Monitoring
Reference : Test Request Form Dated 06.12.2024
Sample Drawn By : Laboratory
Sample Location : Near Coal Yard (Down Wind)
Sample Procedure : NIOSH & SOP'S

Sampling Date : 05 Dec 2024
Sample Received on : 07 Dec 2024
Test Started on : 07 Dec 2024
Test Completed on : 12 Dec 2024

TEST RESULTS

S.NO	Parameter	Test Method	Unit	Results
Chemical				
1	Formaldehyde	SMSLA/EN/SOP/026 - 2024	ppm	BLQ(LOQ:0.1)
Hydrocarbons				
2	Total Hydrocarbons	SMSLA/GC/SOP/47 - 2024	mg/m ³	BLQ(LOQ:0.025)
Volatile Organic Compounds				
3	Methanol	SMSLA/GC/SOP/54 - 2024	mg/m ³	BLQ(LOQ:0.1)

Note : BLQ : Below Limit of Quantification LOQ : Limit of Quantification.

/***** End of the Report *****/

M.S. 
M. Sarathkumar
Authorized Signatory-Chemical

Laboratory Address: 39/6, Thiruvallur High Road, Pudukhatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124.

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SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT

Page 1 of 1

Report No : QEN241207024-10 (Part B)

Report Date : 12 Dec 2024

Customer Name : M/s. ASIAN PAINTS LIMITED. (PENTA DIVISION)
Customer Address : B5 - B10, Sipcot Industrial Complex, Kudikadu Village, Cuddalore - 607005.
Sample Name : Ambient VOC Monitoring Sampling Date : 05 Dec 2024
Sample Description : Ambient VOC Monitoring Sample Received on : 07 Dec 2024
Reference : Test Request Form Dated 06.12.2024 Test Started on : 07 Dec 2024
Sample Drawn By : Laboratory Test Completed on : 12 Dec 2024
Sample Location : Near Coal Yard (Down Wind)
Sample Procedure : NIOSH & SOP'S

TEST RESULTS

S.NO	Parameter	Test Method	Unit	Results
Aldehydes				
1	Acetaldehyde	NIOSH 2538 - 1994	mg/m3	BLQ(LOQ:0.1)

Note : BLQ : Below Limit of Quantification LOQ : Limit of Quantification.

/***** End of the Report *****/

M. Sarathkumar
Authorized Signatory-Chemical

Laboratory Address: 39/6, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124.

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SMS LABS SERVICES PRIVATE LIMITED



TEST REPORT

TC-6118

ULR - TC611824000011078F

Page 1 of 1

Report No : QEN241207024-11 (Part A)

Report Date : 12 Dec 2024

Customer Name : M/s. ASIAN PAINTS LIMITED. (PENTA DIVISION)
Customer Address : B5 - B10, Sipcot Industrial Complex, Kudikadu Village, Cuddalore - 607005.
Sample Name : Ambient VOC Monitoring
Sample Description : Ambient VOC Monitoring
Reference : Test Request Form Dated 06.12.2024
Sample Drawn By : Laboratory
Sample Location : Near Weigh Bridge (Up Wind)
Sample Procedure : NIOSH & SOP'S

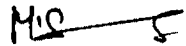
Sampling Date : 05 Dec 2024
Sample Received on : 07 Dec 2024
Test Started on : 07 Dec 2024
Test Completed on : 12 Dec 2024

TEST RESULTS

S.NO	Parameter	Test Method	Unit	Results
Chemical				
1	Formaldehyde	SMSLA/EN/SOP/026 - 2024	ppm	BLQ(LOQ:0.1)
Hydrocarbons				
2	Total Hydrocarbons	SMSLA/GC/SOP/47 - 2024	mg/m ³	BLQ(LOQ:0.025)
Volatile Organic Compounds				
3	Methanol	SMSLA/GC/SOP/54 - 2024	mg/m ³	BLQ(LOQ:0.1)

Note : BLQ : Below Limit of Quantification LOQ : Limit of Quantification.

/***** End of the Report *****/


M. Sarathkumar
Authorized Signatory-Chemical

Laboratory Address: 39/6, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124.

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SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT

Page 1 of 1

Report No : QEN241207024-11 (Part B)

Report Date : 12 Dec 2024

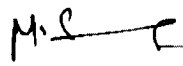
Customer Name : M/s. ASIAN PAINTS LIMITED. (PENTA DIVISION)
Customer Address : B5 - B10, Sipcot Industrial Complex, Kudikadu Village, Cuddalore - 607005.
Sample Name : Ambient VOC Monitoring Sampling Date : 05 Dec 2024
Sample Description : Ambient VOC Monitoring Sample Received on : 07 Dec 2024
Reference : Test Request Form Dated 06.12.2024 Test Started on : 07 Dec 2024
Sample Drawn By : Laboratory Test Completed on : 12 Dec 2024
Sample Location : Near Weigh Bridge (Up Wind)
Sample Procedure : NIOSH & SOP'S

TEST RESULTS

S.NO	Parameter	Test Method	Unit	Results
Aldehydes				
1	Acetaldehyde	NIOSH 2538 - 1994	mg/m3	BLQ(LOQ:0.1)

Note : BLQ : Below Limit of Quantification LOQ : Limit of Quantification.

/***** End of the Report *****/


M. Sarathkumar
Authorized Signatory-Chemical

Laboratory Address: 39/6, Thiruvallur High Road, Puduchatram Post, Thirunazhisai Via, Poonamallee Taluk, Chennai - 600124.

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SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT



TC-6118

ULR - TC61182500005249F

Report No : QEN250129017-08 (Part A)

Page 1 of 1

Report Date : 01 Feb 2025

Customer Name : M/s. Asian Paints Limited. (Penta Division)
Customer Address : B5-B10, SIPCOT Industrial Complex, Kudikadu, Cuddalore-607005.
Sample Name : Ambient VOC Monitoring
Sample Description : Ambient VOC Monitoring
Reference : Test Request Form Dated 27.01.2025
Sample Drawn By : Laboratory
Sample Location : Near Coal Yard (Down Wind)
Sample Procedure : NIOSH & SOP'S

Sampling Date : 27 Jan 2025
Sample Received on : 29 Jan 2025
Test Started on : 29 Jan 2025
Test Completed on : 01 Feb 2025

TEST RESULTS

S.NO	Parameter	Test Method	Unit	Results
Chemical				
1	Formaldehyde	SMSLA/EN/SOP/026 - 2024	ppm	BLQ(LOQ:0.1)
Hydrocarbons				
2	Total Hydrocarbons	SMSLA/GC/SOP/47 - 2024	mg/m ³	BLQ(LOQ:0.025)
Volatile Organic Compounds				
3	Methanol	SMSLA/GC/SOP/54 - 2024	mg/m ³	BLQ(LOQ:0.1)

Note : BLQ : Below Limit of Quantification LOQ : Limit of Quantification.

/***** End of the Report *****/

M. Sarathkumar
Authorized Signatory-Chemical

Laboratory Address: 39.6, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124.

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SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT

Page 1 of 1

Report No : QEN250129017-08 (Part B)

Report Date : 01 Feb 2025

Customer Name : M/s. Asian Paints Limited. (Penta Division)
Customer Address : B5-B10, SIPCOT Industrial Complex, Kudikadu, Cuddalore-607005.
Sample Name : Ambient VOC Monitoring
Sample Description : Ambient VOC Monitoring
Reference : Test Request Form Dated 27.01.2025
Sample Drawn By : Laboratory
Sample Location : Near Coal Yard (Down Wind)
Sample Procedure : NIOSH & SOP'S

Sampling Date : 27 Jan 2025
Sample Received on : 29 Jan 2025
Test Started on : 29 Jan 2025
Test Completed on : 01 Feb 2025

TEST RESULTS

S.NO	Parameter	Test Method	Unit	Results
Aldehydes				
1	Acetaldehyde	NIOSH 2538 - 1994	mg/m3	BLQ(LOQ:0.1)

Note : BLQ : Below Limit of Quantification LOQ : Limit of Quantification.

/***** End of the Report *****/

M. Sarathkumar
Authorized Signatory-Chemical

Laboratory Address: 39.6, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124.

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SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT



TC-6118

ULR - TC61182500005250F

Report No : QEN250129017-09 (Part A)

Page 1 of 1

Report Date: 01 Feb 2025

Customer Name : M/s. Asian Paints Limited. (Penta Division)
Customer Address : B5-B10, SIPCOT Industrial Complex, Kudikadu, Cuddalore-607005.
Sample Name : Ambient VOC Monitoring
Sample Description : Ambient VOC Monitoring
Reference : Test Request Form Dated 27.01.2025
Sample Drawn By : Laboratory
Sample Location : Near Weigh Bridge (Up Wind)
Sample Procedure : NIOSH & SOP'S

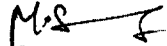
Sampling Date : 27 Jan 2025
Sample Received on : 29 Jan 2025
Test Started on : 29 Jan 2025
Test Completed on : 01 Feb 2025

TEST RESULTS

S.NO	Parameter	Test Method	Unit	Results
Chemical				
1	Formaldehyde	SMSLA/EN/SOP/026 - 2024	ppm	BLQ(LOQ:0.1)
Hydrocarbons				
2	Total Hydrocarbons	SMSLA/GC/SOP/47 - 2024	mg/m ³	BLQ(LOQ:0.025)
Volatile Organic Compounds				
3	Methanol	SMSLA/GC/SOP/54 - 2024	mg/m ³	BLQ(LOQ:0.1)

Note : BLQ : Below Limit of Quantification LOQ : Limit of Quantification.

/***** End of the Report *****/


M. Sarathkumar
Authorized Signatory-Chemical

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SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT

Page 1 of 1

Report No : QEN250129017-09 (Part B)

Report Date : 01 Feb 2025

Customer Name : M/s. Asian Paints Limited. (Penta Division)
Customer Address : B5-B10, SIPCOT Industrial Complex, Kudikadu, Cuddalore-607005.
Sample Name : Ambient VOC Monitoring
Sample Description : Ambient VOC Monitoring
Reference : Test Request Form Dated 27.01.2025
Sample Drawn By : Laboratory
Sample Location : Near Weigh Bridge (Up Wind)
Sample Procedure : NIOSH & SOP'S

Sampling Date : 27 Jan 2025
Sample Received on : 29 Jan 2025
Test Started on : 29 Jan 2025
Test Completed on : 01 Feb 2025

TEST RESULTS

S.NO	Parameter	Test Method	Unit	Results
Aldehydes				
1	Acetaldehyde	NIOSH 2538 - 1994	mg/m3	BLQ(LOQ:0.1)

Note : BLQ : Below Limit of Quantification LOQ : Limit of Quantification.

/***** End of the Report *****/

M. Sarathkumar
Authorized Signatory-Chemical

Laboratory Address: 39/6, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124.

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SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT



TC-6118

ULR - TC61182500008306F

Report No : QEN250215014-08 (Part A)

Page 1 of 1

Report Date : 18 Feb 2025

Customer Name : M/s. ASIAN PAINTS LIMITED. (PENTA DIVISION)
Customer Address : B5 - B10, Sipcot Industrial Complex. Kudikadu Village, Cuddalore - 607005.
Sample Name : Ambient Voc Monitoring
Sample Description : Ambient Voc Monitoring
Reference : Test Request Form Dated 14.02.2025
Sample Drawn By : Laboratory
Sample Location : Near Weigh Bridge (Up Wind)
Sample Procedure : NIOSH & SOP'S

Sampling Date : 13 Feb 2025
Sample Received on : 15 Feb 2025
Test Started on : 15 Feb 2025
Test Completed on : 18 Feb 2025

TEST RESULTS

S.NO	Parameter	Test Method	Unit	Results
Chemical				
1	Formaldehyde	SMSLA/EN/SOP/026 - 2024	ppm	BLQ(LOQ:0.1)
Hydrocarbons				
2	Total Hydrocarbons	SMSLA/GC/SOP/47 - 2024	mg/m ³	BLQ(LOQ:0.025)
Volatile Organic Compounds				
3	Methanol	SMSLA/GC/SOP/54 - 2024	mg/m ³	BLQ(LOQ:0.1)

Note : BLQ : Below Limit of Quantification LOQ : Limit of Quantification.

/***** End of the Report *****/

M. Sarathkumar
Authorized Signatory-Chemical

Laboratory Address: 39/6, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124

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SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT

Page 1 of 1

Report No : QEN250215014-08 (Part B)

Report Date : 18 Feb 2025

Customer Name : M/s. ASIAN PAINTS LIMITED. (PENTA DIVISION)
Customer Address : B5 - B10, Sipcot Industrial Complex, Kudikadu Village, Cuddalore - 607005.
Sample Name : Ambient Voc Monitoring
Sample Description : Ambient Voc Monitoring
Reference : Test Request Form Dated 14.02.2025
Sample Drawn By : Laboratory
Sample Location : Near Weigh Bridge (Up Wind)
Sample Procedure : NIOSH & SOP'S

Sampling Date : 13 Feb 2025
Sample Received on : 15 Feb 2025
Test Started on : 15 Feb 2025
Test Completed on : 18 Feb 2025

TEST RESULTS

S.NO	Parameter	Test Method	Unit	Results
Aldehydes				
1	Acetaldehyde	NIOSH 2538 - 1994	mg/m3	BLQ(LOQ:0.1)

Note : BLQ : Below Limit of Quantification LOQ : Limit of Quantification.

/***** End of the Report *****/

M. Sarathkumar
Authorized Signatory-Chemical

Laboratory Address: 39/6, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124.

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SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT



TC-6118

ULR - TC61182500008307F

Report No : QEN250215014-09 (Part A)

Page 1 of 1

Report Date : 18 Feb 2025

Customer Name : M/s. ASIAN PAINTS LIMITED. (PENTA DIVISION)
Customer Address : B5 - B10, Sipcot Industrial Complex, Kudikadu Village, Cuddalore - 607005.
Sample Name : Ambient Voc Monitoring
Sample Description : Ambient Voc Monitoring
Reference : Test Request Form Dated 14.02.2025
Sample Drawn By : Laboratory
Sample Location : Near Coal Yard (Down Wind)
Sample Procedure : NIOSH & SOP'S

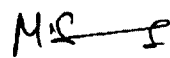
Sampling Date : 13 Feb 2025
Sample Received on : 15 Feb 2025
Test Started on : 15 Feb 2025
Test Completed on : 18 Feb 2025

TEST RESULTS

S.NO	Parameter	Test Method	Unit	Results
Chemical				
1	Formaldehyde	SMSLA/EN/SOP/026 - 2024	ppm	BLQ(LOQ:0.1)
Hydrocarbons				
2	Total Hydrocarbons	SMSLA/GC/SOP/47 - 2024	mg/m ³	BLQ(LOQ:0.025)
Volatile Organic Compounds				
3	Methanol	SMSLA/GC/SOP/54 - 2024	mg/m ³	BLQ(LOQ:0.1)

Note : BLQ : Below Limit of Quantification LOQ : Limit of Quantification.

/***** End of the Report *****/


M. Sarathkumar
Authorized Signatory-Chemical

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SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT

Page 1 of 1

Report No : QEN250215014-09 (Part B)

Report Date : 18 Feb 2025

Customer Name : M/s. ASIAN PAINTS LIMITED. (PENTA DIVISION)
Customer Address : B5 - B10, Sipcot Industrial Complex, Kudikadu Village, Cuddalore - 607005.
Sample Name : Ambient Voc Monitoring
Sample Description : Ambient Voc Monitoring
Reference : Test Request Form Dated 14.02.2025
Sample Drawn By : Laboratory
Sample Location : Near Coal Yard (Down Wind)
Sample Procedure : NIOSH & SOP'S

Sampling Date : 13 Feb 2025
Sample Received on : 15 Feb 2025
Test Started on : 15 Feb 2025
Test Completed on : 18 Feb 2025

TEST RESULTS

S.NO	Parameter	Test Method	Unit	Results
Aldehydes				
1	Acetaldehyde	NIOSH 2538 - 1994	mg/m3	BLQ(LOQ:0.1)

Note : BLQ : Below Limit of Quantification LOQ : Limit of Quantification.

/***** End of the Report *****/

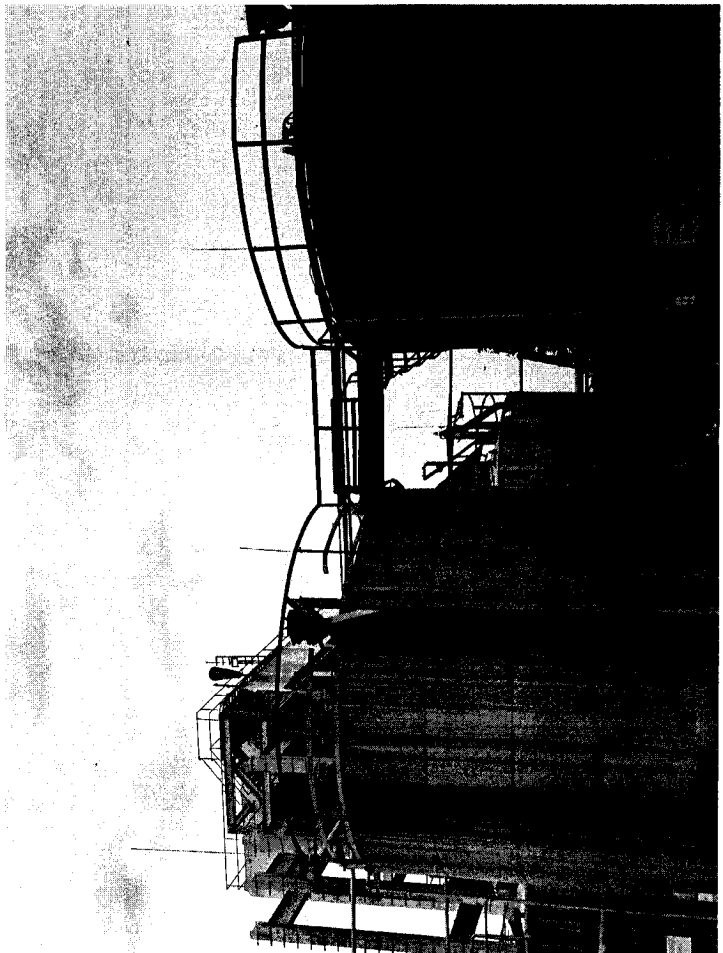
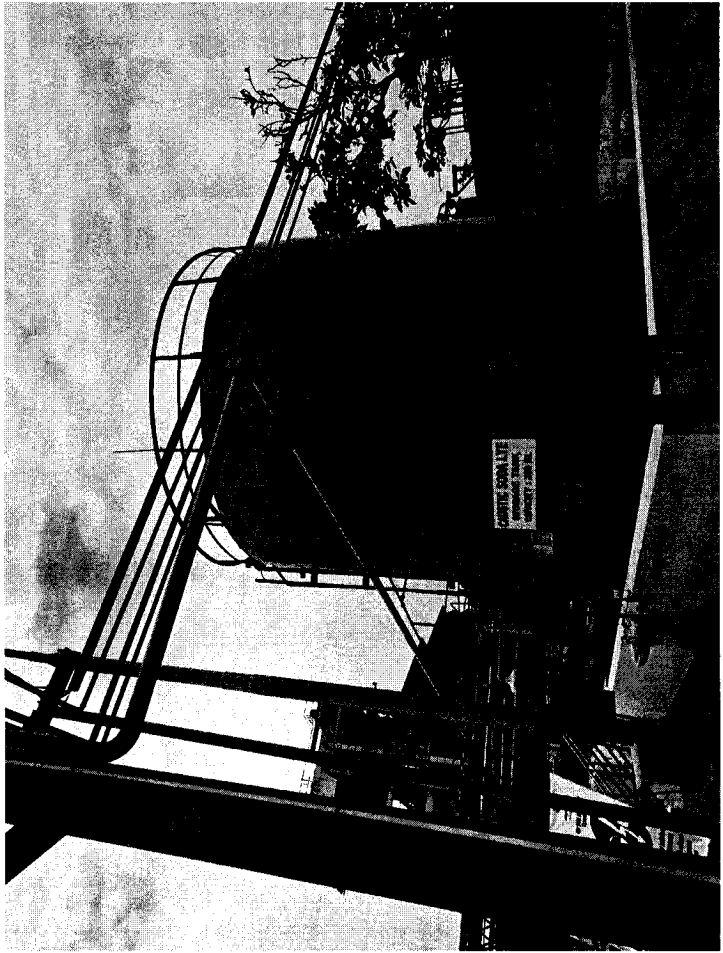

M. Sarathkumar
Authorized Signatory-Chemical

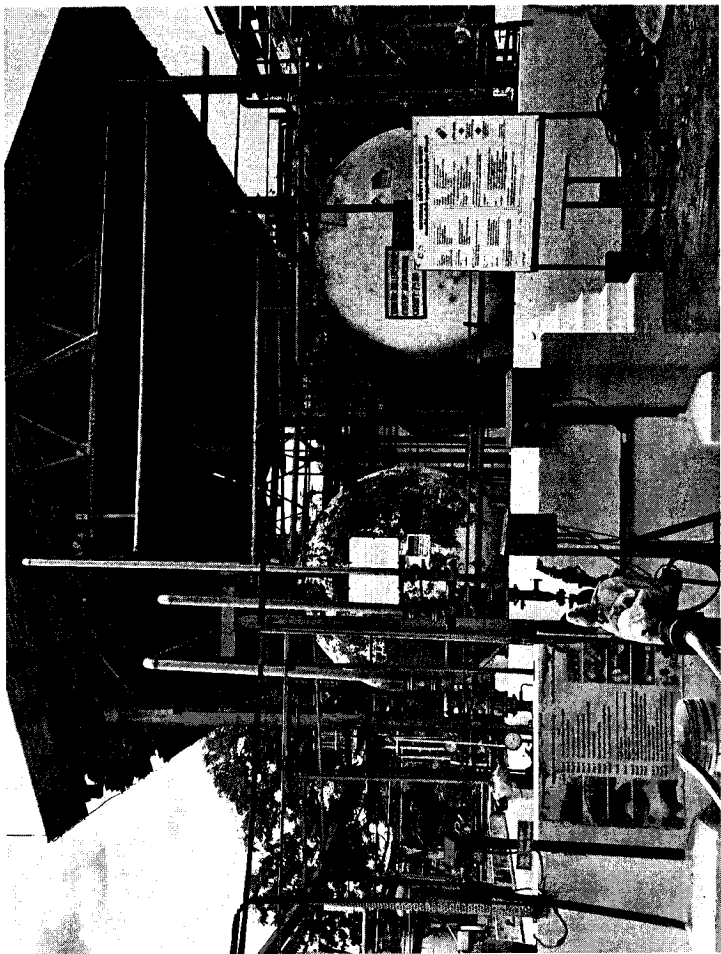
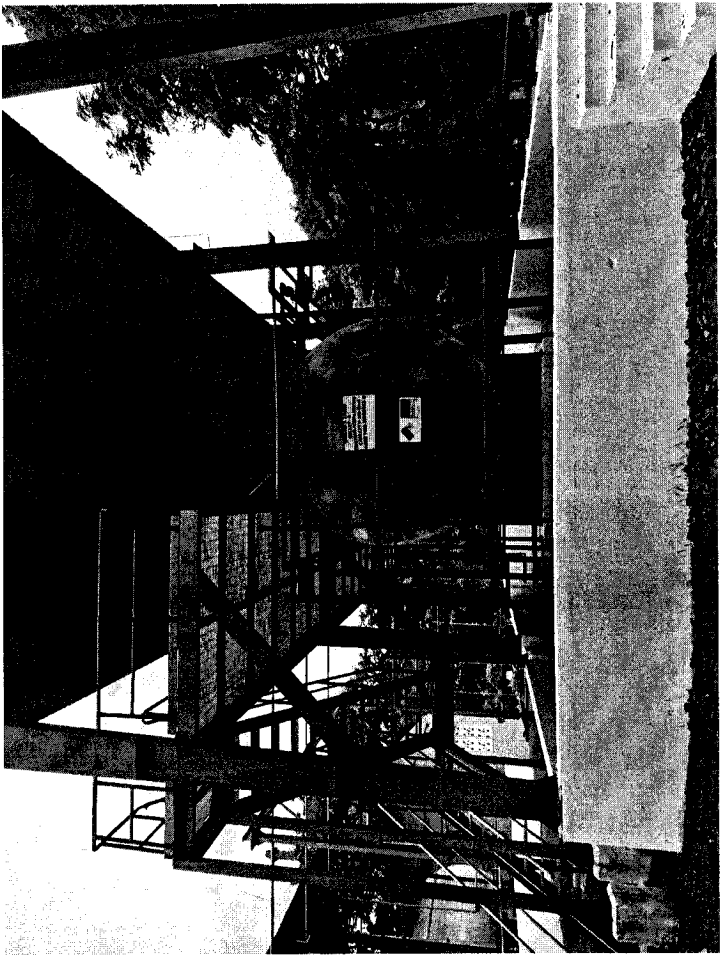
Laboratory Address: 39/6, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124

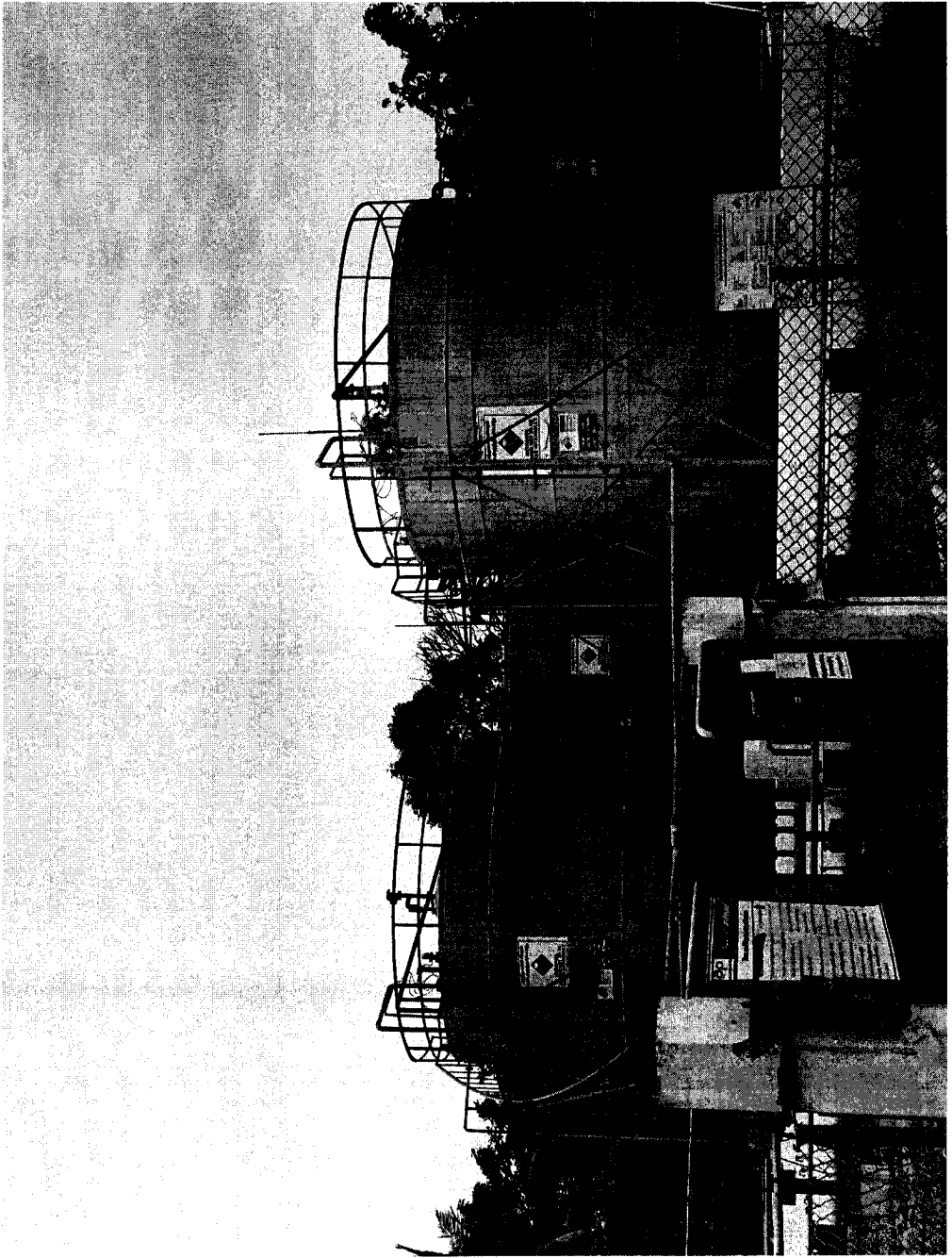
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Annexure 15

Hazardous RM Storage







Annexure 16

WATER SPRINKLER SYSTEM, FOAM
POURER AND DELUGE VALVE
SYSTEM

DETAILS OF FIRE FIGHTING FACILITIES

FIRE HYDRANT SYSTEM

To ensure safety and protection from fire, a fire hydrant system approved by Tariff advisory Committee (TAC) has been installed in our Plant. The fire hydrant system is an integral safety measure of the plant.

The constituents of the existing fire hydrant system in our Plant are as per Table-1

S. No	Component	Count
1	Fire hydrant water storage tanks	2
2	Fire hydrant pumps	5
3	Single head ground hydrants	49
4	Water jet monitors	3
5	Water jet cum foam monitors	4
6	Single head fire escape hydrant	6
7	Medium Velocity sprinkler system	6

Fire Hydrant Water Storage Tanks

There are two open fire hydrant water reservoirs inter-connecting to a common sump and pump room with isolation valves. Their capacities are as per Table-2

S.No	Tank	Capacity in KL
1	Tank No-1	700
2	Tank No-2	700

The capacity of fire water reservoir provided is as per the TAC regulations. Since our plant is under High hazard risk category four hours pumping capacity is available, for firefighting.

Fire Water Pumps

There are four fire hydrant water pumps to pump fire water to the different areas and maintain the pressure of the fire hydrant header. These are as per Table-3

S. No	Pump name	Power source	Capacity in m3/hr	Count
1	Jockey pump	Electrically driven	15	2
2	Main pump-1	Electrically driven	273	1
3	Main pump-2	Electrically driven	171	1
4	Diesel pump	Diesel driven	273	1

All pumps are directly coupled type centrifugal pumps. The 171 m3/hr and one jockey pump are placed in a pump house and the pumps are situated above the common sump. Other pumps are at the ground level.

There are two pressure switches provided on the fire hydrant header to govern the starting of these pumps. All the pumps have provision of "Auto" and "Manual" mode of operation. There is a provision of automatic stop for the electrically driven main pumps and jockey pump. However, this provision of auto stop does not exist for the diesel main pump. Once the diesel driven main pump starts, it can be stopped only manually by switching it off.

The set point of pressure switches for the above pumps on auto mode are indicated below Table-4

Description	Auto Start	Auto stop
Jockey Pump	Less than 4.9 Kgs/Cm2	At 7.0Kgs/Cm2
273 M3/hr main pump-1	Less than 3.0 Kgs/Cm2	At 8.0Kgs/Cm2
171 m3/hr main pump-2	Less than 2.5 Kgs/Cm2	At 8.0Kgs/Cm2
Diesel pump	Less than 1.8 Kgs/Cm2	Can be stopped only manually.

Hence, when the hydrant header pressure falls below 4.9 Kg/Cm2, the jockey pump will start automatically and will stop by itself as soon as the pressure as sensed by the pressure switch reaches 7 Kg/Cm2. If the header pressure falls below 3.0 Kg/Cm2, the 273 m3/hr main pump will also start. If the pressure falls below 2.5 Kgs/Cm2 the 171 m3/hr main pump will start. If the pressure falls below 1.8 Kgs/Cm2 the diesel pump will start. However, since this pump does not have "auto" stop facility, the pump must be manually switched off as and when required.

Details of Fire Water Pumps

The fire hydrant pumps have separate suction lines. However, the discharge lines are connected and joined to the hydrant header. The details of the pumps are as per below Table-5

Description	Jockey Pump	Main Pump-1	Main Pump-2	Diesel Pump
Drive mode	Kirloskar Electric motor (15 KW)	Kirloskar Electric motor (120 HP)	Kirloskar Electric motor (75 HP)	Kirloskar Electric motor (120 HP)
Type	Centrifugal	Centrifugal	Centrifugal	Centrifugal
Capacity	15M3/hr	275M3/hr	171M3/hr	274M3/hr
Head	90 M	70 M	70 M	70 M
Pump RPM	2800	2400	2400	2400

Single Head Ground Water Hydrants

The single head ground fire hydrant is so called because it has a single outlet with a valve to regulate and fix water flow.

The single head ground fire hydrants are provided just above the ground level at various locations as shown in the lay-out. Fire hoses and branch pipes are placed in the fire hose box near each fire hydrant point. The hose pipe can be connected to the nozzle of the single head ground fire hydrant and its valve can be opened to allow the water to flow through the hose pipe towards, the area affected. There are 49 such single head ground fire hydrants located all over the plant.

Water Jet Monitors

The water jet monitors have an isolation valve, and a 32 mm nozzle connected at the outlet. The outlet pipe with the nozzle can be rotated in all directions with the help of a handle to direct the jet of water from the monitor to the required direction and elevation. The water jet is designed to monitor water to a maximum height of about 37 M which covers the crown of the highest situated vessel in the plant (distillation top). There are three such water jet monitors in our plant and their location are as below.

1. Opposite to formaldehyde tank farm area near T-802
2. Coal storage yard entrance and opposite to diesel tank
3. Near crusher house

Water Jet cum foam Monitors

The water jet cum foam monitors has the facility to generate water jet along with foam spray. Suction hose is connected to the foam tank kept near each monitor. The outlet pipe with the nozzle can be rotated in all directions with the help of a handle to direct the jet of water from the monitor to the required direction and elevation. There are four waters cum foam monitors in the plant and their location as below.

1. Southeast corner of Methanol storage main tank farm area
2. Northwest corner of Methanol storage main tank farm area
3. Western side of Acetaldehyde storage bullet
4. Eastern side of Acetaldehyde storage bullet

Single Head Fire Escape Hydrant

The single head fire escape hydrant is like the single head ground hydrant - the only difference is that this is located at elevations above ground level. These hydrants also have an isolation valve and fire hose boxes installed near them. There are six such single head fire escape hydrant pumps. All fire escape hydrants are located near the landing. The locations are as per the Table-6

S. No	Location	Level	Landmark	Count
1	Penta Plant	6 meters	Near SF centrifuge	1
2	Penta Plant	6 meters	Near NCO centrifuge	1
3	Formaldehyde Plant	6 meters	Near Reactor	1
4	Formaldehyde Plant	12 meters	Emergency staircase landing platform	1
5	16 TPH Boiler	5 meters	Control entrance	1
6	14 TPH Boiler	5 meters	Near Control room	

Guidelines for Operation of Fire Hydrant Pumps

- Fire hydrant pumps shall always be kept on "AUTO" mode.
- The fire hydrant header pressure as indicated by the pressure gauge in the pump house should be monitored at regular intervals to ensure that header pressure is maintained at 7.0 Kg/Cm² constantly to facilitate availability of fire water in case of any emergency.
- The "AUTO" start of the above two pumps should be checked every week on Tuesday as per the header pressure variations indicated in Table-4.
- It is to be noted that electrically driven jockey pump and Main pump has got "auto" stops facility. However, Diesel driven main pump does not have "auto" stop facility. Once the pump gets started it will remain in running condition. As soon as the requirement of fire water, in case of emergencies, is not there, the main pump should be stopped manually, otherwise the fire hydrant lines will get over-pressurised

Medium Velocity Water Sprinkler system

Medium Velocity Water Sprinkler system is provided in the following locations of the plant. The details of the MVWS system are given in the below Table-7

S. No	Location of MVWS	Chemicals stored	Type of the system	Detection type
1	Acetaldehyde storage bullet-1 and 2	Acetaldehyde	Dry type	Quartzoid bulb (QB)
2	Acetaldehyde storage bullet-3	Acetaldehyde	Dry type	Quartzoid bulb (QB)
3	Acetaldehyde unloading area	Acetaldehyde	Dry type	Quartzoid bulb (QB)
4	Methanol storage main tanks	Methanol	Dry type	Temperature detector
5	Methanol process day tanks	Methanol	Dry type	Temperature detector
6	Coal storage yard	Coal	Wet type	Quartzoid bulb (QB)
7	Warehouse	Pentaerythritol	Wet type	Quartzoid bulb (QB)
8	Coal belt conveyors	Coal	Wet type	Linear Heat sensing cables

Details of fire protection system in Methanol storage main tanks and Methanol process day tanks

Fire protection system available for Methanol storage tanks

The following systems are provided for the protection of Methanol storage tanks:

1. Automatic Medium velocity water spray system (MVWS) system for storage of Methanol in tanks.
2. Automatically operated semi-fixed foam system for methanol storage tanks.

Medium velocity water spray system (MVWS SYSTEM)

CODES AND STANDARDS

The following codes and standards are referred to while designing the system design:

1. Fire protection manual published by Tariff Advisory committee (TAC).
2. Rules for Water spray system Published by Tariff Advisory Committee (TAC)
3. Indian Standards (IS)
4. NFPA 11

AREAS COVERED

The following tanks and vessels are protected with water spray system:

1. Methanol Storage tanks – 4 Nos.
2. Methanol process day tanks-2 Nos

WATER DESIGN requirement

As per the TAC guidelines following design water density is planned for the above product storage tanks/vessels.

10.2 LPM/Sq.M of shell surface area for Methanol storage tanks

WATER SUPPLY AND PUMPING ARRANGEMENT

Water required for the MVWS is supplied from Fire hydrant tanks through a separate 200 NB pipeline which is connected only to the sprinkler system.

Water spray system consists of deluge valves, temperature detectors, solenoid valves, gate valves.

Foam system consists of foam making chamber, inline inductor, and foam solution storage tank. The schematic arrangement of foam system for product storage tanks are shown below.

SYSTEM DESCRIPTION FOR METHANOL STORAGE TANKS

Automatically operated water spray system is provided for Methanol storage tanks. Water required for MVWS system is tapped from the pressurized water spray system header. Medium velocity water spray system consists of Temperature detectors, Deluge valves, spray nozzles, spray piping network and isolation valves.

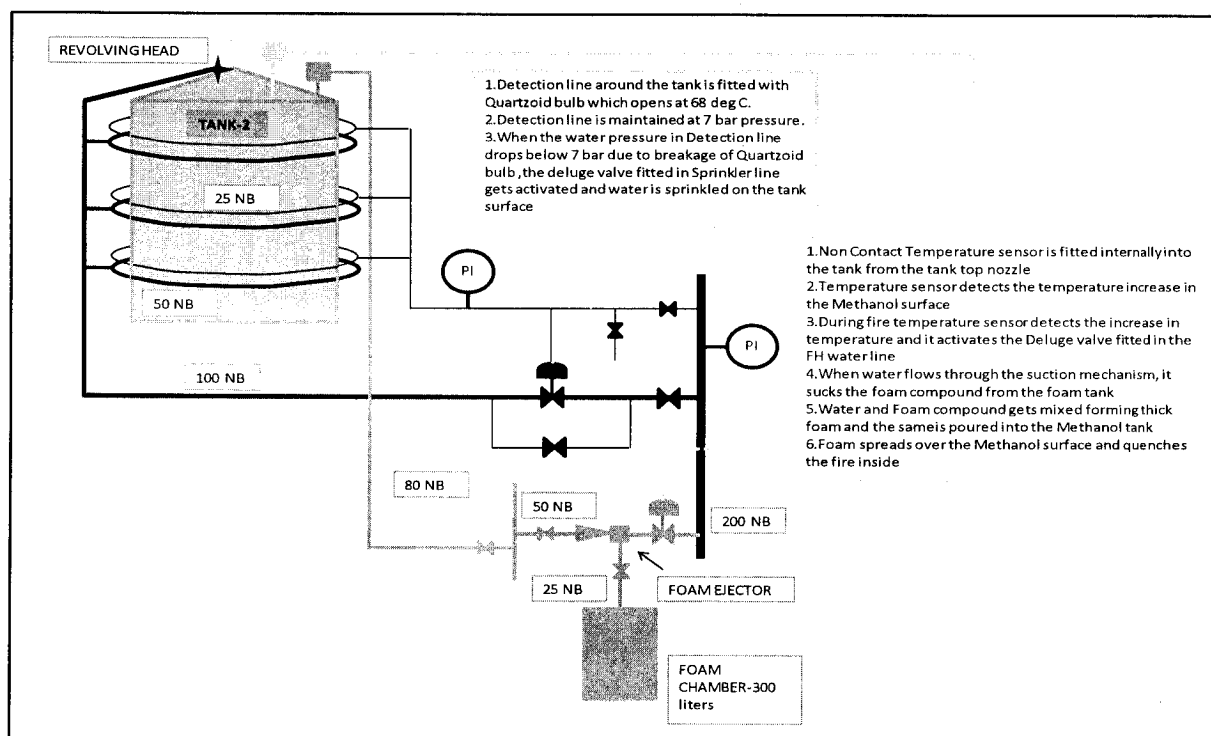
In case of fire in any one of the tanks, the respective 2 nos of temperature detectors installed on the tank roof top detects the increase in temperature and send the signal to the solenoid valves connected to the respective tank foam system deluge valves. Solenoid valves open and activates the foam deluge valve. Water will gush through the piping and inline inductor to the foam making chamber. Simultaneously, due to venturi effect in the inline inductor, foam at the required proportion is drawn from the foam tank. The water and foam mixture will enter the foam maker and then will be discharged on to the burning surface. Foam is allowed into the tank where the temperature rise is detected.

Foam deluge valve in turn activates the tank main sprinkler system water spray deluge valve. Water spray is initiated for all the tanks simultaneously and cooling of the tank is done. The piping pressure will rapidly fall resulting into operation of the fire pumps. Once the fire is totally extinguished, the pumps shall be switched 'OFF' manually.

FOAM SYSTEM

A sufficient volume of foam, on a burning substance, arrests the movement of air and prevents entry of oxygen. Heat converts the water-content in foam into steam and reduces the oxygen-content in the air. Water converted into steam helps absorb heat from the burning material meant to be protected. Foam System is employed to protect storage tanks containing flammable/combustible liquids.

Water flow through the sprinkler line will activate the flow sensor which in turn activates the alarm in addressable notifier panel located in Penta main control room and also through a local audible alarm.



SYSTEM DESCRIPTION FOR WATER SPRAY FOR ACETALDEHYDE STORAGE BULLETS AND ACETALDEHYDE UNLOADING AREA

Automatic medium velocity water spray system is installed for Acetaldehyde storage bullets.

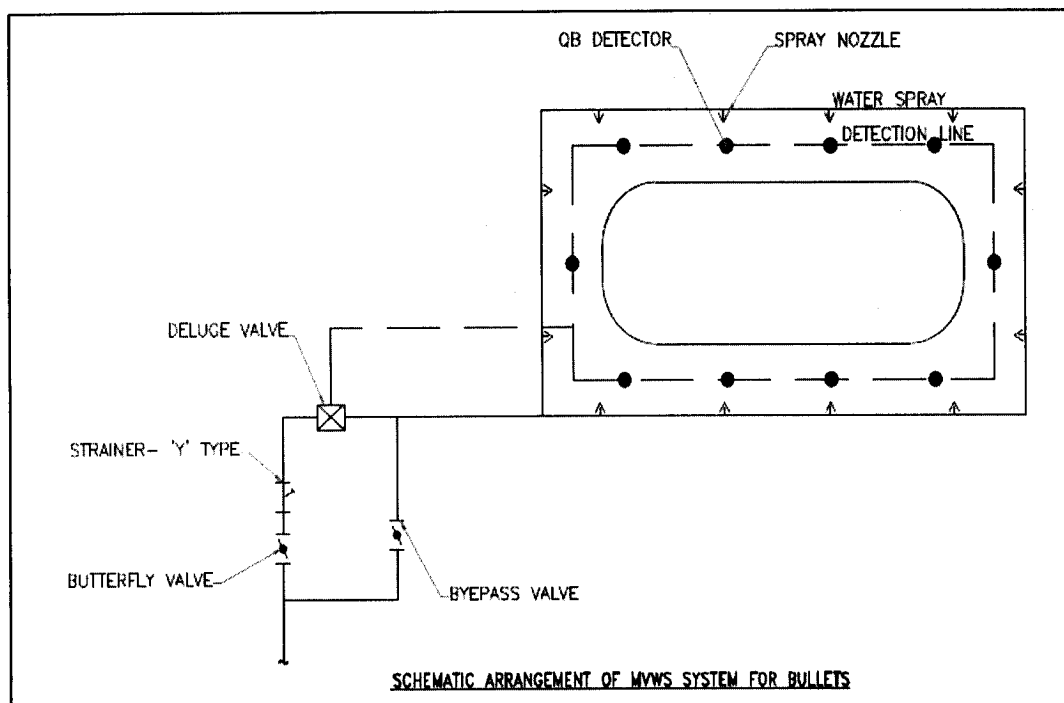
A typical MVWS Spray shall consist of sprayers, QB detectors, detection piping, spray piping and deluge valve. Water required for MVWS system is tapped from the proposed pressurized watery spray system header. The schematic arrangement of MVWS system for storage tanks is shown in fig. Two numbers of product storage bullets 1 and 2 and associated piping shall be combined and covered by one deluge valve which will be operated automatically. For the bullet-3 separate piping and deluge valve is available which will operate automatically. For the Acetaldehyde unloading area separate sprinkler system with necessary piping, detector lines and deluge valves is available and can operate automatically. In case heat rises above 69 deg C. QB detectors installed around the protected area on the detection line will detect the rise in temperature and shatters at 69 deg C thus releasing the pressure in detection line. Due to drop in pressure deluge

valve operates automatically. The entire protected area is sprayed with water. The pressure switch located in the pump house detects the pressure drop and starts the fire water pumps.

WATER DESIGN REQUIREMENT

As per the TAC guidelines following design water density is planned for the above product storage tanks/vessels.

10.2 LPM/Sq.M of shell surface area for Acetaldehyde storage Bullets



Objective of the system

To spray water over the Acetaldehyde bullets and cool the bullets in order to ensure that the pressure of the bullet is brought under control.

Bullet might get pressurized on account of the following reasons:

- Fire around the bullet area.
- Presence of impurities in the Acetaldehyde leading to reaction within the bullet resulting in heating and in turn increase of the bullet pressure.

System operation methodology in auto mode :

- When the temperature around the bullet increases beyond 70°C, the quartzoid bulb breaks leading to opening of the deluge valve ensuring water spray to both the bullets.
- When the bullet pressure increases beyond the set value of 1.75 KSC, then the deluge valve is opened electrically ensuring water spray over the bullets.
- Operation of the Gong bell indicates that the deluge valve has opened.

System performance in manual mode.

- a) Medium velocity water spray can be ensured by opening the bypass valve of the deluge valve.
- b) By draining the water from the deluge system by means of the ½" valve provided at the deluge valve.

Water spray system in the Coal yard and Warehouse

Working principle of the water spray system

Water spray system installed in Coal yard and warehouse consists of piping, spray nozzles, valves and Quartzoid bulbs.

During fire scenarios in coal yard and warehouse temperature around the QB bulbs increases and this shatters the QB bulbs. Pipelines is kept in pressurized condition by pump pressure. Once the QB shatters water spray through the shattered sprinkler occurs. QB bulb is provided throughout the pipeline network. Bulbs exposed to high temperature is shattered and water spray is initiated throughout the network. Once the fire fighting activity is completed spray can be stopped by switching off the fire water pump.

The water spray in the coal yard and Warehouse are wet type where the entire pipeline network is filled with water in pressurized condition.

Water spray system in the Coal Conveyors

Working principle

Water spray system consists of Linear heat sensing (LHS) cables, spray nozzles, deluge valves, solenoid valves, gate valves and pipelines.

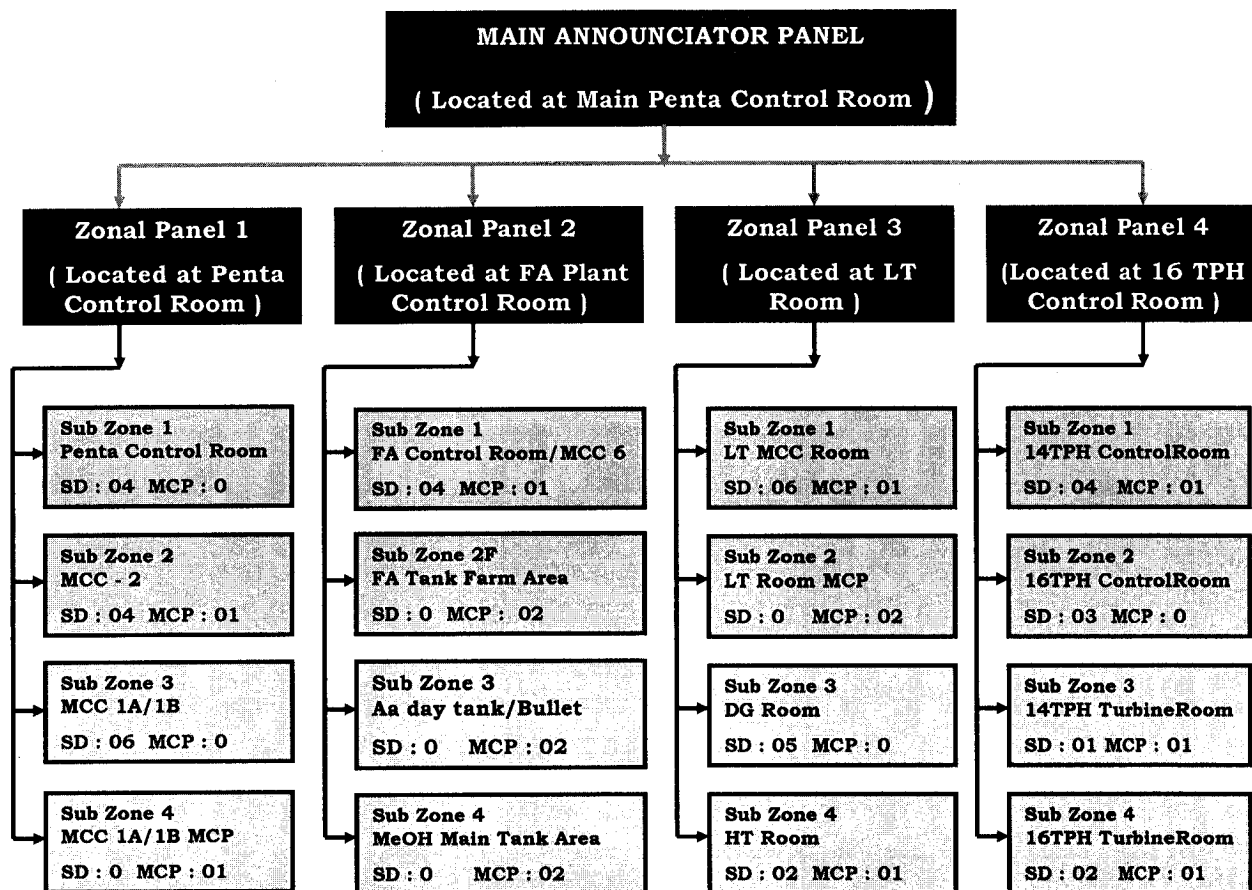
Linear heat sensing (LHS) cables are laid throughout the length of the conveyor and connected with the solenoid valves fixed on the drain valve of the deluge valves. This LHS cables senses the heat rise due to fire and opens the solenoid valve. Water on the top side of deluge valve is drained and the pressure on top of the deluge valve is reduced causing the opening of the deluge valve and gushing of fire water through the pipelines and spray nozzles throughout the length of the conveyors.

FIRE ALARM SYSTEM

Fire Alarm System comprising of a Main Annunciation panel located at Penta Control room, 5 Nos. of Zonal panels with sub zone circuits located in penta control room, Fa control room, LT room, 16 TPH Boiler control room and Time office of Administration block.

Smoke detectors and Manual call points are installed and distributed in various plant areas of the corresponding Zones.

The below mentioned architecture shows the detailed location of each sub zones and its no. of smoke detectors and Manual call points.



Procedure to be followed for use of Fire Alarm System.

In the case of any Fire Emergency in the following area,

1. Penta Control room, MCC - 1A &1B, MCC - 2
2. Fa control room, Acetaldehyde Day tank
3. LT MCC room, DG room, HT room,
4. 16 TPH Boiler control room, MCC-8, 14 TPH Boiler control room, 1.5MW TG room, 500 KW TG room
5. Administration block

Fire will be detected automatically through the **Smoke detectors** installed in various points of these locations and an audible alarm will be coming in the respective control room and to the main Penta control room.

Location of the actual fire area can be seen visually in the corresponding zonal panel and can locate the sub zone area and people can immediately rush to the spot.

In the spot, the corresponding smoke detector indication will be glowing continuously with red colour.

In penta control room along with the audible alarm the respective zone LED will be glowing in red colour.

In case of any fire identified in the following and nearby areas,

1. Penta plant area, MCC -1A&1B nearby area, MCC-2 nearby area
2. Fa plant area, Methanol storage tanks farm, Acetaldehyde storage tank farm, Formaldehyde storage tank farm, Acetaldehyde Day tank area, MCC-6 nearby area
3. LT room and HT room nearby area,
4. 16 TPH boiler area, 14 TPH boiler area, TG area

Anyone can break the glass with the help of a small hammer provided in each **Manual call points (MCP)** which are in the above said areas

It will be automatically alerted through an audible alarm in the corresponding control room and to the main Penta control room.

Location of the manual call point area can be seen visually in the corresponding zonal panel and can locate the sub zone area and he can immediately rush to spot.

In the spot, the corresponding the manual call point indication will be glowing continuously with red colour.

In penta control room along with the audible alarm the respective zone LED will be glowing in red colour.

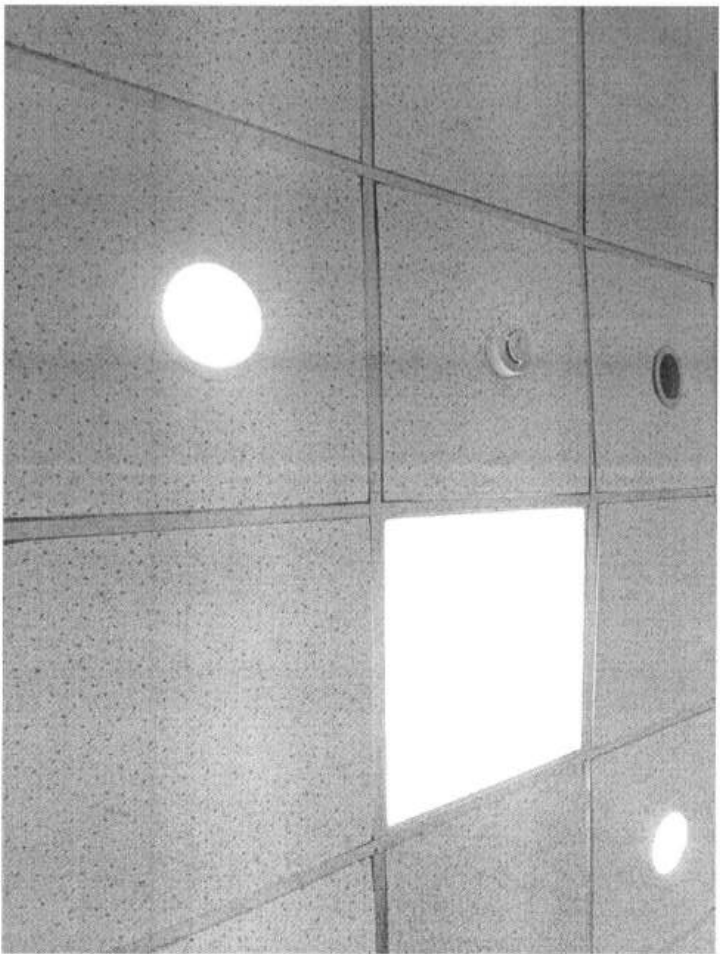
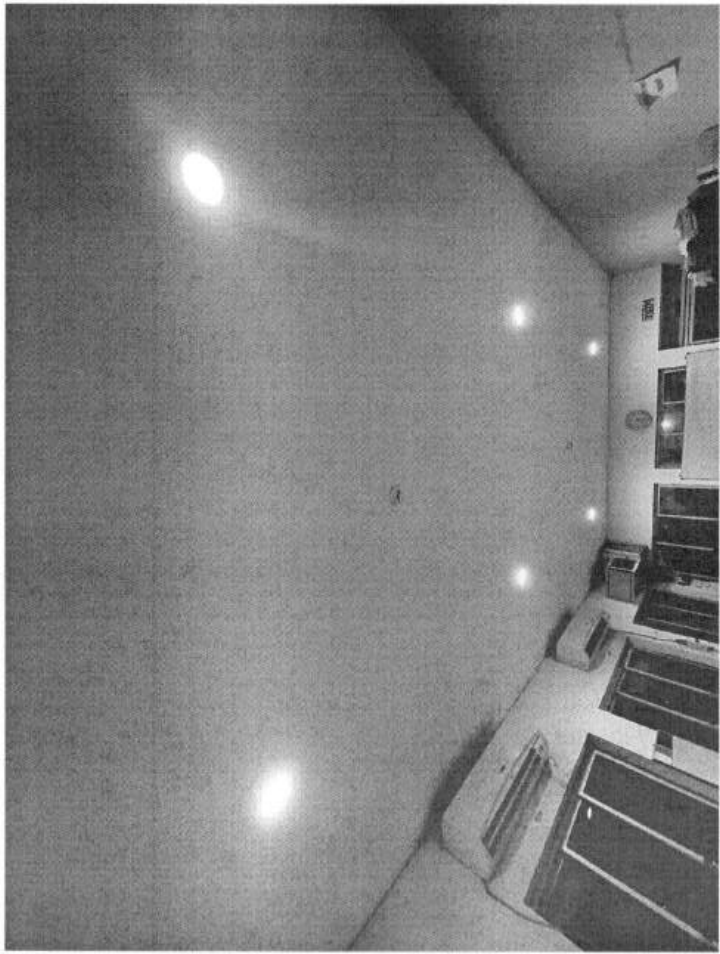
Maintenance of Fire Alarm system:

Fire Alarm system is being maintained by competent personnel.

Healthiness of the system is ensured periodically.

Annual Maintenance contract is provided with M/s. Aswin Engineers, Chennai, and the system preventive maintenance is carried out once in 3 months.

Annexure 17
LED LAMPS USAGE



Annexure 18

NOISE MONITORING REPORT



SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT



TC-6118

ULR - TC61182500005253F
Report No : QEN250129017-10

Page 1 of 1
Report Date : 01 Feb 2025

Customer Name : M/s. Asian Paints Limited. (Penta Division)
Customer Address : B5-B10, SIPCOT Industrial Complex, Kudikadu, Cuddalore-607005.
Sample Name : Ambient Noise Level Monitoring
Sample Description : Ambient Noise Level Monitoring
Reference : Test Request Form Dated 27.01.2025
Sample Drawn By : Laboratory
Sample Procedure : IS 9989
Sampling Date : 28 Jan 2025
Sample Received on : 29 Jan 2025
Test Started on : 29 Jan 2025
Test Completed on : 01 Feb 2025

TEST RESULTS

Sl. No	Location	Noise Level dB (A)	CPCB Standards (Industrial Area) For Noise in Leq dB (A)
		Day Time	Day Limit
1	Near Northern Side Compound Wall	64.7	75 dB (A)
2	Near East Side Compound Wall	73.8	
3	Near North East Side Compound Wall	58.2	
4	Near ETP	73.5	
5	Near Southern Side Compound Wall	56.2	
6	Near Main Gate	60.3	
7	Near Western Side Compound Wall	58.0	
8	Near Vehicle Shed	55.5	
9	Near Old Gate	53.1	
10	Near South East Compound Wall	55.6	

Conclusion : The above tested Sample Conforms to the CPCB Standards for the above tested Locations.

/***** End of the Report *****/

M. Sarathkumar
Authorized Signatory-Chemical

Laboratory Address: 39/6, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124.

Note: Test results relate only to the items tested. Test Report shall not be reproduced in full or part without the approval of SMS Labs. Non-Perishable remnant samples will be disposed 15 days from the date of receipt unless otherwise agreed with the customer except in case of regulatory samples, which will be retained for a specific period as per regulatory requirements; while perishable and environmental remnant samples will be disposed consequently upon completion of testing. Samples are not drawn by laboratory unless or otherwise stated. A satisfactory test report in no way implies that a product so tested is approved by NABL. The Laboratory accepts no liability with regard to the origin or source from which the sample(s) is/ are said to be extracted.

Annexure 19

CSR ACTIVITIES

CSR spend 24-25

SN	Project	Theme	Partner	Annual Budget	Q1 spent	Q2 plan	Q3 Plan	Q4 plan	Total (Rs. Lakhs)
1	Primary Health Centers at 4 Villages	H&H	Help Age India	20	10	0	10	0	20
2	IWSM- Supply side Desilting Annavalli Lake	Water	NAF	90	70	0	20	40	90
3	Demand side Soil Health card Vermi Compost preparation Direct seeding of Rice	Water	NAF	26					26
Grand Total (Health & Hygiene +Water)				136	80	10	30	40	136

CSR Highlights

FY 24-25

CSR spend 24-25

SN	Project	Theme	Total (Rs. Lakhs)
1	Drinking water pipeline supply to Karaikadu	Health	20
2	IWSM- Supply side Desilting – Annavalli Thangal, Sedapalayam, Canal linking projects	Water	90
3	Desilting - Ramannakulam , Anukampattu	Water	16
Total			126

Dinking water pipeline supply to Karaikadu



**AGRAHARATHU LAKE
TO
PULIKUTHU VAIKKAL
DE-SILTATION
14400 CuM**

WATER RESOURCES MANAGEMENT PROJECT

CUDALORE DISTRICT

PG 1/08



PG 1/1



PG 1/1



PG 1/1

PG 1/1

Legend

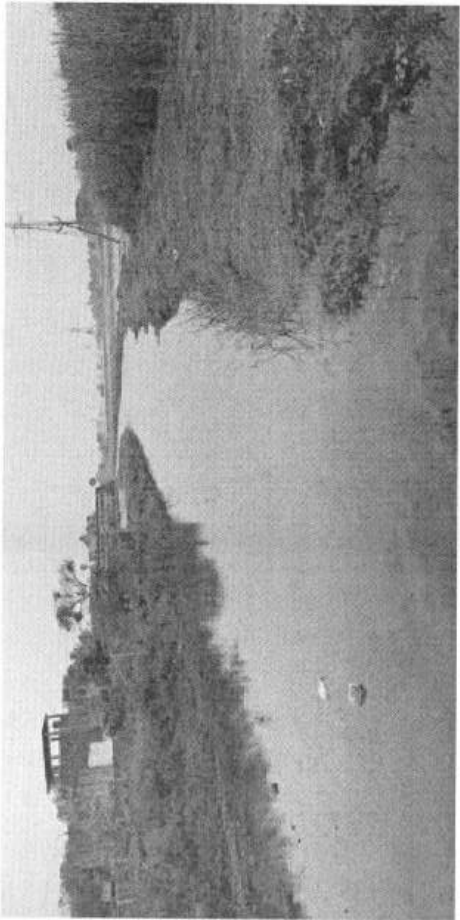
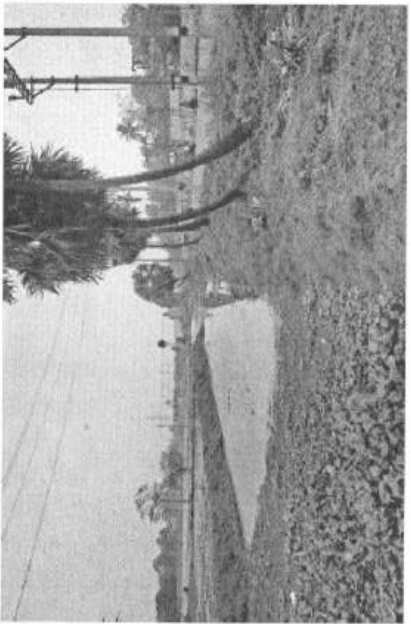
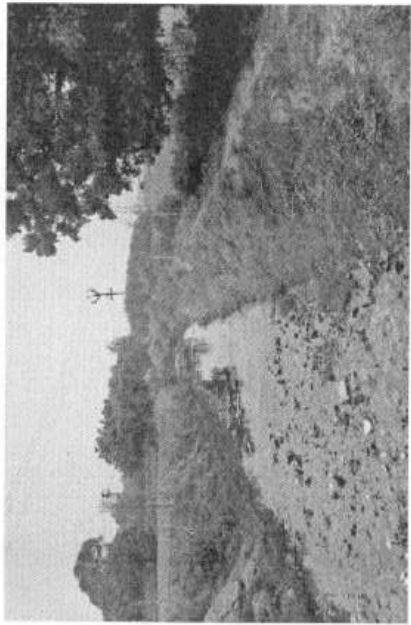
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- Chos
- Lake
- chan
- Water

PG 1/08

PG 1/1

AGARAKARATHU LAKE TO PULIKUTHU VAAIKAL

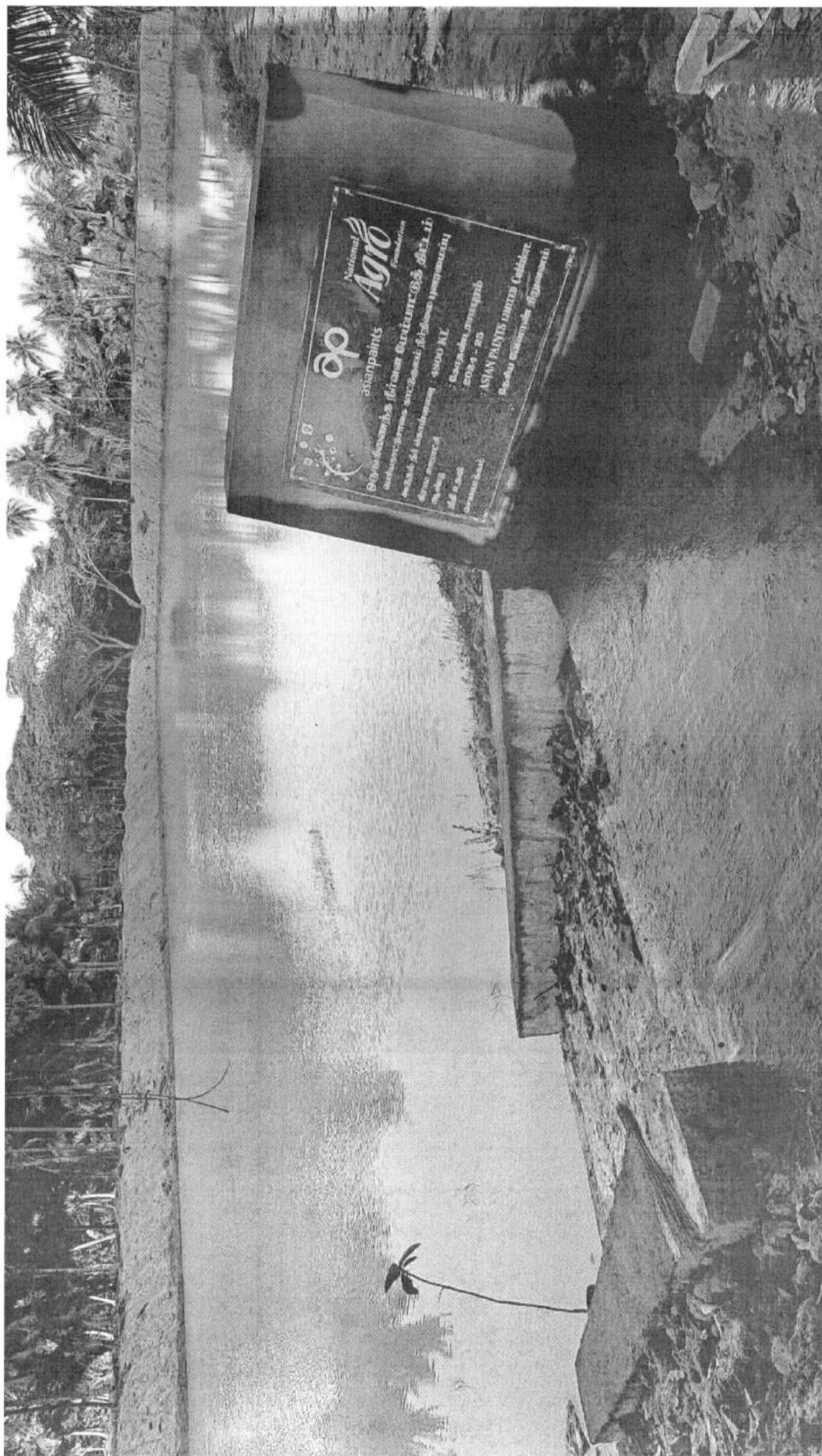




Kothandaramapuram

DE-SILTATION

4800 CuM

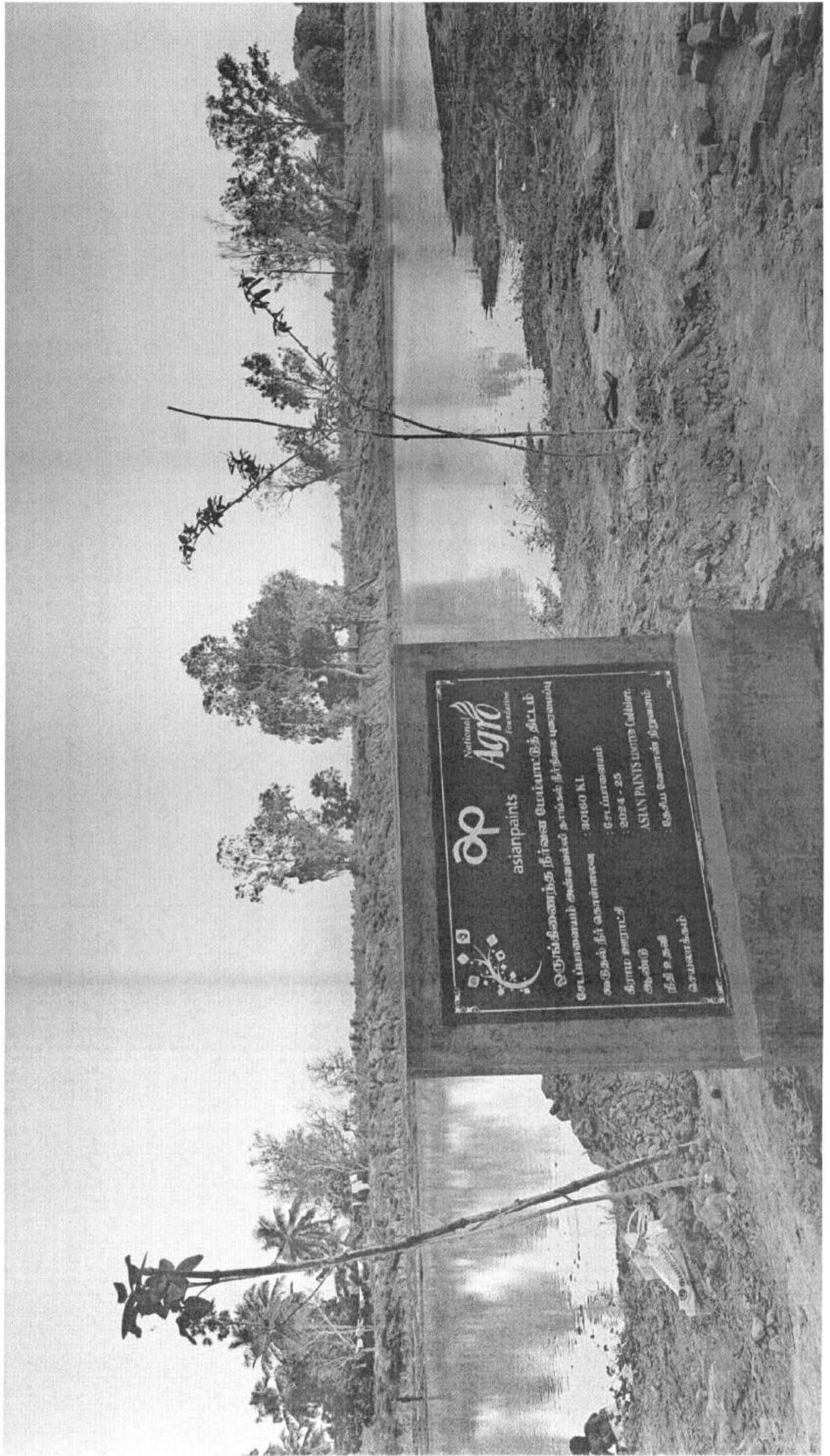


Anukampattu - Ramannakulam DE-SILTATION 7200 CuM

ANNAVALLI LAKE

DE-SILATION

30160 CuM



asianpaints

National Agro Foundation

செயல்படுத்தும் நெல்வெளிகளில் திட்டம்

செயல்படுத்தும் நெல்வெளிகளில் திட்டம்

செயல்படுத்தும் நெல்வெளிகளில் திட்டம்

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செயல்படுத்தும் நெல்வெளிகளில் திட்டம்

Thank you

Annexure 20
LOCAL BODY - EC COPY
SUBMISSION



asianpaints

ASIAN PAINTS LIMITED
PENTA DIVISION
AN ISO 9001
ISO 14001 &
ISO 45001 UNIT

Corporate Identification Number (CIN) : L24220MH1945PLC004598
For Shares related queries, email to investor.relations@asianpaints.com
For Customer queries / complaints / Dealership enquiries,
email to customercare@asianpaints.com
For HR related queries, email to careers@asianpaints.com
For Media related queries, e-mail to proffice@asianpaints.com
Pan : AAACA3622K
GST No. 33AAACA3622K1Z2

Asian Paints Limited
B-5 to B-10 Sipcot
Industrial Complex,
Kudikadu Village,
Cuddalore - 607 005.
Tamil Nadu
Tel.No-04142-239248
www.asianpaints.com

December 2, 2022

To

Help Age India
Thamaraikulam,
Elders Village
Periyakanganakuppam,
Cuddalore - 607006

Dear Sir,

Subject: Information of Environment Clearance Dated 29th November 2022.

Reference : EC Identification No. EC22A021TN152664 for in planned expansion in Asian Paints Limited, Penta Division, Cuddalore.

We have received Environment Clearance(EC) for our expansion from Ministry of Environment, Forest, and Climate Change (Impact Assessment Division) , Government of India vide the above- mentioned EC Identification no. We are submitting a copy of the EC for your kind perusal.

Kindly acknowledge the receipt of the EC letter.

Thanking you

Yours Truly

Rajendrababu

Associate General Manager

Encl: Copy of Environment Clearance EC ID no: EC22A021TN152664

Received.



asianpaints

ASIAN PAINTS LIMITED
PENTA DIVISION
AN ISO 9001
ISO 14001 &
ISO 45001 UNIT

Corporate Identification Number (CIN) : L24220MH1945PLC004598
For Shares related queries, email to investorrelations@asianpaints.com
For Customer queries / complaints / Dealership enquiries,
email to customercare@asianpaints.com
For HR related queries, email to careers@asianpaints.com
For Media related queries, e-mail to proffice@asianpaints.com
Pan : AAACA3622K
GST No. 33AAACA3622K1Z2

Asian Paints Limited
B-5 to B-10 Sipcot
Industrial Complex,
Kudikadu Village,
Cuddalore - 607 005.
Tamil Nadu
Tel.No-04142-239248
www.asianpaints.com

December 1, 2022

To

President

Panchayat union

Kudiikadu village

Cuddalore – 607005

Sir

Subject: information on environment clearance dated 29th November 2022.

Reference: EC identification number EC22A021TN152664 For planned expansion in Asian paints Limited, penta division, Cuddalore.

We have received Environment clearance (EC) for our expansion from Ministry of environment, Forest and Climate Change (Impact Assessment Division) , Government of India vide the above – mentioned EC identification no. We are submitting a copy of the EC for your kind perusal.

Kindly acknowledge the receipt of the EC letter.

Thanking you,

Yours Truly

P Jayakanthan
Jayakanthan P

Senior Production Manger

Encl: Copy of Environment Clearance EC ID No: EC22A021TN152664

Annexure 21
FORM V

FORM V –Captive Power Plant
Environment Statement for the Financial Year ending 31st March 2024

PART A

1. Name and address of the Owner/Occupier of the Industry operation or Process : SHRI. AMIT SYNGLE
MANAGING DIRECTOR AND CEO
ASIAN PAINTS LIMITED
PENTA DIVISION
B5 - B10 SIPCOT INDUSTRIAL COMPLEX
CUDDALORE 607005.
2. Industry/Category Primary (STC Code) : 17 category
- Secondary (STC Code) :
3. Production Capacity : **Consented Quantity:**
Steam – 16 MT/ Hour
Power – 1.5 MW
4. Year of establishment : 1986
5. Date of the last environmental Statement submitted. : 26.05.2023

PART-B
WATER AND RAW MATERIAL CONSUMPTION

Water Consumption Cu.M/day : 61.32 KL / Day
 Process Cu.M/day : 61.32 KL/ Day
 Domestic Cu.M/day : 1 KL/Day

Name of products Process water consumption per product output		
	During the previous (2022-23) financial year MT (<i>Fresh water considered</i>)	During the current (2023-24) financial year (<i>Fresh water consumption /MT</i>)
Steam	16.0	16.0
Power	0.0	0.0

*Water is received from process condensate & fresh water.

2. Raw Material Consumption:

Name of Raw Material	Name of products	Consumption of Raw Material per unit of output (Tons/Ton)	
		During the previous financial year (2022-23)	During the current financial year (2023-24)
Coal	Power	3.03	4.66

PART- C**Pollution discharged to environment/unit of output.
(Parameter as specified in the consent issued)**

Pollutants	Concentrations of pollutants in discharges in MT/ year	Percentage of variation from prescribed standards with reasons
a. WATER	Not applicable. Effluent from captive power plant is treated in Main plant (Penta plant) ETP	NIL
b. AIR	SPM 8.04 (MT/ year) SO2 10.20 (MT / year) NOx 36.70 (MT/ year)	NIL

PART- D
Hazardous Wastes

(As specified under Hazardous Wastes/Management and Handling Rules, 1989) as amended in 2000)

Hazardous Wastes	Total quantity in (Ltrs)	
	During the previous financial year (2022 -23)	During the current financial year (2023 - 24)
a. From Process	Nil	Nil

PART-E
Solid Wastes

	Total quantity	
	During the previous financial year (MT) (2022-23)	During the current financial year (MT) (2023-24)
a. From Process / Ash from Boiler*	3379	1479
b. From Pollution control facilities from ETP	NIL	NIL
c. i. Quantity recycled or reutilized+ with in the unit.	NIL	NIL
ii. Sold	NIL	NIL
iii Disposed / Ash from Boiler	3408	1315

NA – refers to not applicable.

PART-F

Please specify the characterizations (in terms of composition and quantum) of hazardous as well As solid wastes and indicate disposal practice adopted for both these categories of wastes.

Used and Spent Oils are not disposed in this financial year.

PART G

Impact of the pollution abatement measures taken on conservation of natural resources and on the cost of production

Steam consumption

Financial year	Steam consumption (MTPA)	Reason
2023-24	107147.9 MT	Steam leaks were arrested. Production is lower when completed to last year.
2022-23	122523.6 MT	

Financial year	Power (KW/ Annum)	Reason
2023-24	7161150	demand based production done. Energy efficient motors are provided.
2022-23	8303760	

The following activities were celebrated in the last year to improve awareness and participation:

- Mission Life directions were encouraged and propagated by distribution of pamphlets to public, Schools. List of activities organised include the following:
- Seed from household are collected and made to saplings.
- Models of roof water collection is made and presented to school children.
- Painting competition on water conservation was conducted and prizes were distributed.
- World Earth Day celebrations completed.
- World Environment Day
- Effluent treatment plant infrastructure is improved by providing Diffused aeration in Effluent Treatment Plant.
- Commissioning of screw press to handle Bio sludge slurry and Filter press to handle lime sludge is under progress.
- Eco club activities are conducted every month and report of activities were submitted to JCEE, Cuddalore.
- 1500 tree saplings were planted in our factory premises (comprising of Penta & CPP)for the FY 2023-2024.
- No. of trees planted beyond the fence include 1000 nos.
- The effluent generation is being periodically monitored on shift-wise basis and appropriate action is taken to reduce the effluent generation from source itself.

- The Effluent Treatment Plant is being operated as per the established operating procedure and the performance is being monitored closely to ensure consistent COD & BOD reduction across aeration system.
- The Sewage Treatment plant was successfully operated for achieving the sewage standards and the treated water is used for gardening purpose.
- Recovered water from the Zero Liquid Discharge system is used in our Cooling tower.
- Water treatment plant performance is maintained at average output between regeneration of 1250 KL.
- The ambient air and various emission discharge points of boiler stack and process stacks are being monitored at regular intervals by engaging external laboratory and Advanced environmental lab, TNPCB. The quality of the emission from the emission points are well within TNPCB norms.
- The sludge generated from ETP and ATFD (ZLD unit) is being sent to Resustainability IWM Solutions, Gummidipoondi for disposal as and when required.
- Sprinkler systems is used for gardening purpose.
- Solar dryer for drying of Hazardous waste is operational.

AIR EMISSION MONITORING

- We are monitoring the ambient air quality weekly twice at two different locations. (Both up wind and Downwind directions.)
- We have been regularly monitoring boiler stack emission by engaging reputed laboratories / TNPCB's laboratory.
- We are monitoring the Ambient VOC / THC / AAQ, in different locations (Both upwind and down wind direction) once in three months and ensured that the values are well within the limit.
- One online NAAQ monitoring station is available in predominant wind direction in consultation with TNPCB officials to monitor PM_{2.5}, PM₁₀, SO₂ & NO_x and the monitored data are uploaded to CARE AIR CENTRE, TNPCB.

- One TVOC meter is available in the process area and the monitored data is uploaded to CARE AIR CENTRE, TNPCB.
- LDAR is being carried out on a regular basis by which the VOC emissions were identified and controlled.

Details of activities carried out to maintain the ambient air quality are as follows: -

- New storage capacity for storage of Acetaldehyde is installed for improving storage condition.
- Online NAAQ monitoring station has been installed and connected with care air system.
- The Process stacks monitoring is done every quarter.
- LDAR is being carried out using MoEF approved Laboratory once in a year as per consent requirement and the leaks if any were arrested.
- Nursery is developed for Rose, Herbal plant and other native tree species.

ENVIRONMENT & SAFETY MANAGEMENT: ISO 14001 & 45001

- We have designed and implemented the Environmental Management System (EMS) as per the international standard ISO 14001& 45001. This system is being regularly audited every six months by M/s Det Norske Veritas (DNV /GL).
- Our unit is certified for ISO 9001 standards by M/S DNV/GL.
- The recommendations from the audits are implemented on a regular basis.

TRAINING OUR EMPLOYEES ON ENVIRONMENTAL ISSUES:

- Regular training programmes are being conducted for our employees to educate, train and motivate their activities in an environmental friendly/responsible manner.
- As a part of ongoing ISO 14001 and ISO 45001 activities, we have been conducting job related environmental training programmes for all our employees in various departments for developing/improving their skill levels.

- We are taking lead for spreading awareness on Environmental preservation by campaigning on environmental issues among our employees and neighbouring villagers.
- The Environment Day was celebrated in our factory every year. Detailed speech was given by environment team to the Employees regarding the importance of maintaining a healthy environment.
- Fly ash is sent to M/s TSK Fly Ash Bricks, India Fly Ash Bricks.

PART – H

Additional measures/investment proposal for environmental protection including abatement of pollution, prevention of pollution.

- Rainwater collection and harvesting was done (around 200 cubic meters).
- We are continuing to use Environmentally friendly imported coal originating from Indonesia. This coal contains less Sulphur content.
- Lake delisting is done nearby village in Krishnankuppam
- Additional water holding capacity of KL is generated in Sedapallam

PART - I

Any other particulars for improving the quality of the environment.

- We are conducting characterisation of the effluent and recycling the same in the plant for various process applications.
- Solar dryers in sludge drying beds for improving the drying efficiency of the sludge drying beds is performing well.
- Tree population strength (14500 Nos.) within the plant and 1000 trees beyond the boundary made(*combined for Penta plant & for Captive Power plant*).
- The rainwater harvesting trenches in the boiler area for effective harvesting of rainwater is available.

Environment Management Cell details		
Name	Designation	Qualification

P. Jayakanthan	Senior Production Manager	B.Tech (Chemical) & Diploma in Industrial Pollution & Control
Marimuthu	Senior Executive	M.Sc.(Chemistry) ,MBA.,DCPI,RBP.
Ram Siva Prasad Thangapandian.	Safety Officer	BE (Civil) & PG Diploma in factory safety
A Balan	Assistant Manager	B Tech Chemical Engineering.

CSR activities carried out during FY 2023-24

Details	Amount in Rs.
Health & Hygiene projects in Cuddalore	1815644
Rejuvenation of Water bodies in Cuddalore	6392861
Disaster Management	55000
Total	8263505

FORM V – PENTA PLANT
Environment Statement for the Financial Year ending 31st March 2024

PART A

1. Name and address of the Owner/Occupier of the Industry operation or Process : SHRI. AMIT SYNGLE
MANAGING DIRECTOR AND CEO
ASIAN PAINTS LIMITED
PENTA DIVISION
B5 - B10 SIPCOT INDUSTRIAL COMPLEX
CUDDALORE 607005.
2. Industry/Category Primary (STC Code) : Red / Large
- Secondary (STC Code) :
3. Production Capacity : **Consented Quantity:**
PENTAERYTHRITOL 730 MT/MONTH
SODIUM FORMATE 480 MT/MONTH
FORMALDEHYDE 675 MT/MONTH
4. Year of establishment : 1986
5. Date of the last environmental Statement submitted. : 26.05.2023

PART-B
WATER AND RAW MATERIAL CONSUMPTION

Water Consumption Cu.M/day : 449
Process Cu.M/day : 386.55
Domestic Cu.M/day : 62.45

Name of products Process water consumption per product output			
		During the previous (2022-23) financial year MT (<i>Fresh water considered</i>)	During the current (2023-24) financial year (<i>Fresh water consumption /MT</i>)
Pentaerythritol *		0	0
Sodium Formate		0	0
Formaldehyde (100%)		1.7	0.392

*Water is received along with raw materials.

P Jayakaranthan



2. Raw Material Consumption:

Name of Raw Material	Name of products	Consumption of Raw Material per unit of output (Tons/Ton)	
		During the previous financial year (2022-23)	During the current financial year (2023-24)
a. FORMALDEHYDE (100%)	PENTAERYTHRITOL AND SODIUM FORMATE	1.098	1.102
b. ACETALDEHYDE		0.376	0.378
c. CAUSTIC LYE (100%)		0.365	0.369
d. METHANOL		1.275	1.204

PART- C

Pollution discharged to environment/unit of output.
(Parameter as specified in the consent issued)

Pollutants		Concentrations of pollutants in discharges in MT/ year	Percentage of variation from prescribed standards with reasons
a. WATER	TDS	42.41 (MT/ year)	NIL
b. AIR	SPM SO2 NOx	0.65 (MT/ year) 0.01 (MT / year) 0.04 (MT/ year)	NIL

P Jayakanthan



PART- D
Hazardous Wastes

(As specified under Hazardous Wastes/Management and Handling Rules, 1989) as amended in 2000

Hazardous Wastes	Total quantity in (Ltrs)	
	During the previous financial year (2022 -23)	During the current financial year (2023 - 24)
a. From Process Used System oil Other Spent oil Spent Carbon. Distillation residue From Pollution Control Facilities <i>From ETP/MEE/ATFD</i>	400 Liters 215 Liters 5540 Kgs 26.160 MT 167.56 MT	0 Litres 0 Litres 810 Kgs 0 171.97 MT

PART-E
Solid Wastes

	Total quantity	
	During the previous financial year (MT) (2022-23)	During the current financial year (MT) (2023-24)
a. From Process / Ash from Boiler*	NA	NA
b. From Pollution control facilities from ETP	NIL	NIL
c. i. Quantity recycled or reutilized+ with in the unit.	NIL	NIL
ii. Sold	NIL	NIL
iii Disposed / Ash from Boiler	NA	NA

- Details are given in Form V of CPP
- NA – refers to not applicable.

PART-F

Please specify the characterizations (in terms of composition and quantum) of hazardous as well As solid wastes and indicate disposal practice adopted for both these categories of wastes.

Sl. No.	PARAMETERS	USED OILS	WASTE OIL
1	Color (Hazan units.)	Brown	Dark Brown
2	Water %	BDL(DL:0.05%)	0.28%
3	Density (g/cc)	0.8656 kg/l	0.8650 kg/l
4	Total halogens (ppm)	15	16
5	Chromium as cr (ppm)	ND	0.1
6	Nickel as Ni (ppm)	ND	0.3
7	Cadmium as cd (ppm)	< 2.5	3.2
8	Lead as Pb (ppm)	1.4	0.9
9	Arsenic as As (ppm)	ND	ND
10	PAH (ppm)	0.18	0.20
11	PCB (ppm)	BDL(D.L 2.0 ppm)	BDL(D.L 2.0 ppm)

Used and Spent Oils are not disposed in this financial year.

P Jayakanthan



PART G

Impact of the pollution abatement measures taken on conservation of natural resources and on the cost of production

Water consumption

Financial year	Water consumption	Reason
2023-24	1,76,101 KL	Water conservation measures are implemented.
2022-23	2,18,122 KL	

Production details

Financial year	Pentaerythritol in MT	Sodium Formate in MT	Formaldehyde in MT	Reason
2023-24	6756	4215	6012	demand based production done.
2022-23	8671	5253	7796	

The following activities were celebrated in the last year to improve awareness and participation:

- Mission Life directions were encouraged and propagated by distribution of pamphlets to public, Schools. List of activities organised include the following:
- Seed from household are collected and made to saplings.
- Models of roof water collection is made and presented to school children.
- Painting competition on water conservation was conducted and prizes were distributed.
- World Earth Day
- World Environment Day
- Effluent treatment plant infrastructure is improved by providing Diffused aeration in Effluent Treatment Plant.

P. Jayakanthan

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- Commissioning of screw press to handle Bio sludge slurry and Filter press to handle lime sludge is under progress.
- Eco club activities are conducted every month and report of activities were submitted to JCEE, Cuddalore.
- 1500 tree saplings were planted in our factory premises (comprising of Penta & CPP)for the FY 2023-2024.
- No. of trees planted beyond the fence include 1000 nos.
- The effluent generation is being periodically monitored on shift-wise basis and appropriate action is taken to reduce the effluent generation from source itself.
- The Effluent Treatment Plant is being operated as per the established operating procedure and the performance is being monitored closely to ensure consistent COD & BOD reduction across aeration system.
- The Sewage Treatment plant was successfully operated for achieving the sewage standards and the treated water is used for gardening purpose.
- Recovered water from the Zero Liquid Discharge system is used in our Cooling tower.
- Water treatment plant performance is maintained at average output between regeneration of 1250 KL.
- The ambient air and various emission discharge points of boiler stack and process stacks are being monitored at regular intervals by engaging external laboratory and Advanced environmental lab, TNPCB. The quality of the emission from the emission points are well within TNPCB norms.
- The sludge generated from ETP and ATFD (ZLD unit) is being sent to Resustainability IWM Solutions, Gummidipoondi for disposal as and when required.
- Sprinkler systems is used for gardening purpose.
- Solar dryer for drying of Hazardous waste is operational.

AIR EMISSION MONITORING



- We are monitoring the ambient air quality weekly twice at two different locations. (Both up wind and Downwind directions.)
- We have been regularly monitoring boiler stack emission by engaging reputed laboratories / TNPCB's laboratory.
- We are monitoring the Ambient VOC / THC / AAQ, in different locations (Both upwind and down wind direction) once in three months and ensured that the values are well within the limit.
- One online NAAQ monitoring station is available in predominant wind direction in consultation with TNPCB officials to monitor PM_{2.5}, PM₁₀, SO₂ & NO_x and the monitored data are uploaded to CARE AIR CENTRE, TNPCB.
- One TVOC meter is available in the process area and the monitored data is uploaded to CARE AIR CENTRE, TNPCB.
- LDAR is being carried out on a regular basis by which the VOC emissions were identified and controlled.

Details of activities carried out to maintain the ambient air quality are as follows: -

- New storage capacity for storage of Acetaldehyde is installed for improving storage condition.
- Online NAAQ monitoring station has been installed and connected with care air system.
- The Process stacks monitoring is done every quarter.
- LDAR is being carried out using MoEF approved Laboratory once in a year as per consent requirement and the leaks if any were arrested.
- Nursery is developed for Rose, Herbal plant and other native tree species.

ENVIRONMENT & SAFETY MANAGEMENT: ISO 14001 & 45001

- We have designed and implemented the Environmental Management System (EMS) as per the international standard ISO 14001 & 45001. This system is being regularly audited every six months by M/s Det Norske Veritas (DNV /GL).

P Jayakanthan



- Our unit is certified for ISO 9001 standards by M/S DNV/GL.
- The recommendations from the audits are implemented on a regular basis.

TRAINING OUR EMPLOYEES ON ENVIRONMENTAL ISSUES:

- Regular training programmes are being conducted for our employees to educate, train and motivate their activities in an environmental friendly/responsible manner.
- As a part of ongoing ISO 14001 and ISO 45001 activities, we have been conducting job related environmental training programmes for all our employees in various departments for developing/improving their skill levels.
- We are taking lead for spreading awareness on Environmental preservation by campaigning on environmental issues among our employees and neighbouring villagers.
- The Environment Day was celebrated in our factory every year. Detailed speech was given by environment team to the Employees regarding the importance of maintaining a healthy environment.
- Fly ash is sent to M/s TSK Fly Ash Bricks, India Fly Ash Bricks.

PART – H

Additional measures/investment proposal for environmental protection including abatement of pollution, prevention of pollution.

- Rainwater collection and harvesting was done (around 200 cubic meters).
- We are continuing to use Environmentally friendly imported coal originating from Indonesia. This coal contains less Sulphur content.
- Methanol transfer line from unloading pump to storage tank was replaced to reduce fugitive emission.
- Sprinkler system is provided in Acetaldehyde storage, warehouse & coal conveyor.
- Breather valve is provided in storage tank.
- Lake delisting is done nearby village in Sedapallam (Photos enclosed)
- Additional water holding capacity of 20000 KL is generated in Sedapallam

P Jayakanthan

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PART - I

Any other particulars for improving the quality of the environment.

- We are conducting characterisation of the effluent and recycling the same in the plant for various process applications.
- New Multiple Effect Evaporator setup was commissioned.
- Solar dryers in sludge drying beds for improving the drying efficiency of the sludge drying beds is performing well.
- Category-wise identification of population of trees (13500 Nos.) within the plant and 1400 trees beyond the boundary made.
- Participated in CII ESHS award giving all details of our performance in environment.
- The rainwater harvesting trenches in the boiler area was constructed for effective harvesting of rainwater.
- Environment Management Cell details:

Name		Designation	Qualification
P. Jayakanthan		Senior Production Manager	B.Tech (Chemical) & Diploma in Industrial Pollution & Control
Marimuthu		Senior Executive	M.Sc.(Chemistry), MBA., DCPI, RBP.
Ram Siva Thangapandian.	Prasad	Safety Officer	BE (Chemical)& PG Diploma in factory safety
A Balan		Assistant Manager	B Tech Chemical Engineering.

CSR activities carried out during FY 2023-24

Details	Amount in Rs.
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Rejuvenation of Water bodies in Cuddalore	6392861
Disaster Management	55000
Total	8263505

P. Jayakanthan

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Colours

[Products](#) [Services](#) [Calculators](#) [Colour Tools](#) [Inspiration](#) [Shop](#) [More](#)[Full yearly compliance report Oct23-Mar24 - Palanicherry](#)[Half Yearly Compliance Report Oct23-Mar24 - Rohtak](#)[Half Yearly Compliance Report Oct23-Mar24 - Sriperumbudur](#)[Half Yearly Compliance Report Oct23-Mar24 - Vizag](#)[Half yearly compliance - Captive Power Plant - Asian Paints Limited, Penta Division, Cuddalore - Part 1](#)[Half yearly compliance - Captive Power Plant - Asian Paints Limited, Penta Division, Cuddalore - Part 2](#)[Half yearly compliance - Captive Power Plant - Asian Paints Limited, Penta Division, Cuddalore - Part 3](#)[Half yearly compliance - Captive Power Plant - Asian Paints Limited, Penta Division, Cuddalore - Part 4](#)[EC Compliance - Asian Paints Limited, Penta Division, Cuddalore](#)[Half Yearly Compliance - Penta Plant for the period from October to March 2024](#)[Environmental statement \(Form V\) for Penta Plant](#)[EC compliance for Expansion EC](#)[Environmental Statement \(Form V\) - Captive power plant - Asian Paints Limited, Cuddalore](#)[Asian Paints - Penta Division - Fly ash details](#)[Fly ash return - Aug 2024 - APL Penta APL HO](#)[Fly Ash Return - APL Penta, Cuddalore - January 2025](#)[Form V Environment Statement - Sriperumbudur - April 23 to March 24](#)[Environmental Clearance- APL Head office Mumbai](#)[Compliance Report-December_2024 APH head office Mumbai](#)[Consent to Establish -APL Head office Mumbai](#)[Consent to Operate APL Head office Mumbai](#)[Fly Ash Return - APL Penta, Cuddalore - February 2025](#)[Fly Ash Return - APL Penta, Cuddalore - March 2025](#)[Fly Ash Return - APL Penta, Cuddalore - April 2025](#)

Annexure 22
NEWSPAPER COMMUNICATION
REGARDING EC

தினத்தந்தி

கடலூர் 30-4-2018

ஏஷியன் பெயின்டஸ் லிமிடெட், பென்டா பிரிவு,

B5-B10, சிப்காட் இண்டஸ்ட்ரியல் காம்ப்ளக்ஸ்,
குடிகாடு, கடலூர், தமிழ்நாடு-607005.

இந்திய அரசின் சுற்றுச்சூழல் அமைச்சகம்
SEIAA/TN/F.6495/5(f)/EC-60/2018
24,ஏப்ரல் 2018 தேதியிட்ட கடிதத்தின்
வாயிலாக பென்டா எரித்திரிட்டால் (Penta
erythritol) மற்றும் சோடியம்பார்மேட்டின் (Sodium
Formate) தற்பொழுது உள்ள உற்பத்தி திறனை
அதிகரிப்பதற்கு ஒப்புதல் வழங்கி உள்ளது.

ஒப்புதல் கடிதத்தின் நகல்கள் கடலூரில்
உள்ள தமிழ்நாடு மாசுக்கட்டுப்பாட்டு வாரிய
அலுவலகத்தில் கிடைக்கும் மற்றும் சுற்றுச்சூழல்
அலுவலகத்தின் இணையதளத்திலும் இதனை
பார்க்கலாம்.

இணையதள முகவரி:-

<http://www.seiaa.tn.gov.in>

தேதி:30.04.2018

K.Thulaseedharan Nair

General Works Manager



THE NEW
**INDIAN
EXPRESS**

MONDAY 30.04.2018

PUBLIC NOTICE

**ASIAN PAINTS LIMITED,
PENTA DIVISION,**

B5-B10, Sipcot Industrial Complex,
Kudikadu Village, Cuddalore,
TamilNadu-607005

The Ministry of Environment and
Forests, Government of India has accorded
Environmental clearance for the expansion of
existing Manufacturing capacity of
Pentaerythritol and Sodium Formate vide Lr.No.
SEIAA-TN/F.No.6495.5(f)/ EC-60/2018 Dated
24th April 2018.

The copy of the clearance letter is available
with TNPCB, Cuddalore office and may also be
seen at the website of Ministry of Environment
and Forests at <http://www.seiaa.tn.gov.in>

K.Thulaseedharan Nair

Date : 30th April 2018 **General Works Manager**

മെൻ

ULTIMATE

சய்திகளை தரும் நம்பர் 1 நாளிதழ்

விலாளர்கள் குறிஞ்சிப்பாடி தொகுதியில் வாக்காளர்களாக உள்ளனர்.

47,587


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ஸ்ரீ பல்பவன் மோட்டார்ஸ்
 28, 00, 29, 40 மீட்டர், 11 க்கு க்கு க்கு க்கு க்கு க்கு
 வரவ: 9585522522 04142 233122

தொழிலாளர்கள் குறிஞ்சிப்பாடி தொகுதியில்
பெண் வாக்காளர்களாக உள்ளனர்.

5!

விவசாயிகள்...

க்கு நஷ்டம்

பயறு விலை போக வில்லை. ஒரே ஏக்கரில் விளைந்த பயறுகளுக்கு வெவ்வேறு வார்டாக வடைக்கப்பட்டதில் ஒவ்வொரு வார்டிற்கும் 500 ரூபாய் விலை வந்தியா சம் உள்ளது. கடந்த ஆண்டை விட 3 மடங்களை அதிகம், பூச்சிகளுக்கு விலை அதிகரித்துள்ளது.

லோக்கடனையை செடி
யில் இருந்து பிரித்தெடுக்க
பெண்கள் யாரும் ஆர்வ
மாக வருவதில்லை. அது
வடைக்காக விவசாய
கூலித் தொழிலாளிகளுக்குத்
தாக அல்லவோ வேண்டி
யுள்ளது. பெரிய தொகை
செலவாகிறது. கடைகளில்
எண்ணெய் விலை குறை
யாமல் ஏறி வருகிறது.
ஆனால் மணிலா விலை
குறைந்து வருகிறது.

டுவ்வாறு அவர் கூறி

சுத்திகரிக்கப்பட்ட

குடிநீர்
இயந்திரம்
வழங்கும் விழா

கடலூர், மார்ச் 11-
கடலூர் ஐஸ்
வர்பா மகனீர் சங்கம்
சார்பில் - மஞ்சக்ஞப்
பம் அரசு பெண்கள்
பள்ளியில் சுத்திகரிக்க
பட்ட குழந்தை இயல்
திரம் வழங்கப்
பட்டது.

விழாவிற்கு பள்ளி
தலைமை ஆசிரியர்
லியோனார்ட் ஜூலி
தலைமை தாங்கி
னார். சங்கத்தின்
உணை தலைவர்
உமா சங்கர், செய
லர் கலையரசி ராம
தாஸ் ஆகியோர் சத்
திரிக்கப்பட்ட குடி நீர்
இயம் திரத்தை
வழங்கி சிறப்புரை
யாற்றினார்.

சங்கத்தின் முன்னாள் பொறுப்பாளர்கள் கஜாநா, ஜெயந்தி, அபர்ணா, எமெல்டா, சத்யா, மணிமாலா அம்பிகா, லதா உட்பட பலர் பங்கேற்றனர்.

பொருளாளர் கீதா
பிஸறயோன் நன்றி

விழிப்புணர்வு முகாம்

கடலூர், மார்ச் 11-
கடலூரில், நேரு யுவ
கேத்திரா, சி.பி.ஆர்., சுந்
றுச்சூழல் கல்வி இலையம்,
இயற்கை இனையோர் மண்
நம் சார்வில் தேதிய சுந்றுச்
சூழல் விழிப்புணர்வு
புகாசம் நடத்தி.

சனைக்குழு உறுப்பினர்
களை சனமுகம் முன்
னிலை வகித்தார். கலை
ரி ராமதாஸ் துவக்கி
வைத்தார். இன்னர்வில்
சங்க முன்னர் தலைவி
சத்யா, குளோபல் டிராஸ்ட்
தலைவர் குமுதம்,

இயற்கை இளையோர் ஜே.சி.ஐ., கடலூர் விடி
மன்ற தலைவர் சண்முகம் யல் தலைவர் புவனேஸ்
வரவேற்றார். நேரு யுவக் வரி ஆகியோர் வாழ்த்திப்
கேந்திரா மாவட்ட ஆலோ பேசினார்.

தூஷியன் பெயரின்ட்ஸ் லிமிடெட்,
பென்டா பிரிவு,

B5-B10, சிப்காட் இண்டஸ்ட்ரியல் காம்பளக்ஸ்,
குடிகாடு, கடலூர். தமிழ்நாடு-807005.

இந்திய அரசின் சுற்றுச்சூழல் அமைச்சகம் F.No: J-11011/345/2011-IAII(I) 24 பிப்ரவரி 2014
தேதியிட்ட கடிதத்தின் வாயிலாக பென்டா
எரித்திரிட்டால் (Pentaerythritol) மற்றும் சோடியம்
பார்மேட்டின் (SodiumFormate) தற்பொழுது உள்ள
உற்பத்தி திறனை அதிகப்படுத்தற் ளுப்பதில் வழங்கி
உள்ளது.

ஒப்புதல் கடிதத்தின் நகல்கள் கலெக்டரில் உள்ள தமிழ்நாடு மாகாணக் கட்டுப்பாட்டு வாரிய அலுவலகத்தில் சீடைக்கும் மற்றும் சுற்றுச்சூழல் அலுவலகத்தின் இணையதளத்திலும் கிதனை பார்வையிடலாம்.

இணையதளமுகவரி:

<http://environmentclearance.nic.in>

T C N Sai Krishnan
 General Works Manager

ALL INFORMATION CONTAINED HEREIN IS UNCLASSIFIED

PERSONAL

CHANGE OF NAME

CHANGE OF NAME

I, R.RADHA W/O Service No: JC 489117-P Rank - SUBEDAR Name P.VENKATESAN of 12th The Bn Madras Regiment c/o 56 APO, Permanent Address of Melchengam - Village, Po, TO & PS, Chengam - Taluk, Thiruvannamalai - District, Tamil Nadu - State, PIN - 606 703 have changed my name from R.RADHA to V.RADHA. All concerned to note Please.

Chengam, 06-03-2014 V.RADHA

CHANGE OF NAME

I, P. Jaya Kumar, S/o. Thirumathi V.Shanthi, born on 09.06.1990 (Native district: Cuddalore), residing at Nachiyarpal, Virudhachalam, Cuddalore - 606 001, declare that I have changed my name and hereafter I shall be known and called as S. JAYA KUMAR only.

P. Jaya Kumar

PUBLIC NOTICES

Asian Paints Limited, Penta Division,

B5-B10, Sipcot Industrial Complex, Kudikadu village, Cuddalore, Tamil Nadu - 607005

The Ministry of Environment & Forests, Government of India has accorded Environmental clearance for the expansion of existing manufacturing capacity of Pentaerythritol & Sodium Formate vide EC order no. F. No. J-11011/345/2011- IA II (I) dated 24th February 2014.

The copy of the clearance letter is available with TNPCC, Cuddalore office and may also be seen at the website of Ministry of Environment & Forests at <http://environmentclearance.nic.in>

Date: 5th March 2014

Sign
T.C.N. Sai Krishnan
General Works Manager

PACKERS & MOVERS

SAKTHI PACKERS Households all type of cars local & allover india door delivery. Ph:9443156291/ 9343008222

REAL ESTATE

SELLING

RESIDENTIAL FLAT-NEW

FLATS for SALE



Site - 16th Cross, Krishna Nagar, Puducherry
2 BHK - 957, 1056, 1065 & 1137 Sq. Ft.
3 BHK - 1350 Sq. Ft.
Price ₹ 2999/-

BUILD-TECH CONSTRUCTIONS
Kamatchiannan Koil Street, #199, First Floor, Puducherry.
94868 52636
97905 81643

RENTAL

COMMERCIAL

FOR RENT

Officers Line (Near Lakshmi Theatre) VELLORE
Ground Floor:
1000Sq.ft & 250Sq.ft
Contact
95855 32278

RESIDENTIAL

OTHERS

FOR RENT

Independent posh bungalow with 3 CCP with 3 AB bed rooms, spacious hall and kitchen at MBT NH Road, Dr. Koushik Nagar, Ranipet.

Contact:
94874 89650
94432 69650

FOR RENT

REAL ESTATE CENTRAL EXCISE AND SERVICE
1, GOUBERT AVENUE, PUDUCHERRY

NOTICE INVITING TENDERS

SITUATIONS VACANT

MARKETING & SALES



Volkswagen. Das Auto.
Volkswagen now invites you to be a part of its rapidly growing network of Pondicherry dealership

POSITION
Sales Manager
Sales Consultants

LOCATION
Pondy, Cuddalore, Villupuram, Tindivanam & Karaikal

CRITERIA
Graduates with 2-10 years Sales experience in Automobile or any industry and with excellent communication and interpersonal skills.

Send your resume to :
gm@vw-starcars.co.in

The Star Cars Pvt. Ltd.
90, Kamaraj Salai, Puducherry
Contact : 82200 46102 / 82200 46104

GENERAL

WALK-IN INTERVIEW

FEMALE BUSINESS EXECUTIVE

Any Graduate having basic computer knowledge & good fluency in English. Age: below 25 years. Salary Negotiable.

Interested candidates can attend Walk-in Interview on 16th Mar 2014 (Sunday) between 10 a.m. & 2 p.m. at :

SHERIN OVERSEAS EDUCATION PVT. LTD.

Sinnah Guy Amara Apartment, No: 7, 2nd Cross Street, Natesan Nagar (East), Puducherry-5 Ph: 4200191 Cell : 96777-77885

SITUATIONS VACANT

GENERAL

MAGNA

Magna Electro Castings Limited is a TS-16949 certified Company producing critical Ductile Iron castings, exporting over 60% of its production and having a turnover of over Rs.100 crores, with plans to increasing the turn over substantially in the next two years. The Company apart from upgrading its production facilities on a regular basis is also self sufficient in Energy, through Captive Windmills and Generators. Magna, is looking for Dynamic and Action Oriented individuals to join us in our exciting Growth Path.

SENIOR MANAGER (CNC MACHINE SHOP)

- BE (Mech) with 12 to 16 years of experience in CNC Machine shop and currently heading the operations of a Machine shop.
- Should be a Team leader and self driven to achieve the organization's goal and capable of handling a Team of Managers, Engineers and Operators.
- Should have hands on experience in CNC machining (VMC, HMC and CNC Turning).
- Hands on experience in machining cost estimations, selection of machining process, design of jigs / fixtures and selection of appropriate cutting tool for new products is essential.
- Knowledge on root cause analysis and problem solving.
- Developing suitable Sub-contractors and managing them for timely delivery, quality and cost.
- Should be able to handle Planning, delivery, Quality and waste control in both in-house and at sub-contractors end.
- Knowledge on OEE, SMED, TPM, SS and other latest manufacturing Techniques is preferable.
- Knowledge about SOP, Control plans, FMEA, SPC, 7 QC tools, 8D.
- Should be well versant with PPAP and APQP requirements.
- Man management and ISO/TS 16949 system knowledge is essential.

Salary will not be a constraint for the suitable candidate and will be commensurate to experience and knowledge.

Candidates who meet the above criteria can submit their resume to:

Magna Electro Castings Ltd
43, Balasandaram Road, Coimbatore - 641018
Email: careers@3140.magnaelectro.com

TENDERS

STATE BANK OF INDIA

RAJA NAGAR, KALLAKURCHI BRANCH, VILLUPURAM.

AY LAKKAD DIVISION

d 06.02.2014

With of Schedule B, the tender notice.

May be read as

₹ 75,87,505/-

₹ 1,51,760/-

28.03.2014

sager/Works/Paighat
President of India)

ry Commission

an Territories)
Nagari Complex, Udyog
na, Ph.: 0124-2875302.
Website: www.ternts.gov.in

or approval of Aggregate charges (ERC) and Tariff sent of Puducherry before and Union Territories). The available on Commission's ready been published on

or seeking approval for ELP in UT of Puducherry has been admitted by the mission's website.

(PPCL) has filed a petition in the period 2014-15 under the Chapter-II of the Joint or Determination of Tariff) file No. 121/2014 and is

ove three petitions as per

Remarks
All stakeholders of UT of Puducherry
above schedule and may Petitions in person or C (for Goa & UTs) with a Department, Govt. of Electricity Department, Sd/- (Rajeev Amti) Secretary

F INDIA

Ph : 04175-253033.

TICE

3 Officer of the STATE der the Securitisation of Security referred under section orment) Rules 2002 g upon the borrowers '6D, Tirukoilur Road, Thiruvannamalai and '6D, Tirukoilur Road, uvanamalai. to repay sum of Rs.9,22,347/- idred and forty seven date of receipt of the

AUCTION NOTICE

ued to m
an

Annexure 23
MISSION LIFE ACTIVITIES



ASIAN PAINTS LIMITED PENTA DIVISION MISSION LIFE REPORT



അ.പ്രകാശ് അബ്ദുറഹ്മാൻ

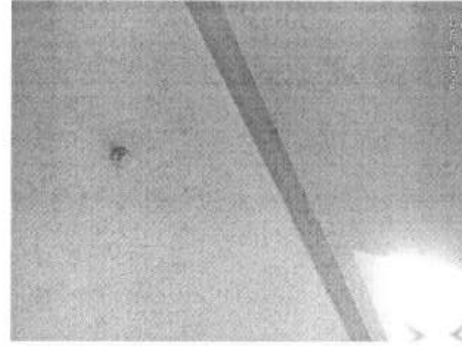
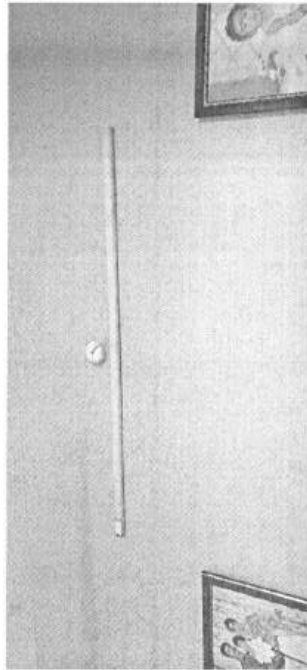
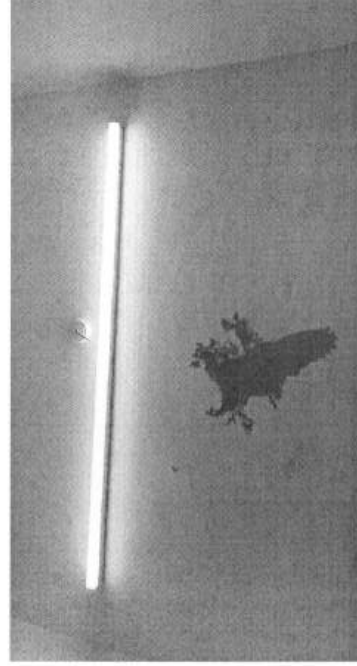
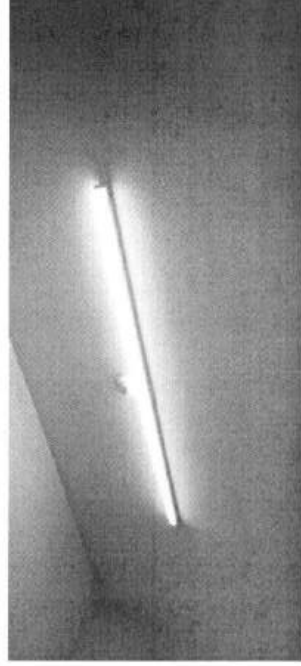
- [illegible]

Mission Life Pamphlets

- [illegible]

Point No: 1

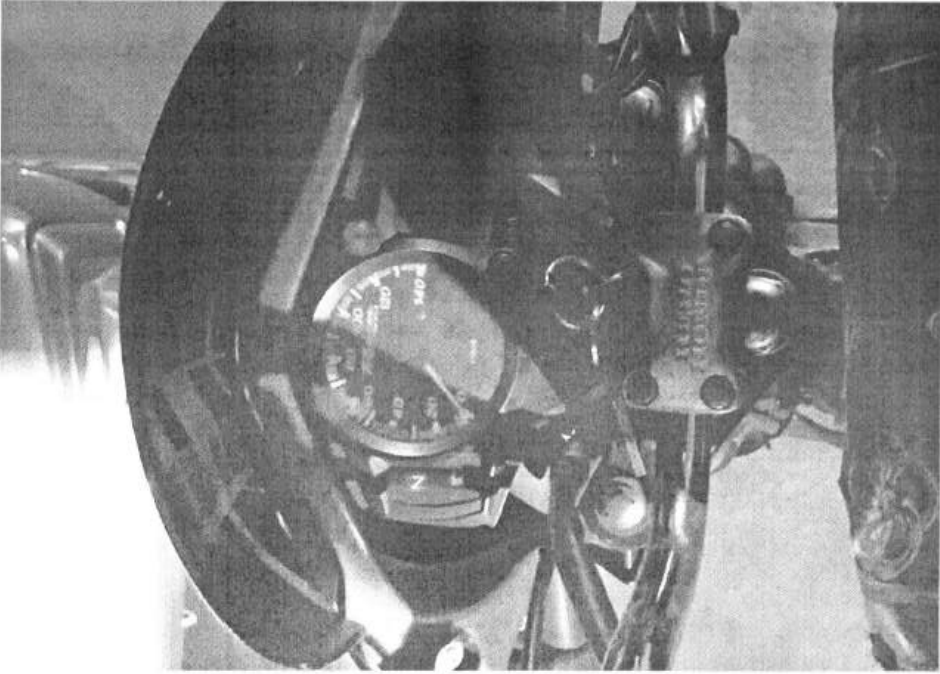
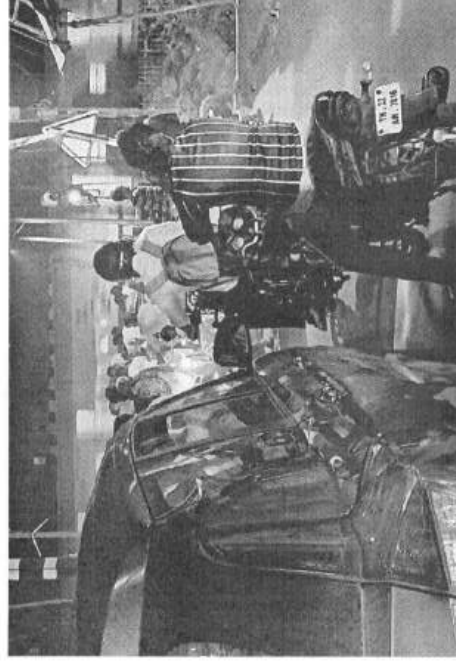
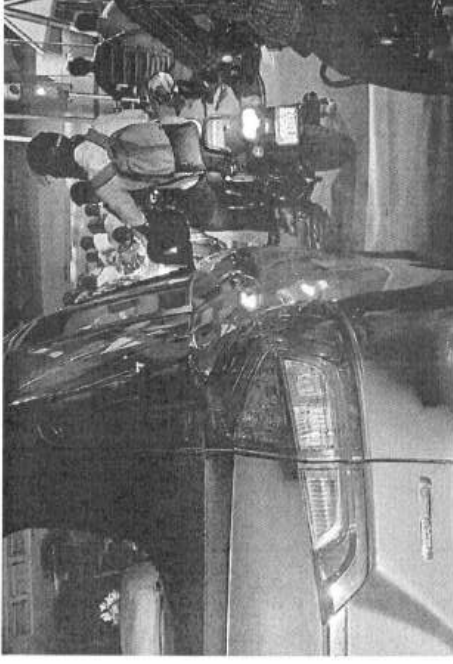
எஸ்.இ.டி.
பல்புகள்,டி
யுப
நிலைகளை
பயன்படுத்து
ங்கள்



Point No: 2



Point No: 4
சிவப்பு
விளக்குகள்
மற்றும்
ரயிலேவே
கிராசிங்குகள்
ல் வாகு
இனன்களை
அணைக்கவும்.

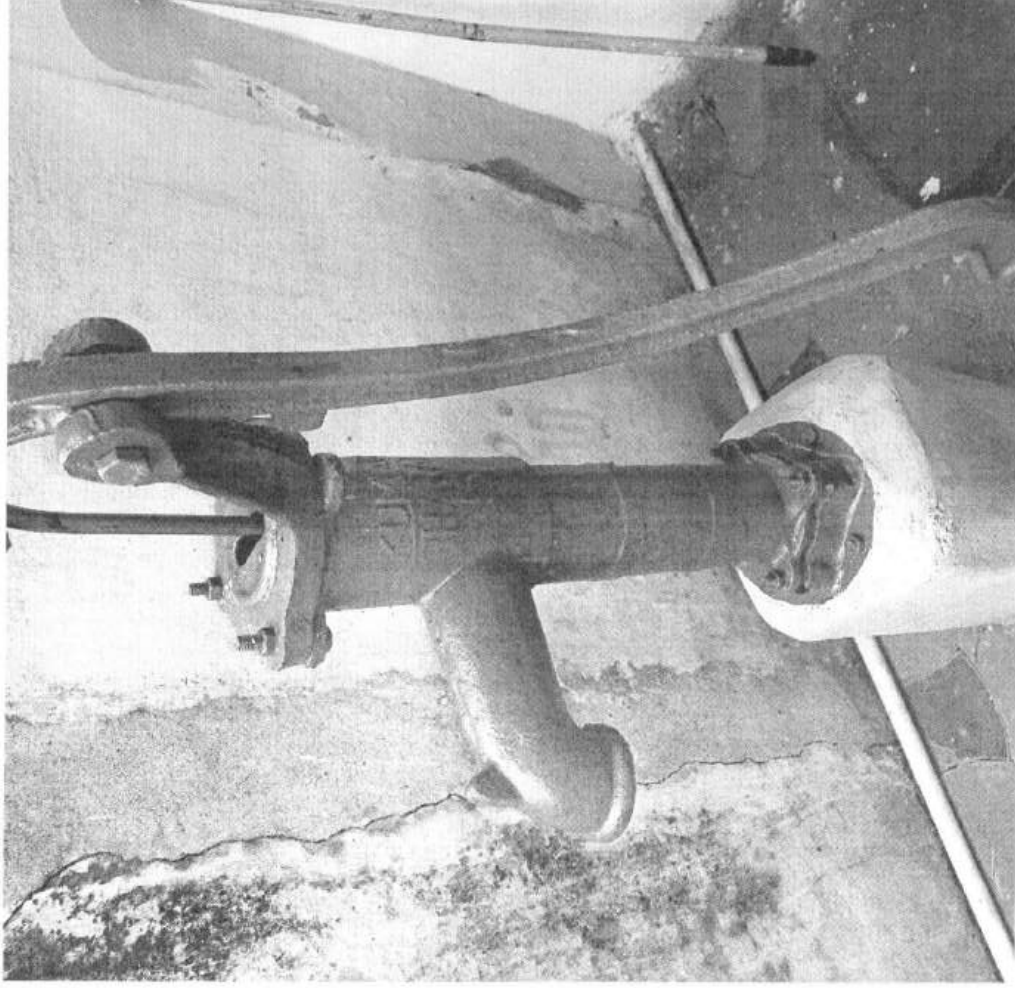




Point No: 5 உள்ளூர்
அல்லது குறுகிய
பயணத்திற்கு
மிதிவண்டிகளைப்
பயன்படுத்தவும்

6-Switch off irrigation pumps after use

Hand pump used in the
house



7-Prefer CNG
vehicle/EV
vehicle over
petrol/diesel



Point No: 9

சரியா
கியபரில்
ஓட்டுங்கள்.
கியரகளை
மாற்றாதபே
து உங்கள்
காலகளை
கிட்சிலிருந்
து விலக்கி
வைக்கவு

- I am following, When there isn't a gear change, I take my leg off the clutch while driving.

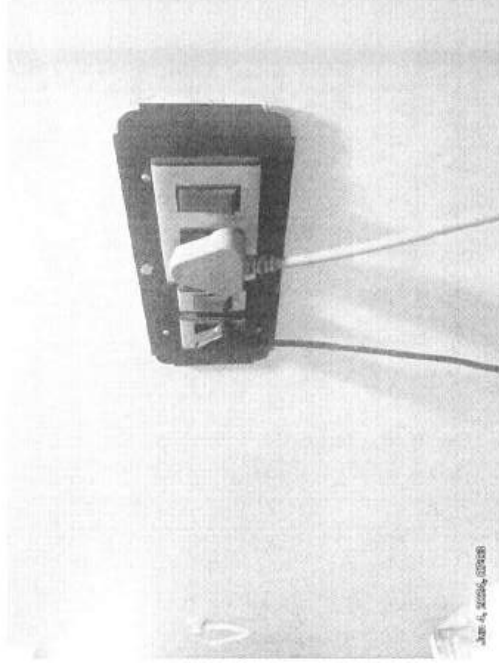
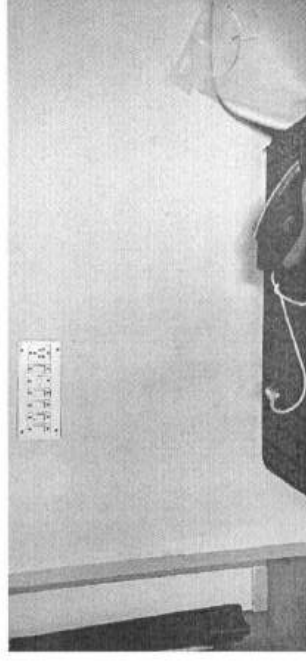
-Praveen Kumar V

- Adhered. My vehicle mileage is at 30-32 KM/kg which is in line with the manufacturers claim.

-Saravanan S

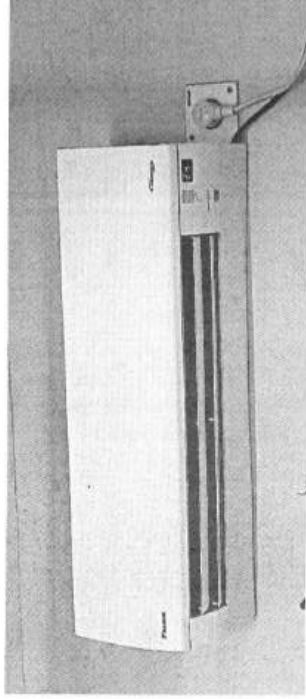
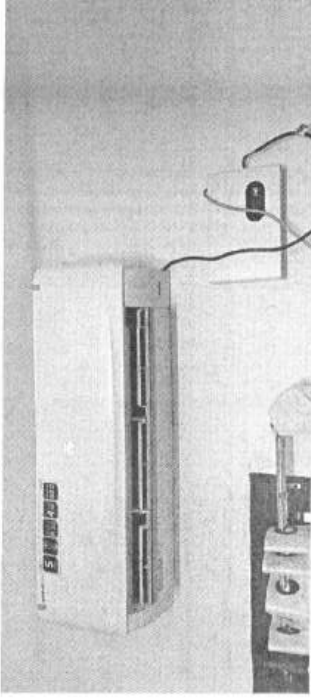
Point No: 11

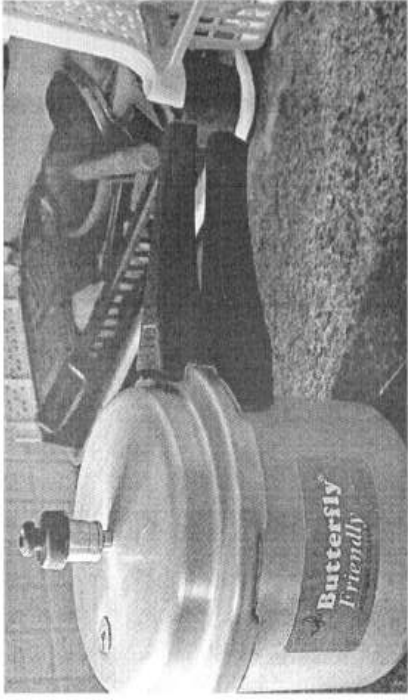
பயன்பாட்டில்
இல்லாதபோ
து பிளக்
பாயின்ட்களி
ல் இருந்து
சாத ங்களை
அணைக்கவும்.



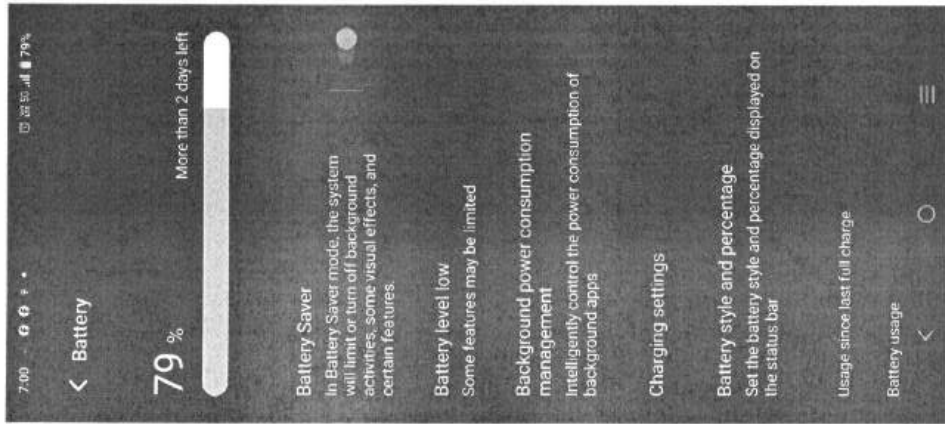
Point No: 13

ஏர் கண்டிஷனரின்
வெப்பநிலையை 24 டிகிரி
வரை வைத்திருங்கள்.



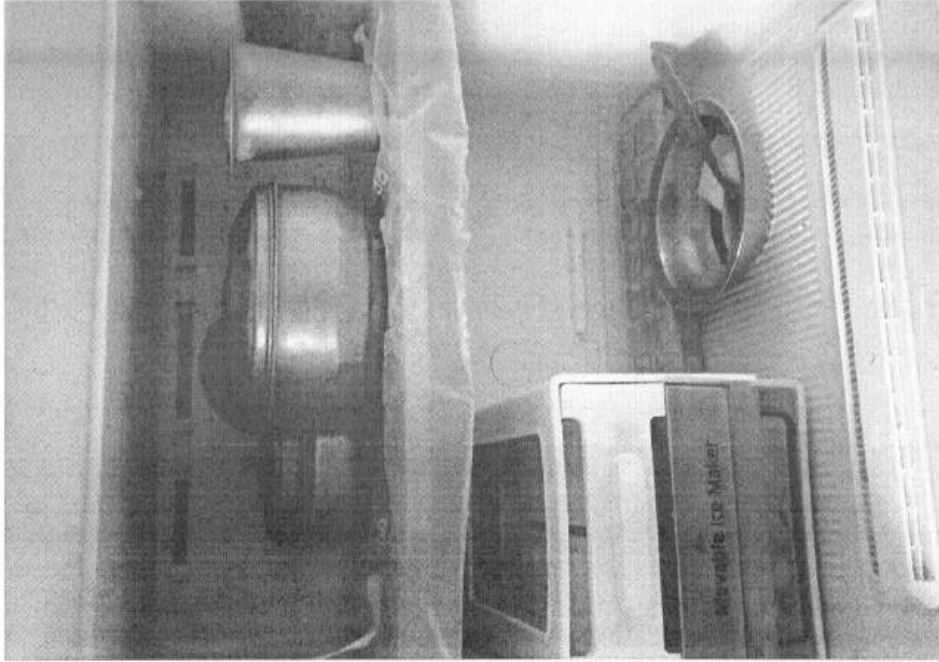


Point No: 14
மற்ற சமையல்
பரத்திரங்களை
விட ப்ரஷர்
கூக்கர்களை
விருமபுங்கள்

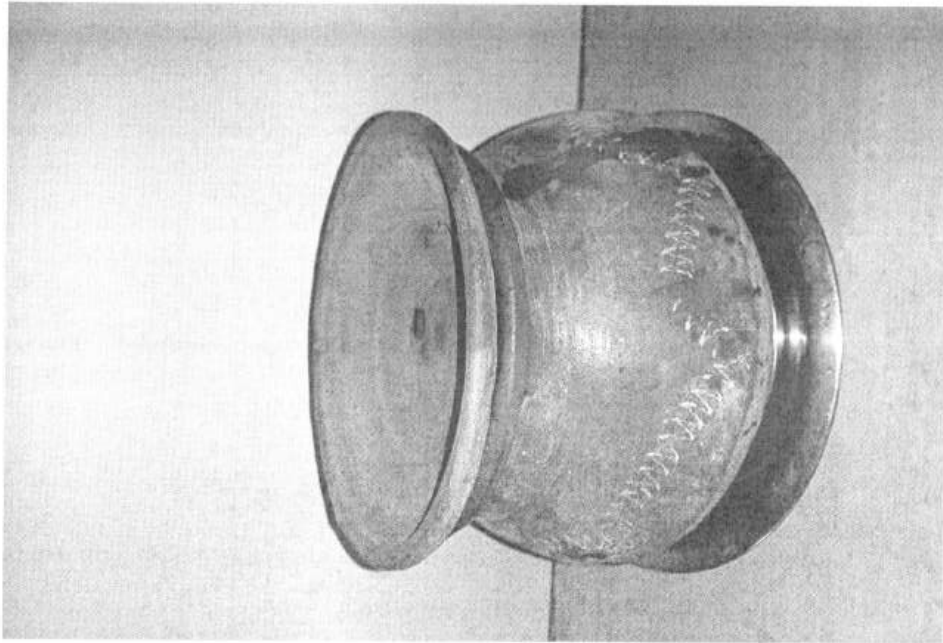
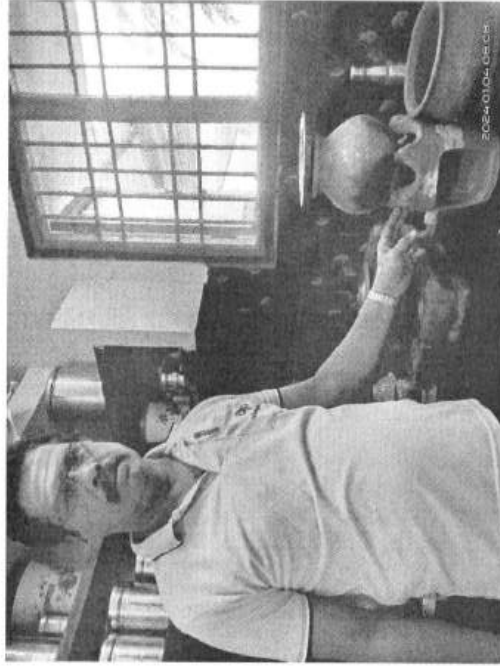


Point No: 15
உங்கள் மின்னணு சாதனங்களை ஆற்றல் சேமிப்பு முறையில் வைத்திருங்கள்.

Point No: 18
பரிடஐ
அல்லது
பர்சரை
தஹரம்ல்
சுத்தம்
செய்யவும்.



Point No:
17



4:58 4G+ 67% 67%



Heart Pts Steps

1,394 Cal 6.44 km 127 Move Min

Your daily goals

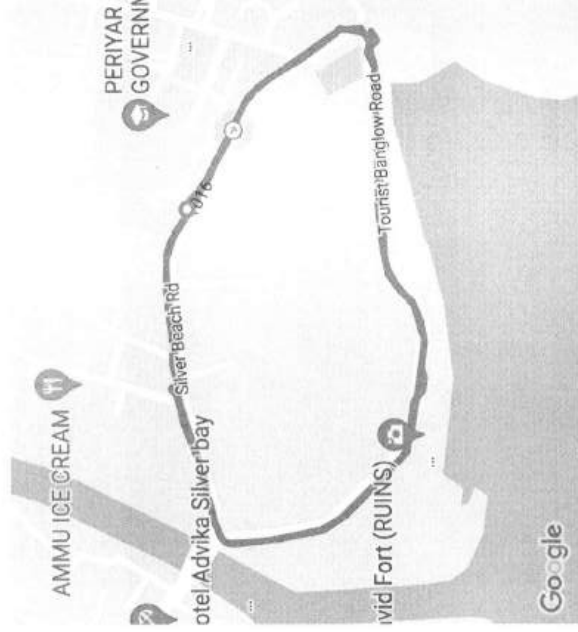
Last 7 days

6/7

Achieved



Your weekly target



4.04 km

Distance

8.11 min/km

Pace

00:33:05

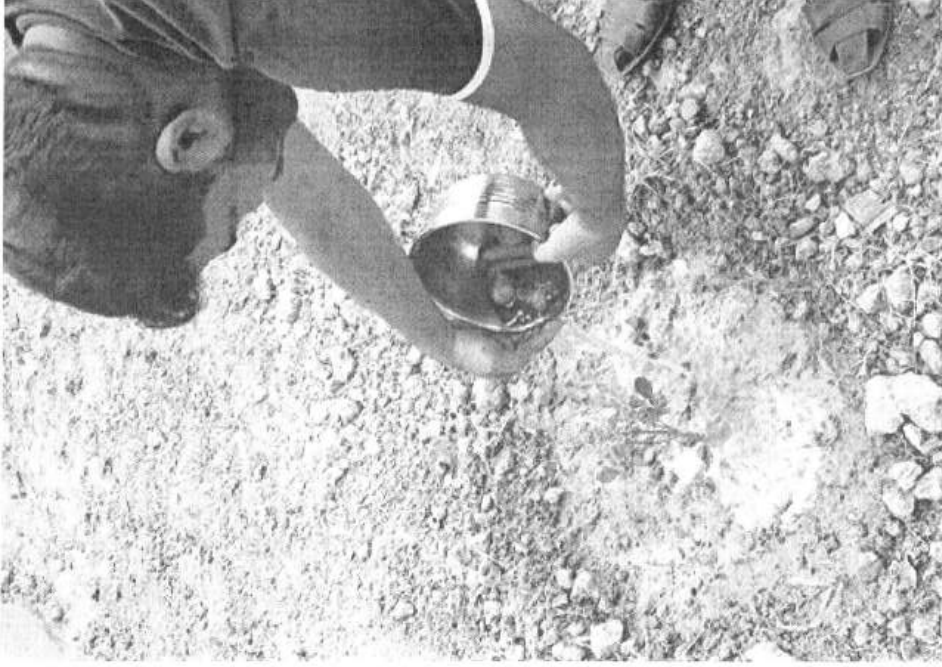
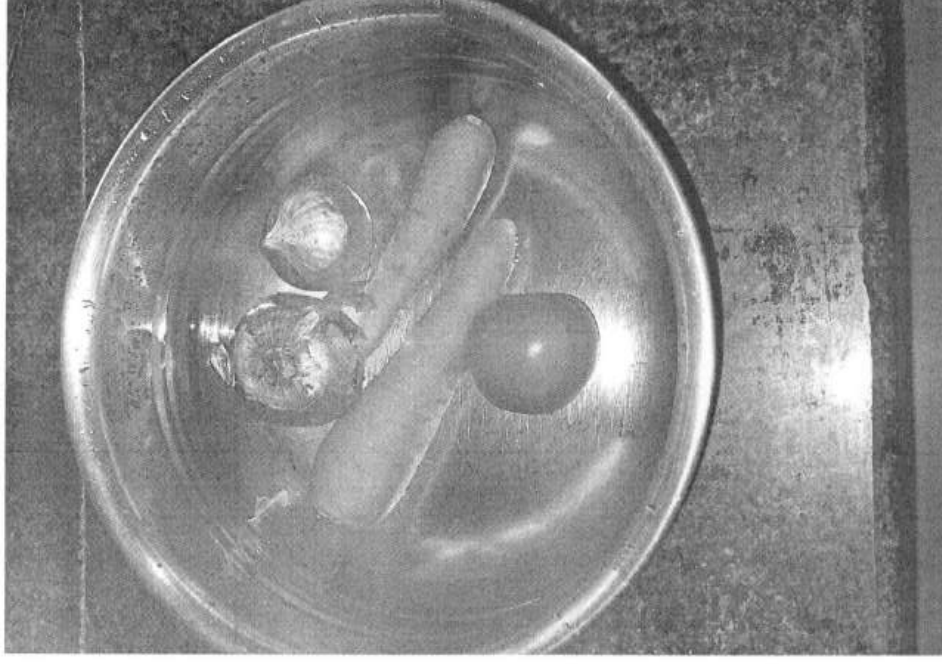
Time

282 Cal

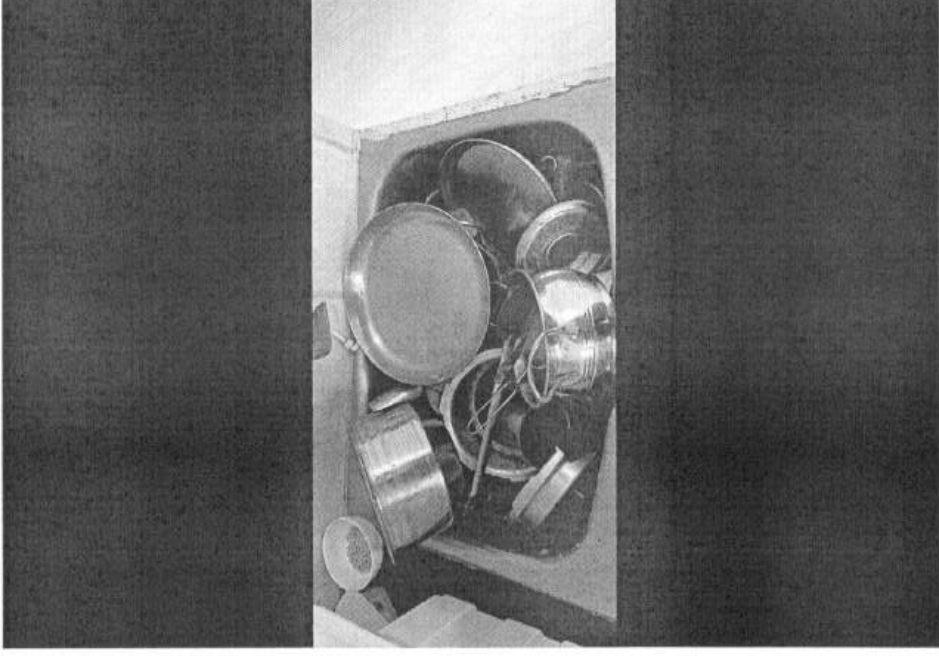
Calories

Point No: 19
பிரேட்டில்
லுக்குப்
பதிலாக
வெளியில்
ஒடுங்கள்.

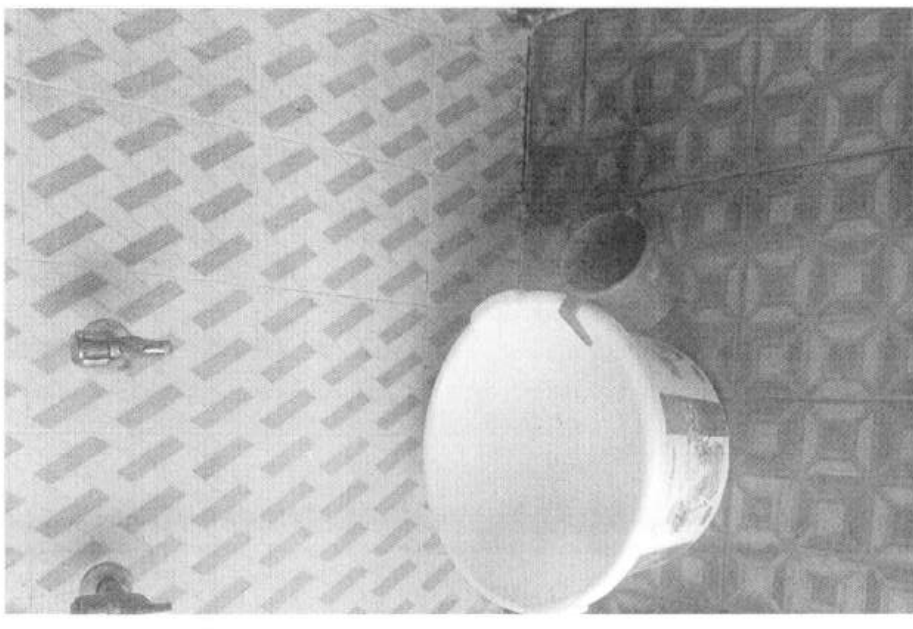
Point No: 26
காய்கறிகள்
கழுவிய
தண்ணீரை,
ஆலைகளுக்கு
ம, மற்றவைக்கும்
பயன்படுத்தலா
ம்.



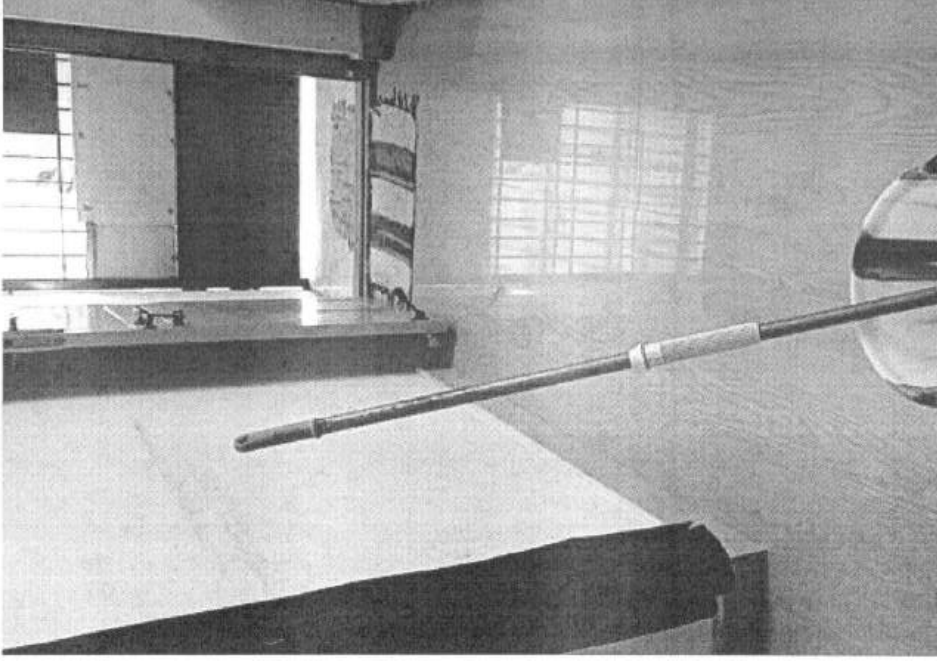
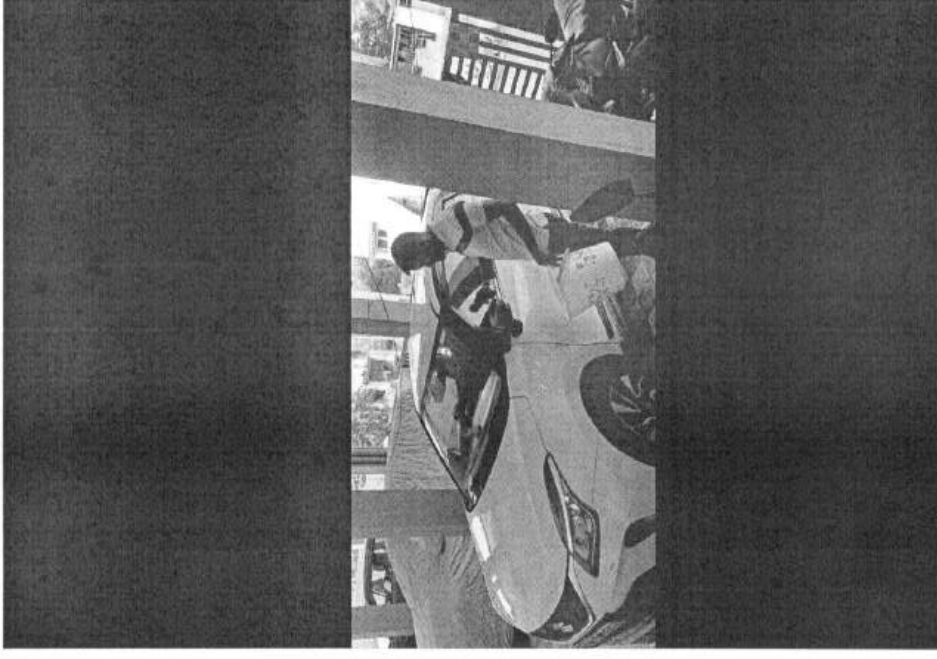
Point No: 27
கணமாய்
பாபைகள்
மற்றும்
பாத்திரங்களை
கழுவுவதற்கு
முன்
ஊறவைக்கவும்



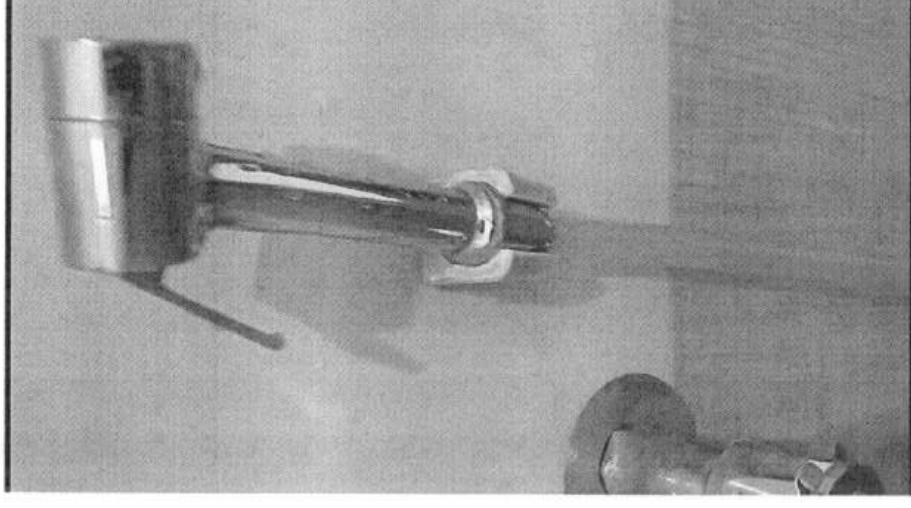
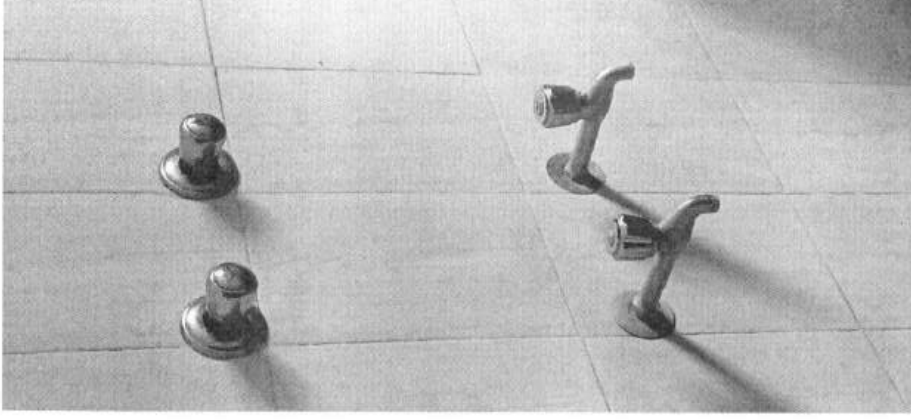
Point No: 28 ஒவ்வொரு
முறையும் குழாயில்
தண்ணீர் வரும் போது
பயன்படுத்தப்படாத
சேமித்து
வைக்கப்பட்டுள்ள
தண்ணீரை
அப்புறப்படுத்தாதீர்கள்.



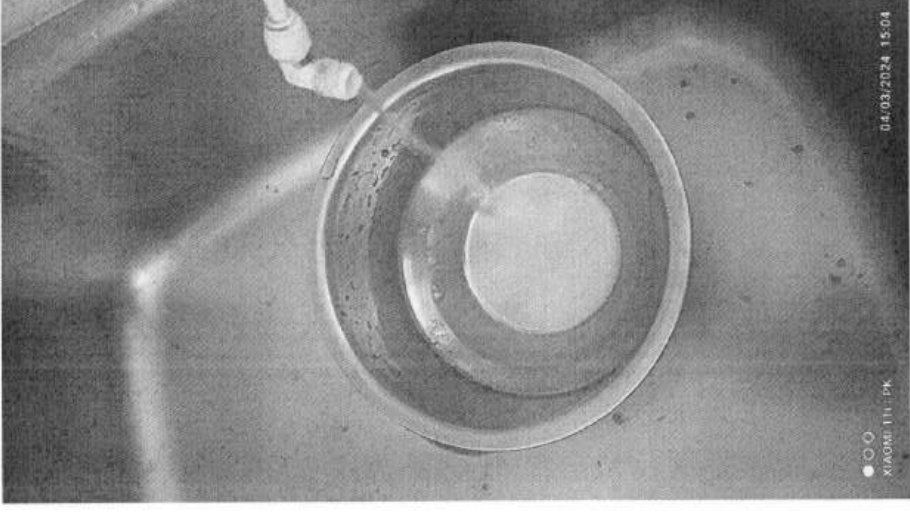
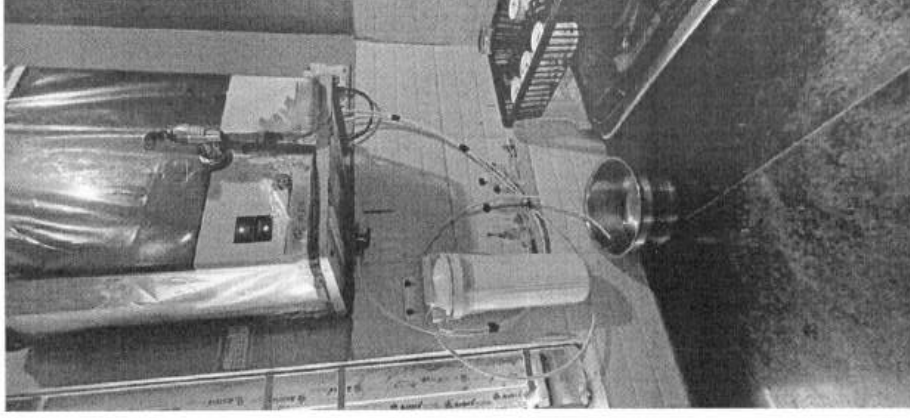
Point No: 29
அலைகள்/தரைக்
ள/வாகப் பங்கு
கு தண்ணீர்
பாய்ச்சுவதற்கு
குழாய்களுக்கு
பதிலாக
வாளிகளைப்
பயன்படுத்துங்க
ள்.

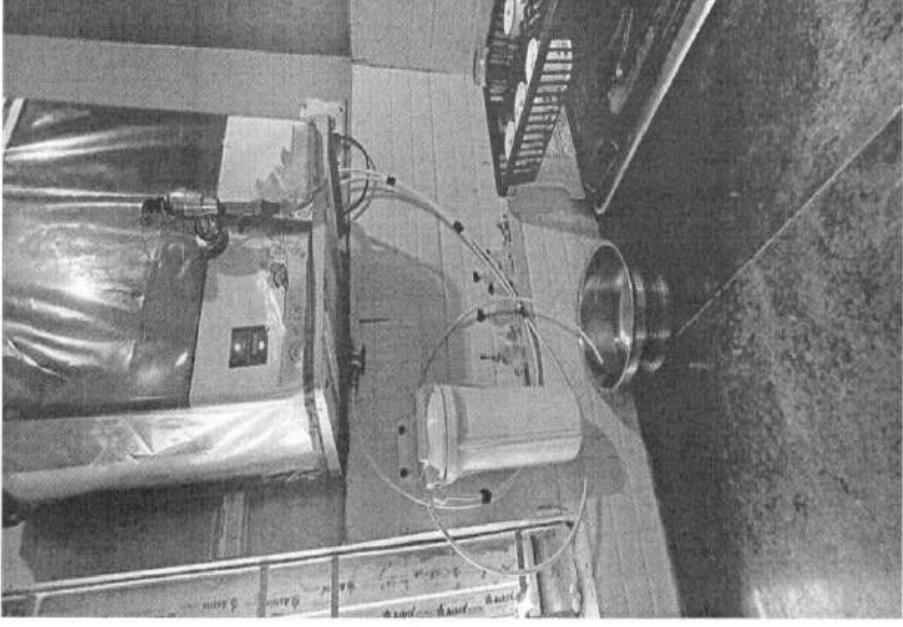
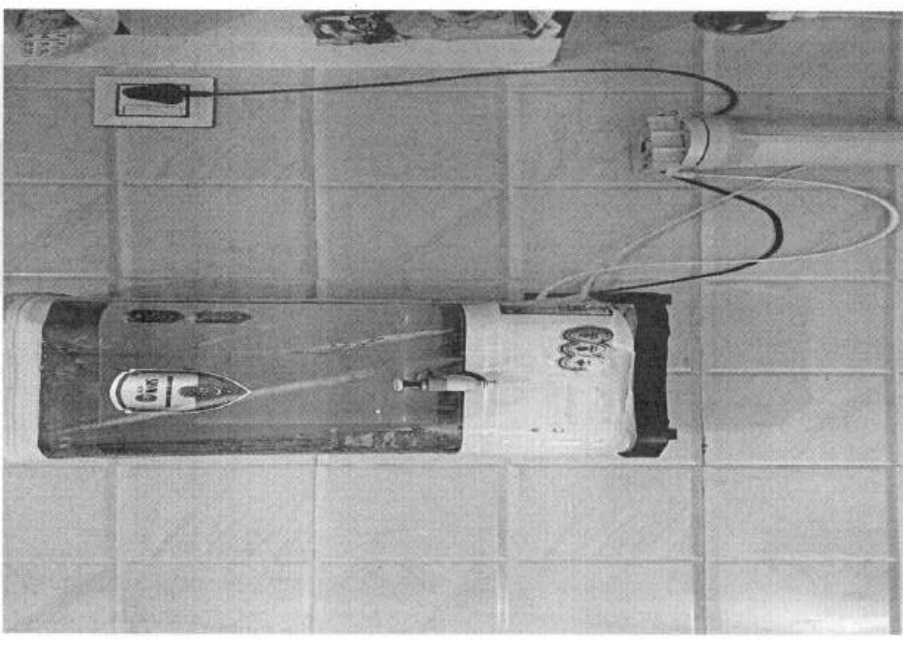


Point No: 30
பாஷ்கள்,
குழாய்கள்
மற்றும் நீர்
குழாய்களில்
கசிவை
சரிசெய்யவும்.



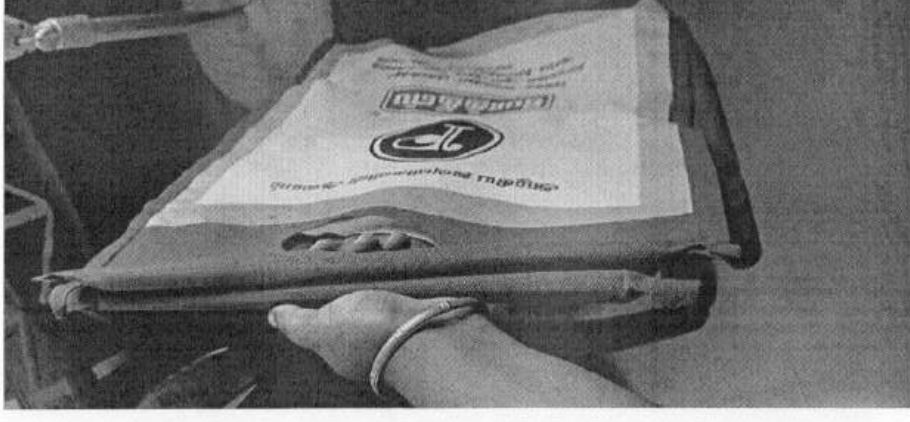
Point No: 33
பாத்திரங்களை
சுத்தம் செய்யவும்,
செடிகளுக்கு தண்ணீர்
பாய்ச்சவும் மற்றும்
பிறவற்றிற்கு AC/RO
லிருந்து
வெளியேற்றப்படும்
தண்ணீரை மீண்டும்
பயன்படுத்தவும்.



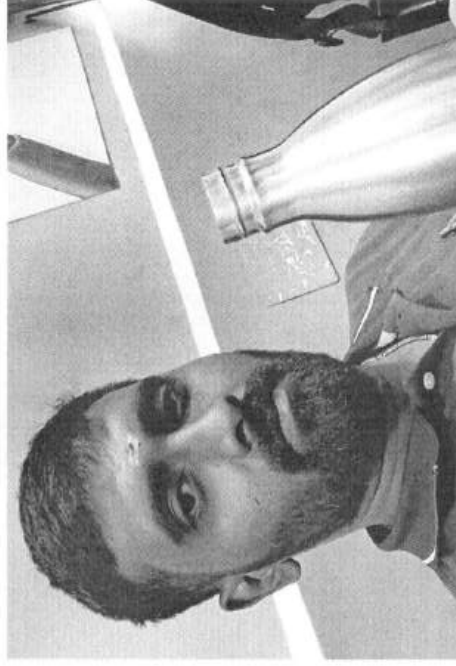


Point No: 34 குறைந்த
தண்ணீரை
வீணடிக்கும் நீர்
சுத்திகரிப்பு
முறையை
விருமபுங்கள்.

Point No: 35 ஒருமுறை
பயன்படுத்தும்
பிளாஸ்டிக்
குறைக்கப்பட்டது
ஷாப்பிங்கிற்கு
பிளாஸ்டிக்
பைகளுக்குப் பதிலாக
துணிப் பையைப்
பயன்படுத்தவும்.



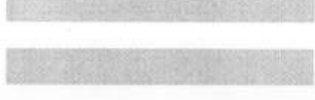
Point No: 36
கடிந்தவரை
உங்கள்
சொந்த
தண்ணீர்
பாட்டிலை
எடுத்துச்
செ
ல்லவும்



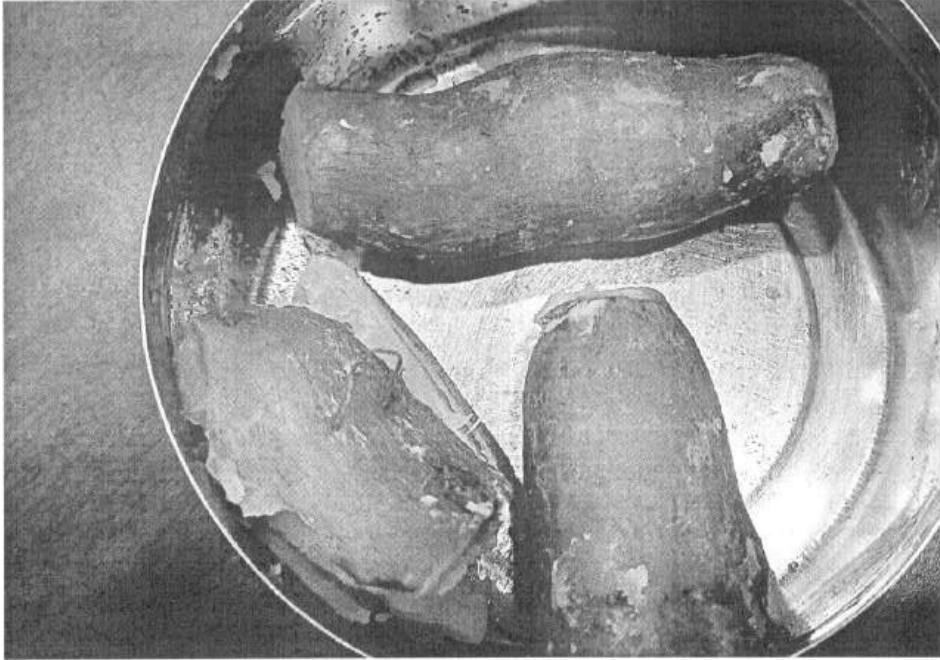
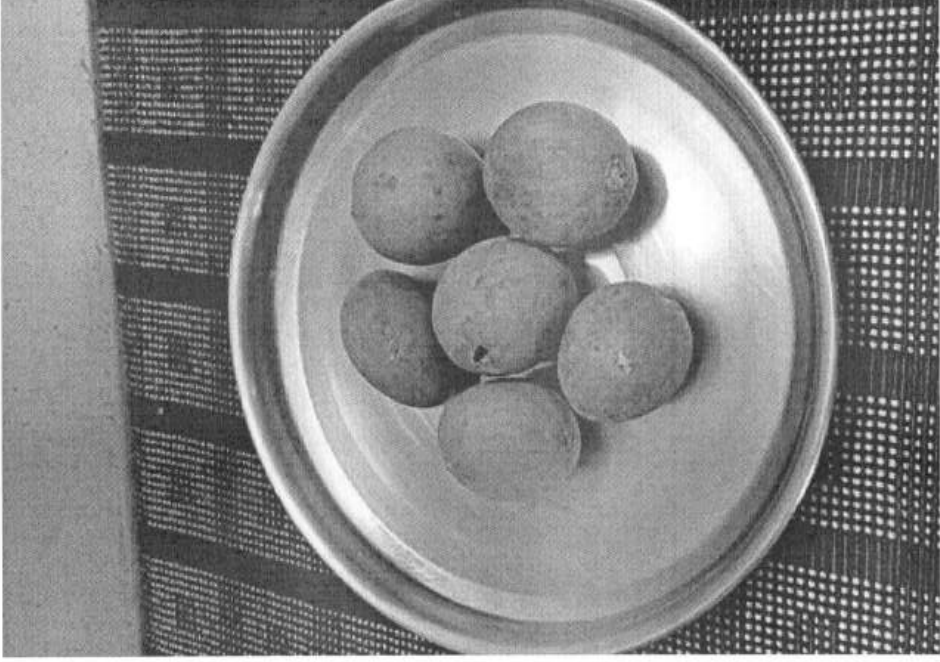
44. பிளாஸ்டிக் பைகளில்
வரும் பால், மோர்
போன்றவற்றை அதன்
ஒரத்தில் மிகச்சிறிய
அளவில் வெட்டி அதை
மக்காத குப்பைத்
தொட்டியில் போடலாம்.



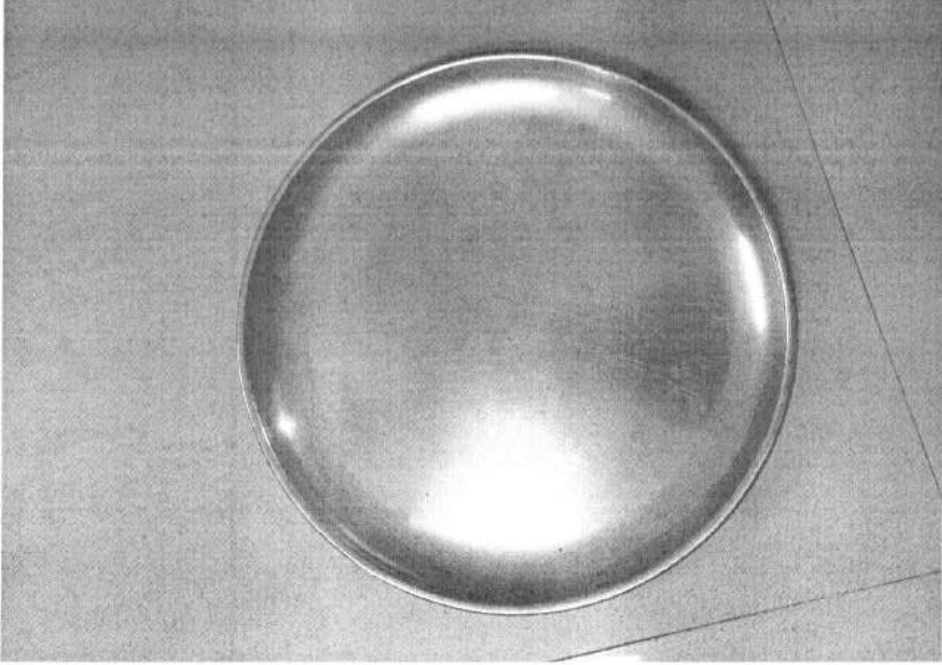
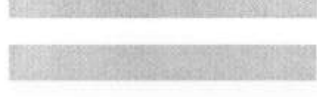
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வீட்டில்
உணவு
கழிவுக்
கூடு
உரமாக்கு
ங்கள்.



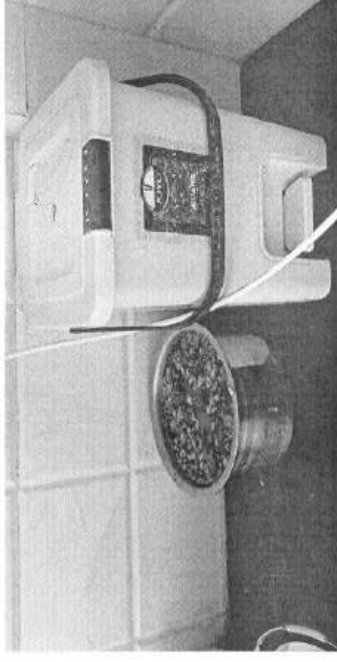
Point No: 50
உள்ளூரில்
கிடைக்கும்
மற்றும்
பருவகால
உணவுகளை
விருமபுங்க
ள்.



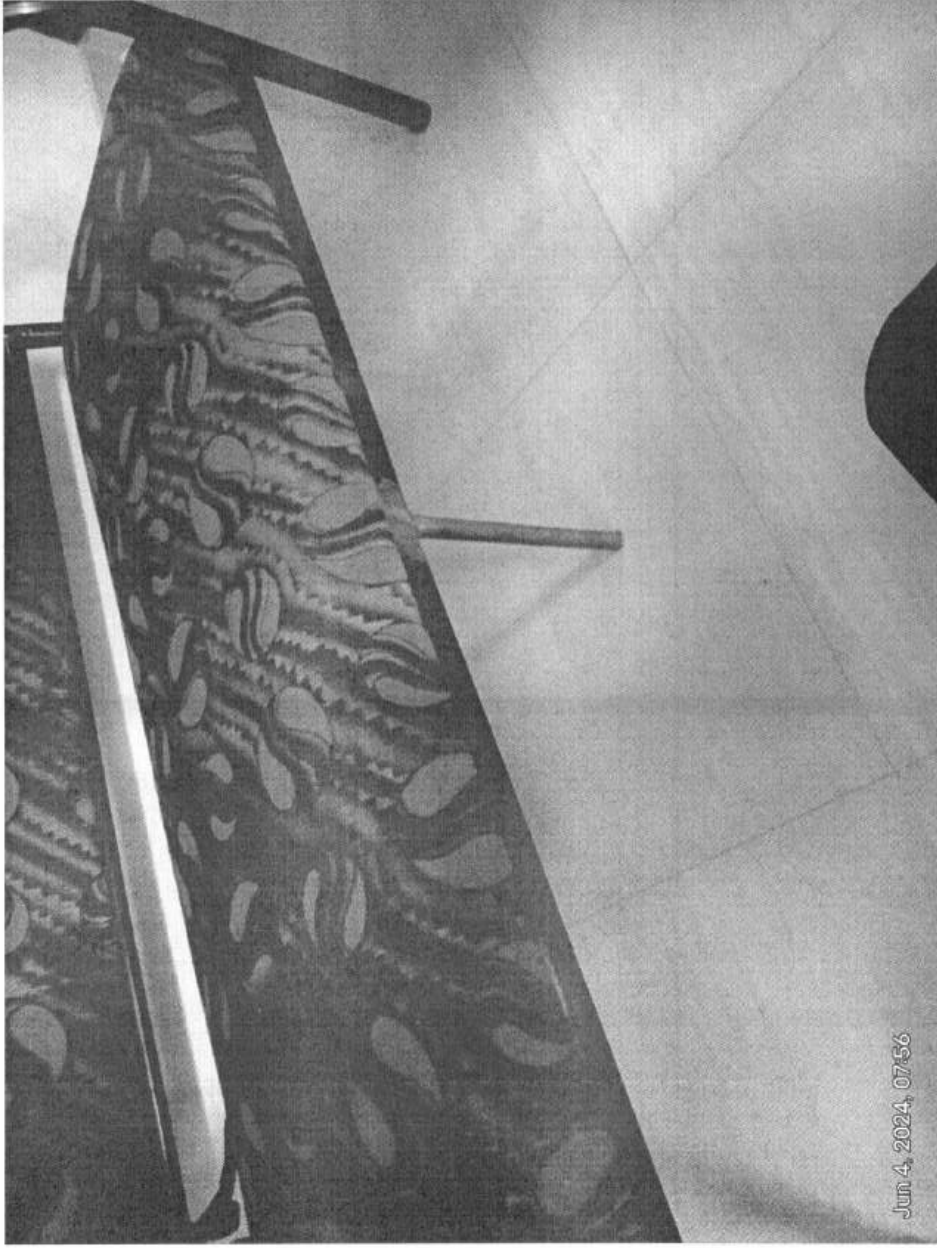
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உணவு
வணிகாமல்
இருக்க
தீர்ச்சரி
உணவுக்கு
சிறிய
தட்டுகளை
பயன்படுத்த
வும



53. வீடுகளில்
உலர்ந்த
மற்றும
ஈரமா
கழிவுகளை
பிரித்து
வைக்க
பயிற்சி
செய்யுங்கள்.



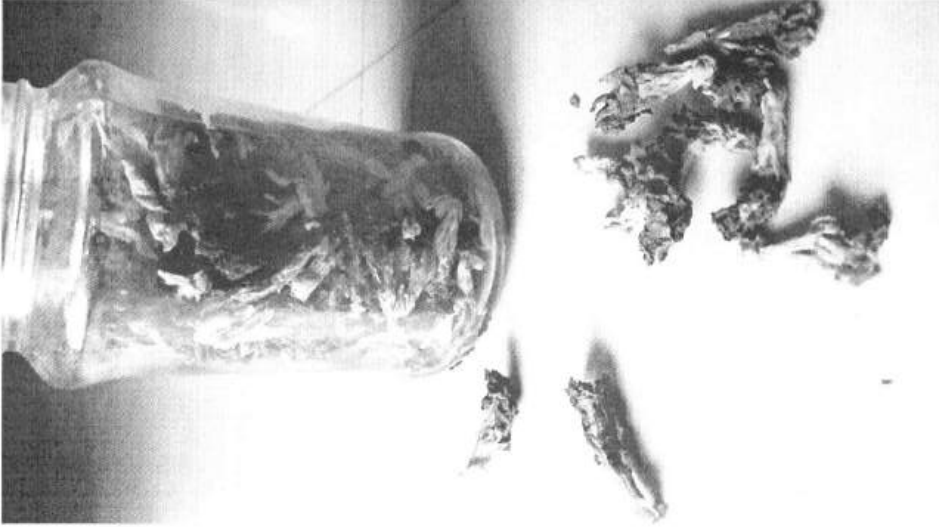
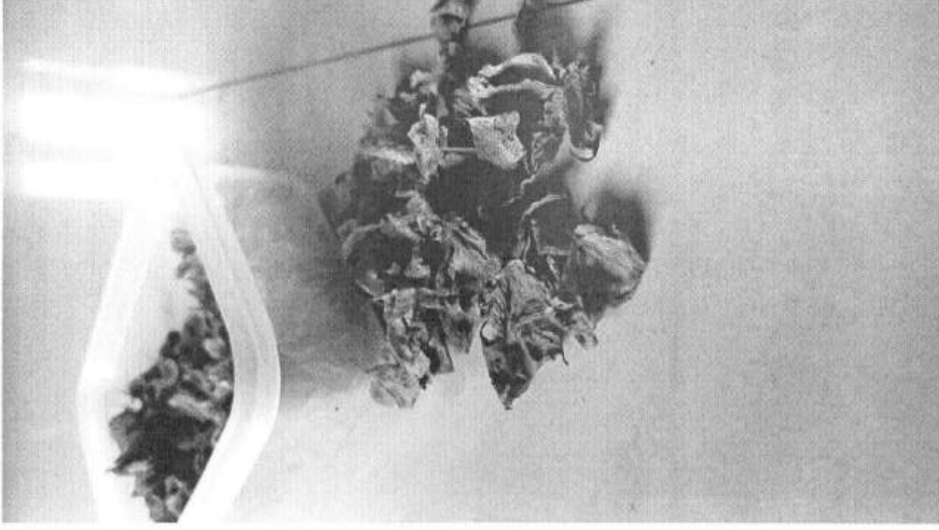
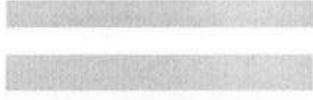
58-Repair, reuse and recycle old furniture



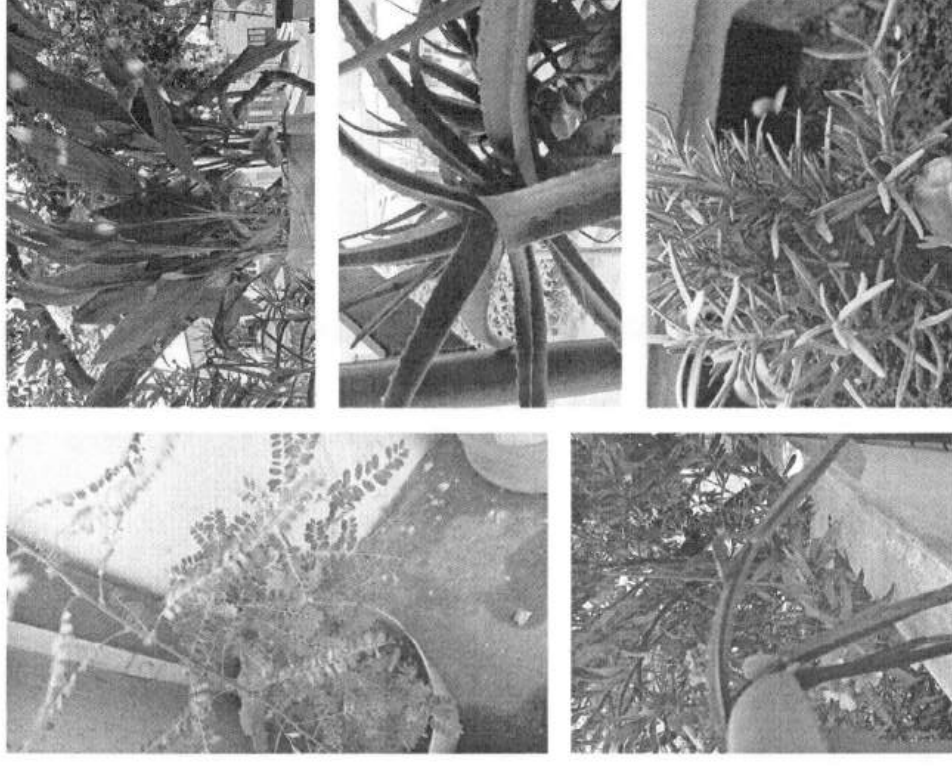
63-Encourage use
of millets in food
and indigenous
herbs and
medicinal plants
for nutrition
and well being



64-Prefer
consuming
natural or
organic
products



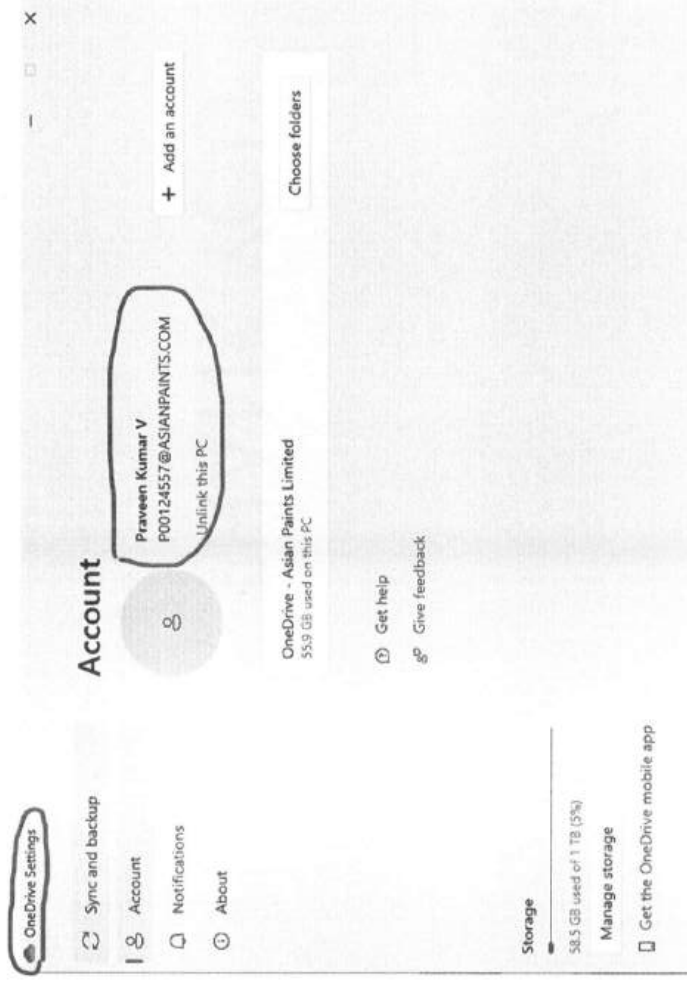
66-Plant medicinal plants such as
neem, tulsi, giloy, mint, curry
leaves, ashwagandha, curry
leaves etc. within household
premises



Point No: 68
மாசுபாட்டி
ன
தாக்கத்தை
குறைக்க
மரங்களை
நடவு

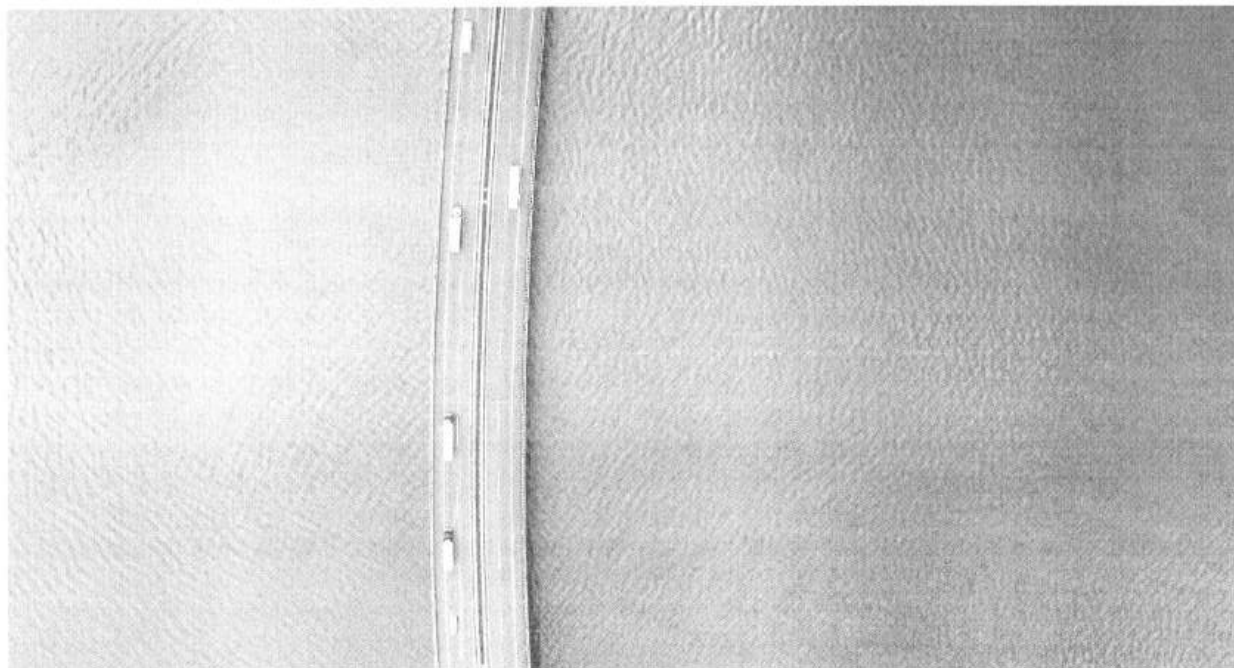


Point No: 75
வன் டிரைவ்
ஹார்ட்
டிரைவை
விட கிளவுட்
ஸ்டோரேஜை
விரும்புங்கள்





THANK YOU



Annexure 24
EC COMPLIANCE 2018



THIRU A.V. VENKATACHALAM, I.F.S
MEMBER SECRETARY

STATE LEVEL ENVIRONMENT IMPACT
ASSESSMENT AUTHORITY - TAMIL NADU
3rd Floor, Panagal Maaligai,
No.1 Jeenis Road, Saidapet,
Chennai-15.
Phone No.044-24359973
Fax No. 044-24359975

ENVIRONMENTAL CLEARANCE (EC)

Letter No. SEIAA/TN/F. 6495/5(f)/EC - 60/2018 dated: 24.04.2018.

To

The General Works Manger
Asian Paints Limited
Penta Division
B5-B10, Sipcot Industrial Complex,
Kudikadu Village,
Cuddalore - 607005.

Sir,

Sub: SEIAA -TN -Environmental Clearance-Expansion in production of Pentaerythritol and Sodium Formate by M/s. Asian Paints Limited in their existing plant at Plot No. B5 - B 10, SIPCOT Industrial Complex, Kudikadu Village, Cuddalore, Tamil Nadu - Category - "B1" and Schedule 5(f)-Synthetic Organic Chemical Industry (Dyes and Dye Intermediate) under the EIA Notification, 2006-Issued-Regarding.

- Ref: 1. ToR issued by MoEF&CC F.No.J-11011/181/2017-IA-II(I) dated 21.12.2017.
2. EIA report submitted for Environment Clearances dated: 25.01.2018.
3. Lr. No.SEIAA-TN/F.No. 6495/2018 dated: 08.02.2018.
4. Proponent reply letter dated 14.02.2018.



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(3/4)



5. Minutes of the 103rd SEAC meeting held on 24.02.2018.
6. Minutes of the 104th SEAC meeting held on 19.03.2018.
7. Lr. No.SEIAA-TN/F.No. 6495/SEAC/2018 dated: 22.03.2018.
8. Proponent reply letter dated 05.04.2018.
9. Minutes of the 286th SEIAA meeting held on 16.04.2018.
10. Proponent reply letter dated 20.04.2018.
11. Minutes of the 290th SEIAA meeting held on 23.04.2018.
12. Minutes of the 291st SEIAA meeting held on 24.04.2018.

1. This has reference to your application dated 25.01.2018 and subsequent communication on the above mentioned subject by M/s. Asian Paints Limited for Expansion in production of Pentaerythritol and Sodium Formate in their existing unit for obtaining Environmental Clearance for the proposed Expansion in production of Pentaerythritol from 560 MTM to 730 MTM (Powder and Solution form) and Sodium Formate from 336 MTM to 480 MTM (Powder and Solution form) at Plot No. B5 – B 10, SIPCOT Industrial Complex, Cuddalore, Tamil Nadu under Item No. 5(f)– ‘ Synthetic Organic chemicals Industry (dyes & dyes intermediate; bulk drugs and intermediates excluding drug formulation; Synthetic rubbers; basic Organic Chemicals, other synthetic organic chemicals and chemical intermediates (located in a notified industrial area/estate) &Category ‘B1’ of the Schedule to the EIA Notification, 2006.
2. The Proponent, M/s. Asian Paints Limited, has applied to MoEF& CC, Gol, for Terms of Reference for the proposed Expansion in production of Pentaerythritol from 560 MTM to





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- 730 MTM (Powder and Solution form) and Sodium Formate from 336 MTM to 480 MTM (Powder and Solution form) at Plot No. B5 – B 10, SIPCOT Industrial Complex, Cuddalore, Tamil Nadu.
3. In response to the application, Terms of Reference (ToR) was issued vide File. No. J-11011/181/2017-IA-II (I) dated: 21.12.2017 by MoEF& CC. Public hearing was exempted as per section 7(i), (iii) stage (3), Para (i)(b) of EIA Notification, 2006, and request to submit the EIA/EMP report to the SEIAA for grant of Environment Clearance.
 4. Based on the ToR issued by the MoEF& CC, the proponent prepared the EIA report and submitted the same to SEIAA on 25.01.2018. The proposal (EIA report) was placed in the 103rd meeting of the SEAC held on 24.02.2018. Accordingly, the SEAC decided to make an inspection and based on the outcome of the inspection, SEAC will take a decision regarding the grant of EC to the industry. The technical team inspected the site on 03.03.2018 and submitted a report on 12.03.2018. The technical team, based on the site inspection and discussion with the proponent at the site has requested the proponent to furnish additional particulars/proposals. Accordingly, the proponent has submitted the additional particulars/proposals to the technical team on 12.03.2018. After the perusal of the additional particulars/proposals, the inspection report was placed in the 104th Meeting of SEAC held on 19.03.2018. Based on the recommendations of the technical team, the SEAC decided to recommend the proposal for the grant of Environmental Clearance to SEIAA – TN subject to certain conditions.
 5. The subject was placed before 286th SEIAA Meeting held on 16.04.2018. The Authority called for certain additional details and the proponent has submitted the additional



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particulars/proposals to the SEIAA on 05.04.2018 and SEIAA after careful consideration decided to issue Environmental Clearance in its 291th meeting held on 24.04.2018 vide Item No. 291-01 subject to terms and conditions stipulated under the provisions of Environment Impact Assessment Notification, 2006 as amended based on the Information submitted by you which are extracted below:

1	(i) Name of the Project: (ii) Date of Application:	(i) Proposed Expansion in production of Pentaerythritol from 560 MTM to 730 MTM (Powder and Solution form) and Sodium Formate from 336 MTM to 480 MTM (Powder and Solution form) at Plot No. B5 - B 10, SIPCOT Industrial Complex, Cuddalore, Tamil Nadu by M/s. Asian Paints Limited (ii) 25.01.2018.
2	Name of Sector: Schedule No(in the EIA Notification,2006)	Schedule S.No. 5(f) of Category "B1" - Synthetic Organic chemicals Industry (dyes & dyes intermediate; bulk drugs and intermediates excluding drug formulation; Synthetic rubbers; basic Organic Chemicals, other synthetic organic chemicals and chemical intermediates (located in a notified industrial area/estate).
3.	New Project/ Expansion	Expansion
4	Name of the Applicant/Project Proponent	M/s. Asian Paints Limited
	(i) Project	Plot No. B5 - B 10, SIPCOT Industrial Complex, Kudikaddu




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5		Village, Cuddalore, Tamil Nadu	
	(ii) Co-ordinates (lat-long) of all four corners of the site	11040°58.66"N, 79045°07.07"E 11040°52.60"N, 79045°04.98"E 11040°50.07"N, 79045°12.15"E 11040°56.01"N, 79045°14.26"E	
	(iii) Whether any GO attracted	No.	
6	(i)Area of the Site(in Hectares)	29.2 acres (11.8 Ha) (No Additional land is required for the proposed expansion)	
	(ii)Land use are(in Ha)	Total Land Area	29.2 acres (11.8 Ha)
		Plotted industrial area	5.6 acres (2.27 Ha)
		Green belt area	15.7 acres (6.35 Ha)
		Roads	2.6 acres (1.05 Ha)
		Lawn and garden	5.3 acres (2.14 Ha)
8	Land use Classification as per Record	Industrial area - SIPCOT Industrial Estate.	
9	TOR issued? (If yes then	Yes. Terms of Reference (ToR) was issued vide File. No. J-	



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	specify the details)	11011/181/2017-IA-II (I) dated: 21.12.2017 by MoEF& CC. Public hearing was exempted as per section 7(i), (iii) stage (3), Para (i)(b) of EIA Notification, 2006, and request to submit the EIA/EMP report to the SEIAA for grant of Environment Clearance.		
10	Project Cost (after expansion)	Rs. 4.8 Crores		
11	Distance from Protected areas Areas/Critically Polluted areas/Eco-Sensitive areas/Inter-State Boundaries.	Cuddalore industrial area has been notified by CPCB as critically polluted area and moratorium was imposed. However, due to various action implemented by SPCB, the moratorium in this area has been lifted based on the office memorandum vide letter number J-11013/5/2010-IA.II(I) dated 25.11.2016 by MoEF& CC		
12.	Production Details	Products manufactured (In Powder & Solution Form)	Existing production TPM	Production after expansion TPM
		Pentaerythritol	560	730
		Sodium Formate	336	480
13	Manufacturing Process	The increase in production capacity is envisaged through, Process Modification, Process Automation, Reliability Improvement, Debottlenecking Activities.		



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	<p>The reactor is the heart of the plant where Pentaerythritol is formed. The reaction is a batch process. Pentaerythritol is produced in a reactor by the reaction of calculated quantity of Formaldehyde, Acetaldehyde and Caustic Soda Lye in water. The mole ratio of Formaldehyde to Acetaldehyde determines the composition of the Pentaerythritol. The mole ratio of Caustic to Acetaldehyde determines the quantity of Sodium Formate formed. Also, Caustic Soda Lye acts as a Catalyst for the reaction. The reaction is the Aldol condensation of Aldehydes and Cannizaro reaction. The reaction is carried out in dilute phase with very high excess presence of water. Initially, a predetermined quantity of known strength of Formaldehyde solution in water is prepared in the reactor. This solution is cooled to 20 deg. C and predetermined quantity of Acetaldehyde and Caustic are added over a period of 38 minutes. The reaction being exothermic, the temperature is controlled to reach a value of 45 to 48 deg. C during the reaction period of 38 minutes. Pentaerythritol, Di Pentaerythritol and Sodium Formate is formed along with small quantity of Formals. The entire reaction takes place in aqueous environment.</p> <p>After completion of reaction the excess 85% water present along with the product is removed through various unit operations viz. Stripping, Multiple effect Evaporation, Crystallization,</p>
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	<p>purification, separation and drying. The reactor product is fed to the stripper to remove the traces of un-reacted Methanol & Formaldehyde present in the process stream for recovery and reuse. The stripper product is then fed continuously to the five-effect evaporator where the Concentration is increased upto 60%. The water evaporated from Evaporator is reused in the process. The concentrated mixture is then fed to Crude Vacuum Crystallizer which causes the Pentaerythritol (PE) product to crystallize and precipitate, keeping the Sodium Formate in liquid form. Subsequent to filtration in Crude Belt filter, the precipitated PE is separated from the filtrate Crude Mother Liquor (CML) containing the bulk of Sodium Formate. The PE cake is re-slurried and re-dissolved. The PE solution is then passed through the deionizer in order to reduce the Sodium Formate slippages and through Carbon column for color removal. This solution is stored in a tank called Pure Pentaerythritol Solution Tank. Depending on the grade to be manufactured, the solution is then transferred either to the Pure Vacuum Crystallizer or to the Tech Dissolver in the Mono and Di Pentaerythritol section of the plant.</p> <p>Sodium Formate:</p> <p>The filtrate from Crude Belt Filter (CBF) is stored in a Tank and fed continuously to the Sodium Formate Evaporator cum</p>
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		Crystallizer. The Sodium Formate crystals formed are further separated from their mother liquor by centrifuging and are dried and packed in solid or liquid form. Sodium Formate is a byproduct and based on the Caustic input to reaction for every MT of Pentaerythritol produced, 0.60 to 0.67 MT of Sodium Formate gets produced.																																				
14	Man-power Requirement(after expansion)	140Nos.																																				
15	Total Water Requirement - 857 KLD (after expansion) Raw water from SIPCOT - 690 KLD Treated water - 167 KLD	<table> <tr> <th>S. No</th><th>Activity</th><th>Quantity (KLD)</th></tr> <tr> <td>1.</td><td>Domestic</td><td>45</td></tr> <tr> <td>2.</td><td>Gardening</td><td>40</td></tr> <tr> <td>3.</td><td>Coal/ vegetation wetting</td><td>32</td></tr> <tr> <td>4.</td><td>FH make up</td><td>14</td></tr> <tr> <td>5.</td><td>WTP back wash</td><td>20</td></tr> <tr> <td>6.</td><td>Cooling tower</td><td>353</td></tr> <tr> <td>7.</td><td>Process</td><td>17</td></tr> <tr> <td>8.</td><td>fan less cooling tower</td><td>39</td></tr> <tr> <td>9.</td><td>Floor washing</td><td>21</td></tr> <tr> <td>10.</td><td>Boiler</td><td>270</td></tr> <tr> <td>11.</td><td>WTP Regenerator</td><td>6</td></tr> </table> <p>Source of water - SIPCOT</p>	S. No	Activity	Quantity (KLD)	1.	Domestic	45	2.	Gardening	40	3.	Coal/ vegetation wetting	32	4.	FH make up	14	5.	WTP back wash	20	6.	Cooling tower	353	7.	Process	17	8.	fan less cooling tower	39	9.	Floor washing	21	10.	Boiler	270	11.	WTP Regenerator	6
S. No	Activity	Quantity (KLD)																																				
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9.	Floor washing	21																																				
10.	Boiler	270																																				
11.	WTP Regenerator	6																																				
16	Sewage generation and treatment	Sewage Generation -45 KLD, treated in the STP of 50 KLD capacity and the treated sewage is used for gardening																																				
17	ETP Details	<ul style="list-style-type: none"> ETP Capacity 250 KLD. Total Effluent generation - 131 KLD. 																																				



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17A	Reuse of treated effluent	Treated effluent of 124 KLD is recycled in process				
18	Solid waste Management	Name of process	Expected quantity (Kg/annum)	Activities for which Authorization is issued		
		Ion Exchange resin	9600	authorized co processors to be sought for reuse/ recycle of solid wastes		
		Used insulation materials	4100			
		Used HDPE bags	5200			
		Used Filter Clothes	3000			
		Hazardous waste management				
		Spent carbon	7780 kg/annum	Authorized waste processing agency		
		Used spent oil	900 Lts/annum	Authorized waste processing agency		
		Waste oil	300 Lts/annum	Authorized waste processing agency		
		Sludge	172Tons/annum	TSDF Gummidipoondi		
19	Stack emission Details: (All the stacks attached to process units, Boilers, D.G. Sets, (kg/hr)	S. No	Source of Emission	Control Measures	Height	
		1	Sodium Formate Drier	wet scrubber followed by stack and the scrubbing medium: water	18m x dia 0.10m	



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		2	Mono Pentaerythritol Drier	wet scrubber followed by stack and the scrubbing medium water	12m x dia 0.20m
		3	Di Pentaerythritol drier	wet scrubber followed by stack and the scrubbing medium: water	18m x dia 0.25m
		4	Tech Pentaerythritol Drier	Reverse pulse jet bag filter that collects dust followed by stack	Height 10.5m x dia 0.10m
		5	14 TPH FBC Boiler	Reverse pulse jet bag filter	Height 50m x dia 1.20m
		6	16 TPH FBC Boiler	Reverse pulse jet bag filter	42 m x dia 1.10m
		7	500 KVA DG set	Stack	12m x dia 0.25m
		8	600 KVA DG set	Stack	12m x dia 0.25m
20	Details of Fuel to be used:	S.No.	Boiler / DG set	Fuel consumption	Fuel type
		1	Coal Fired Boiler	111.50 T/day	Coal
		2	DG Sets	4.5KL/day	HSD
21	Steam Generation	16 TPH		30 TPH	



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22	Storm Water Management	There is adequate storm drainage system. The storm water in the project area will be collected through existing storm water drains. The excess storm water will be connected to the SIPCOT main storm water drain
23	Rain Water Harvesting	Rainwater harvesting storage capacity is 200cu.m.
24	Green Belt Development	15.7 acres (6.35 Ha)
25	CSR details	The actual CSR funds utilized in future should be atleast be 2% of the annual profit but not less than Rs. 33.60 lakhs per annum.
26	EMP Cost(O&M)	Capital Cost: 576 Lakhs. Operation and Maintenance Cost: 23.6 Lakhs.

Validity:

The SEIAA hereby accords Environmental Clearance to the above project under the provisions of EIA Notification dated 14th September, 2006 as amended, with validity for Seven years from the date of issue of EC, subject to the compliance of the terms and conditions stipulated below:




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SEIAA-TN



(A) SPECIFIC CONDITIONS:

- (i) It is mandatory for the project proponent to furnish to the SELAA, Half yearly compliance report in hard and soft copies on 1st June and 1st December of each calendar year in respect of the conditions stipulated in the prior Environmental clearance issued.
- (ii) "Consent for Establishment" shall be obtained from Tamil Nadu Pollution Control Board and a copy of the same shall be furnished to the SELAA, Tamil Nadu before start of project construction activity at the site.
- (iii) The implementation of Environmental Management Plan in regard to treatment and disposal of sewage & Effluent, Solid waste Management, Hazardous - Waste Management, and CSR Activities should be carried out, as proposed and committed. Regular monitoring should be carried out during operation phases.
- (iv) The residue collected from the evaporator shall be documented by maintaining proper register and it should be made available at the time of inspection.
- (v) Adequate dust extraction system such as Ducting with dust extracting arrangement wherever required shall be established to achieve Occupational -health standards and ambient air quality standards.
- (vi) The proponent shall carryout best housekeeping practices as spillage management for handling and maintenance of raw materials and products inside the unit premises.
- (vii) Nature of chemicals Handled, the Do and Don'ts shall be displayed at all vital locations as laided down in MSDS.
- (viii) The proponent shall ensure that the quantity of Hazardous Waste handed over to the TSDF shall match with the quantity generated.




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- (ix) The proponent shall provide a separate closed area earmarked for storing solid waste including Hazardous Waste as proposed.
- (x) The proponent shall dispose Hazardous Waste generated as per the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016. Spent oil from D.G sets should be stored in HDPE drums in an isolated covered facility and disposed off through TNPCB registered recyclers.
- (xi) The Plastic wastes shall be segregated and disposed as per the provisions of Plastic Waste (Management & Handling) Rules 2016.
- (xii) The e - waste generated should be collected and disposed to a nearby authorized e-waste centre as per e waste (Management & Handling), Rules 2016 as amended.
- (xiii) The Municipal solid waste generated shall be collected, segregated and disposed as per Solid Waste Management Rules, 2016.
- (xiv) The industry shall conduct air sampling at least once in six months for the general core parameters (PM_{10} , $PM_{2.5}$, SO_x , NO_x) through TNPCB/NABL Accredited Laboratory and maintain records of the same and it should be made available at the time of inspection.
- (xv) Regular monitoring on the air quality, water quality and noise on the selected locations in and around the project site as mentioned in the EMP report for creating base line data shall be continued and records shall be maintained.
- (xvi) A separate environment and safety management cell with qualified staff shall be set up before establishment of the facility and shall be retained throughout the lifetime of the industry, for implementation of the stipulated environmental safeguards.





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- (xvii) The Green belt area already developed within the project area shall be properly maintained.
- (xviii) The industry shall promote tree plantation to neutralize their carbon foot print. The industry shall engage regularly in afforestation programme.
- (xix) The proponent shall ensure effective risk management strategy regarding confined space management to avoid risk while handling raw materials, products in the process area and storage.
- (xx) The industry shall conduct air sampling at least twice in a week (104 times in a year), as stipulated under EP Act 1986.
- (xxi) Risk cum disaster management plan should be in placed in the industry premises at all time.
- (xxii) Water conservation scheme including rain water harvesting measures to augment ground water resources shall be implemented so as to collect and reuse the entire rainwater harvested as a supplement to fresh water.
- (xxiii) The natural drainage pattern in the project area shall be maintained and storm water drain along the boundary and appropriate places shall be provided considering the Catchment area and maximum intensity of rainfall to collect runoff water/rain water for proper disposal to avoid flooding around the premises.
- (xxiv) The Environmental Clearance is issued without prejudice to any order that may be passed by the Hon'ble NGT/ Honb'le High Court of Madras.
- (xxv) All the assurances given in EIA and EMP shall be adhered to strictly.



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- (xxvi) Detail study shall be carried out by engaging accredited agencies / reputed institutions for Risk management and detailed Disaster management plan prepared for compliance.
- (xxvii) Sufficient funds should be provided for Disaster management.
- (xxviii) The Project Proponent shall provide disinfection by UV system for the sewage treatment plant for treating the sewage before applying on land for gardening.
- (xxix) The project proponent has to provide close loop silo for ash handling and the same shall be installed before 30.05.2016 as committed and submit the proof to SEIAA-TN.
- (xxx) The project proponent shall provide sufficient ventilation (air circulation) in the hazardous waste storage yard where the hazardous waste like spent carbon, Chemical sludge, used or spent oil are being kept.
- (xxxi) The industry should completely revamp fly ash collection from the source, conveyance, storage and disposal in a more scientific manner and to reduce the fugitive emissions in fly ash handling. The final disposal of the fly ash will be as per MoEF & CC Notification S.O. 254 (E) dated: 25th January, 2016.
- (xxxii) The Project Proponent shall carry out safety audit in the different operating zones of the plant at least once in a year and the same shall be considered as base for reviewing the unsafe conditions during the plant safety meeting.
- (xxxiii) The Project Proponent shall prepare a code of practice for safe operation for educating the safety standards to the work force deployed in the plant through appropriate training by the concerned experts.
- (xxxiv) As the plant operation involves the sensitive processing, the medical officer and the supporting staff involved in the health centre activities shall be trained in occupational



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health surveillance (OHS) aspects through the outsourced training from the experts available in the field of OHS for ensuring the health standard of persons employed.

- (xxxv) The Activity of the industry should no way pollute water bodies such as Uppanar River, Perumal Lake & Bay of Bengal.
- (xxxvi) The Activity of the industry should not impact on agricultural, irrigation system and mangroves surrounding the area.
- (xxxvii) The EMP cost of Rs.576 lakhs and operation and maintenance cost Rs. 23.6 lakhs shall be deposited in a nationalized bank by opening separate account and the head wise expenses statement shall be submitted to TNPCB with a copy to SEIAA annually.
- (xxxviii) There should be no threat to Bio diversity due to the operation of the industry.
- (xxxix) The flora & fauna present in and around the project site should be get affected due to the activity as reported.
- (xl) The Project Proponent has to provide rain water harvesting collection tank to the capacity of 200cu.m in order to recover and reuse the rain water during normal rains.
- (xli) The operation of the activity should not impact on the soil, micro flora & Fauna present in and around the project site.
- (xlii) The project proponent shall carry out risk assessment process for all the operations involved in the plant and a suitable risk management plan showing the contours of sensitive zones should be prepared.
- (xlili) The industry shall develop green belt in the open areas by planting the following species in future;

- (i) Calophyllum inophyllum-Pungan
- (ii) Syzygium cumini- Naval



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- (iii) *Thespesia populnea*- Poovarasu
 - (iv) *Terminalia arjuna*- Neermarudu
 - (v) *Ficus bengalensis* – Alamaram
 - (vi) *Ficus retusa*- Atthi
 - (vii) *Ficus bengalensis*- Arasamaram
 - (viii) *Alstonia scholaris*- Palai
 - (ix) *Mimusops elengi*- Mahilam
 - (x) *Madhuca longifolia*-Izhupai
- (xliv) The project proponent shall take up better housekeeping measures including scraps disposal and up keeping the machineries, pipes, etc.
- (xlv) The proponent should continuously monitor the VOC and ensure that VOC levels are within permissible limits.
- (xlv) Air pollution control – there are four sources of air emissions within the industry process - Tech PE drier, Sodium formate drier, Mono PE drier and Di PE drier.
- From the Tech PE drier, particulates of Pentaerythritol will be emanating which will be controlled in a bag filter and finally emitted to the environment through a stack. There will be increase in the pollutant load from 1.33 kgs / day to 1.72 kgs/day and hence, additional bag filter capacity should be created.
 - From the Sodium formate drier, suspended particulate matter will be emitted which is sent to wet scrubber and then to the stack. The existing scrubber should be replaced with a new one.




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- From both Mono PE drier and Di PE drier, SPM will be emitted which is sent to wet scrubber and then to stacks. There is an increase in the amount of pollutant but the proponent should increase the efficiency of the scrubber to absorb the additional pollutant load.

(xlvii) The project proponent has to provide/ install the following before 30.04.2018 as committed and furnish proof of the same to SEIAA-TN :

- The Sewage sludge bed capacity should be increased from 5.27 m³ to 10.5 m³ .
- The sludge drying bed 2. Nos should be provided in additional to the existing Sludge drying bed for managing sludge .
- The agreement with hazardous waste management and disposal facilities shall be made including the quantum of hazardous waste and the life period.

(B) GENERAL CONDITIONS:-

- i. This Environmental Clearance shall not be cited to relax any other rules applicable to this project.
- ii. The Project Proponent should advertise at least in two local newspapers widely circulated, one of which shall be in the vernacular language of the locality concerned, within 7 days of the issue of the Environmental Clearance informing that the project has been accorded environmental clearance, and a copy of the clearance letter is available with TNPCB and also at the Website of the SEIAA, TN at <http://www.seiaa.tn.gov.in>.
- iii. A copy of the Environmental Clearance shall be sent by the project proponent to concerned local body and local NGO, if any from whom suggestions/representatives, if any were received while processing the proposal.




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SEIAA-TN



- iv. The Environmental Clearance shall also be put on the website of the company.
- v. No expansion or modernization in the project shall be carried out without prior approval of the SEIAA-TN. In case of any deviations or alterations in the project proposal from those submitted to this Authority for clearance, a fresh reference shall be made to the SEIAA-TN to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any.
- vi. All the environmental protection measures and safeguards as recommended in the EIA report shall be complied with.
- vii. The implementation of the project vis-à-vis environmental action plans shall be monitored by the Regional office of MoEF& CC at Chennai, TNPCB and CPCB. A six monthly compliance status report shall be submitted to monitoring agencies regularly.
- viii. Data on ambient air, stack and fugitive emissions shall be regularly submitted online to the Regional office of MoEF&CC,GOI, at Chennai, TNPCB and Central Pollution Control Board as well as hard copy once in six months and display data on RSPM, SO₂ and NO_x outside the premises at the appropriate place for the general public.
- ix. Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.
- x. Proper house-keeping and cleanliness must be maintained within and outside the plant.
- xi. Occupational health surveillance programme shall be undertaken as regular exercise for all the employees, especially for those engaged in handling hazardous substances. The first aid facilities in the occupational health centre shall be strengthened and the medical records of each employee should be maintained separately.





- xii. The overall noise levels in and around the plant area shall be kept well within the standards prescribed for by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels should conform to the standards prescribed under EPA Rules, 1989 viz. 75dBA (day time) and 70 dBA (night time).
- xiii. The actual CSR funds utilized in future should atleast be 2% of the annual profit but not less than Rs. 33.60 lakhs per annum.
- xiv. A separate Environmental Management Cell equipped with full fledged laboratory facilities to carry out the various Environmental Management and Monitoring functions shall be set up under the control of a Senior Executive.
- xv. The requisite amount earmarked towards capital cost and recurring cost/annum for implementing pollution control measures shall be used judiciously to implement the Environment Management Plan as furnished in the EIA report. The funds so provided shall not be diverted for any other purposes.
- xvi. The project proponent shall upload the status of compliance of the stipulated environmental clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of the MOEF&CC,GOI at Chennai, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely; RSPM, SO₂, NOx (ambient levels as well as stack emissions) or critical sector parameters, indicated for the projects shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.




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SEIAA-TN



STATE LEVEL ENVIRONMENTAL IMPACT ASSESSMENT AUTHORITY-TN | 2018

- xvii. The environmental statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental conditions and shall also be sent to the respective Regional Offices of the MOEF by e-mail.
- xviii. The Environmental Clearance is valid for 7 years from the date of issue.
- xix. Environmental Clearance is being issued without prejudice to the action initiated under Environment (Protection) Act, 1986 or any court case pending or any other court order shall prevail.
- xx. The SEIAA, TN may alter/modify the above conditions or stipulate any further condition in the interest of environment protection.
- xxi. The SEIAA/SEAC or any Competent Authority may suitably add any further condition(s) on receiving reports from the project authority. The above condition shall be monitored by the Regional Office of MoEF located at Chennai.
- xxii. The SEIAA, TN may revoke or suspend the Environmental clearance, if implementation of any of the above conditions is not satisfactory.
- xxiii. The SEIAA, TN may cancel the environmental clearance granted to this project under the provisions of EIA Notification, 2006, if, at any stage of the validity of this environmental clearance, if it is found or if it comes to the knowledge of this SEIAA, TN that the project proponent has deliberately concealed and/or submitted false or misleading information or inadequate data for obtaining the environmental clearance.





MEMBER SECRETARY
SEIAA-TN



STATE LEVEL ENVIRONMENTAL IMPACT ASSESSMENT AUTHORITY-TN | 2018

- xxiv. Failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of the Environment (Protection) Act, 1986.
- xxv. The SEIAA-TN reserves the right to stipulate additional conditions if found necessary. The industry in a time bound manner shall implement these conditions.
- xxvi. The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, the Public Liability Insurance Act, 1991, along with their amendments, draft Minor Mineral Conservation & Development Rules, 2010 framed under MMDR Act 1957, National Commission for protection of Child Right Rules, 2006 and rules made there under and also any other orders passed by the Hon'ble Supreme Court of India/Hon'ble High Court of Madras and any other Courts of Law relating to the subject matter.
- xxvii. Any appeal against this environmental clearance shall lie with the Hon'ble National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

TN


MEMBER SECRETARY
SEIAA-TN

Copy to:-

1. The Principal Secretary to Government,
Environment & Forests Department,
Govt. of Tamil Nadu, Fort St. George,
Chennai - 600 009.





2. The Chairman,
Central Pollution Control Board, Parivesh Bhavan,
CBD Cum-Office Complex, East Arjun Nagar,
New Delhi 110032.
3. The Member Secretary,
Tamil Nadu Pollution Control Board,
76, Mount Salai, Guindy,
Chennai - 600 032.
4. The ACCF(C), Regional Office of MoEF,
34, HEPC Building, 1 & 2 nd Floors,
Cathedral Garden Road, Nungampakkam,
Chennai - 600 034.
5. Monitoring Cell, I A Division,
Ministry of Environment & Forests,
Paryavaran Bhavan, CGO Complex,
New Delhi 110003.
6. The District Collector, Cuddalore District.
7. Stock File.



Compliance to the Conditions stipulated in the Environmental Clearance for Asian Paints Limited– at B5-B10 SIPCOT Industrial Complex, Kudikadu village, Cuddalore Taluk, Cuddalore District issued by SEIAA on 24.04.2018 for the period (October 2024 to March 2025)

Reference Letter No. SEIAA/TN/F.6495/5(f)/EC-60/2018 dated 24.04.2018

(A) Specific Conditions:

S.No	Condition	Compliance
1	It is Mandatory for the Project Proponent to furnish to the SEIAA, half yearly Compliance report in hard and soft copies on 1 st June and 1 st December of each calendar year in respect of the conditions stipulated in the prior Environmental Clearance issued.	Complied. We here by confirm that, we have submitted half yearly compliance with respect of the conditions stipulated in the Environmental Clearance in hard and soft copy submitted to the SEIAA earlier on 1 st December 2024.
2	Consent for Establishment shall be obtained from Tamil Nadu pollution Control Board and a copy of the same shall be furnished to the SEIAA, Tamilnadu before start of project construction activity at the site.	Complied. We have obtained Consent to operate Expansion for our unit as expansion is based predominantly on de-bottlenecking. Latest CTO No: 2407262689206 dated:30/10/2024 is enclosed (Annexure 1)
3	The implementation of Environmental management plan in regard to the treatment and disposal of sewage & Effluent, Solid waste management, Hazardous – Waste Management, and CSR activities should be carried out, as proposed and committed. Regular monitoring should be carried out during operation phases.	Complied. We confirm that the implementation of Environmental management plan regarding the treatment and disposal of sewage & Effluent, Solid waste management, Hazardous Waste Management are being done as committed (Annexure 5,6,15). The CSR activities are being carried out and Health centres are operated in Kudikadu, Karaikadu, Eechangadu & Pachayankuppam. (Annexure 10) All sewage effluents are treated in Sewage Treatment Plant within our unit. Treated sewage is used for gardening purposes.

		We have valid Hazardous waste authorization upto 31 st March 2029 and wastes are sent to authorized agencies.
4	The residue collected from the evaporator shall be documented by maintaining proper register and it should be made available at the time of inspection.	Complied. We here-by confirm that the details of residue collected from the evaporator is documented in register. A copy is enclosed for reference. (Annexure 43)
5	Adequate dust extraction system such as ducting with dust extracting arrangement wherever required shall be established to achieve occupational – health standards and ambient air quality standards.	Complied. Adequate dust extraction system such as ducting with dust extracting arrangement is already available in TECHPENTAERYTHRITOL, Mono PENTAERYTHRITOL, DI PENTAERYTHRITOL & Sodium Formate driers (Annexure 44). The unit is having Continuous Ambient Air Quality monitoring station for monitoring the ambient air quality standards, the online VOC monitors are installed and the same are connected to CARE AIR center photo is enclosed as Annexure 14.
6	The proponent shall carryout best housekeeping practices as spillage management for handling and maintenance of raw materials and products inside the unit premises.	Complied. Chemicals like acetaldehyde and methanol stored in separate storage tanks with adequate safety measures such as dyke valve, SRV's, Rupture disk, Level indicators, LEL detectors, break away couplings. All ingredients to process are added through a measurement devices like magnetic flow meter load cell and only required quantity of the material taken for consumption. Control valves with inter locks installed to automatically stop the inputs to avoid spillages.

7	Nature of chemicals Handled, the Do and Don'ts shall be displayed at all vital locations as laid down in MSDS.	Complied. Nature of chemicals Handled, the Do and Don'ts has been displayed at all vital locations as laid down in MSDS. (Annexure 45)
8	The proponent shall ensure that the quantity of Hazardous Waste handed over to the TSDF shall match with the quantity generated.	Complied. All Hazardous Waste generated are disposed to the TSDF and records are available. The quantity generated is handed over to TSDF (Annexure 46)
9	The proponent shall provide a separate closed area earmarked for storing solid waste including Hazardous Waste as proposed.	Complied. We state that, a dedicated closed shed has been established for storing solid waste and Hazardous Waste. (Annexure 15)
10	The proponent shall dispose Hazardous Waste generated as per the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016. Spent oil from D.G sets should be stored in HDPE drums in an isolated covered facility and disposed off through TNPCB registered recyclers.	Complied. All Hazardous Wastes have been disposed as per the Hazardous and other Wastes (Management and transboundary Movements) Rules. 2016 to M/s Resustainability IWM Solutions Ltd & Arunachalaa enterprises. Spent oil from DG sets is being stored in drums in an isolated covered facility and disposed through TNPCB authorized recyclers (M/s Lakshmi & Co.).
11	The Plastic wastes shall be segregated and disposed as per the provisions of Plastic Waste (Management & Handling) Rules 2016	Complied. We state that, generated plastic wastes are being segregated and disposed as per the provisions of Plastic Waste (management & handling) rules 2016 to authorized recycler – M/s Jeeva Enterprises, No.2/254, Anna Street Kurinji Nagar, Vandalur, Chennai 600 048.
12	The e - waste generated should be collected and disposed to a nearby authorized e-waste center as per e waste (Management & Handling), Rules 2016 as amended.	Complied. We state that, generated e. waste is being collected and will be disposed to authorized e-waste center (M/s Tess

		Amm Pvt Limited) as per e waste (Management & Handling), Rules 2016.
13	The Municipal solid waste generated shall be collected, segregated and disposed as per Solid Waste Management Rules,2016.	Complied. Generated municipal solid waste is being collected, segregated as biodegradable and non-bio-degradable waste and disposed as per Solid Waste Management Rules,2016.
14	The industry shall conduct air sampling at least once in six months for the general core parameters (PM10, PM2.5,SOx, NOx) through TNPCB/NABL Accredited Laboratory and maintain records of the same and it should be made available at the time of inspection.	Complied. We confirm that, we are conducting AAQ survey (PM10, PM2.5, SOx, NOx) by TNPCB Lab /NABL accredited Laboratory monthly. We ensure that the results are with-in the TNPCB permissible limit. (Annexure 25)
15	Regular monitoring on the air quality, water quality and noise on the selected locations in and around the project site as mentioned in the EMP report for creating base line data shall be continued and records shall be maintained.	Complied. We confirm that, we are carrying out air quality, water quality and noise monitoring on the selected locations of the factory premises periodically through TNPCB and through external Lab. Reports enclosed as Annexure 2 & 25.
16	A separate environment and safety management cell with qualified staff shall be set up before establishment of the facility and shall be retained throughout the lifetime of the industry, for implementation of the stipulated environmental safeguards.	Complied. A separate environment and safety management cell with Qualified Safety Officer, chemists and Managers has been established for the implementation of the stipulated environment safeguards. This team is continuously available.
17	The Green belt area already developed within the project area shall be properly maintained.	Complied. We here by confirm that we have developed and maintaining a Green belt area about 40% within the premises. Photos are enclosed as Annexure 12.
18	The industry shall promote tree plantation to neutralize their carbon footprint. The	Complied.

	industry shall engage regularly in afforestation programme.	We confirm that we had planted and maintaining 14957 trees inside the factory premises. The industry is engaging regularly in afforestation programme within and beyond the fence as per the SIPCOT requirements. Greeneries Photo attached. In the period of April 2024 to March 2025, we have planted 2063 tree saplings. Photos are enclosed as Annexure 12.
19	The proponent shall ensure effective risk management strategy regarding confined space management to avoid risk while handling raw materials, products in the process area and storage.	Complied. All the hazards and risks related to confined space management, handling of raw materials & products are identified. Systems and procedures have been established and followed for mitigating identified risks. Established systems are periodically assessed by competent person regarding Confined space management. (Annexure 47)
20	The industry shall conduct air sampling at least twice in a week (104 times in a year), as stipulated under EP Act 1986.	Complied. We confirm that air sampling survey is being carried out twice in a week (104 times in a year), as stipulated under EP Act 1986.
21	Risk cum disaster management plan should be in place in the industry premises at all times.	Complied. We confirm that the Risk cum disaster management plan is available in the industry premises at all times in the Emergency control center (Annexure 48)
22	Water conservation scheme including rainwater harvesting measures to augment ground water resources shall be implemented so as to collect and reuse the entire rainwater harvested as a supplement to fresh water.	Complied. We state that water conservation scheme including rainwater harvesting including roof water has been implemented in the factory premises (Annexure 30)
23	The natural drainage pattern in the project area shall be maintained and storm water	We confirm that adequate and suitable storm water drains were provided in

	drain along the boundary and appropriate - places shall be provided considering -the Catchment area and maximum intensity of rainfall to collect runoff water/rainwater for proper disposal to avoid flooding around the premises.	the factory premises considering the Catchment area and maximum intensity of rainfall and the runoff water/rainwater collected for proper disposal to avoid flooding around the premises. (Annexure 30)
24	The Environmental Clearance is issued without prejudice to any order that may be passed by the Hon'ble NGT/ Hon'ble High Court of Madras.	Agreed to comply. We state that we abide by the said conditions.
25	All the assurances given in EIA and EMP shall be adhered to strictly.	Agreed. We state that we have been abiding by the said conditions.
26	Detail study shall be carried out by engaging accredited agencies / reputed institutions for Risk management and detailed Disaster management plan prepared for compliance.	Complied. We confirm that Risk and Disaster management study has been carried out by accredited agency and suitable plan has been prepared and complied. (Annexure 48)
27	Sufficient funds should be provided for Disaster management.	Complied. We assure that the sufficient funds are provided for Disaster management plan for every year. Valid Public Liability Insurance is available (Annexure 49)
28	The Project Proponent shall provide disinfection by UV system for the sewage treatment plant for treating the sewage before applying on land for gardening.	Complied. We state that UV disinfection system has been provided for our existing sewage treatment plant (Annexure 50)
29	The project proponent must provide closed loop silo for ash handling and the same shall be installed before 30.05.2018 as committed-and submit the proof to SEIAA-TN,	Complied. We confirm that Closed loop silo for ash handling has been installed and it is operational condition (Annexure 40)
30	The project proponent shall provide sufficient ventilation (air circulation) in the hazardous waste storage yard where the	Complied. We confirm that sufficient ventilation (air circulation – 1 no. of vent) has

	hazardous waste like spent carbon, Chemical sludge, used or spent oil are being kept.	been provided in the hazardous waste storage yard where the hazardous waste like spent carbon, Chemical sludge, used or spent oil are being kept. (Annexure 50)
31	The industry should completely revamp fly ash collection from the source, conveyance, storage and disposal in a more scientific manner and to reduce the fugitive emissions in fly ash handling. The final disposal of the fly ash will be as per MoEF & CC Notification S.O. 254 (E) dated: 25th January,2016.	Complied. The system has been revamped. We state that the generated fly ash is collected in a closed system (SILO) instead of manual collection. The fly ash is disposed as per MoEF & CC Notification S.O. 254 (E) dated: 25th January,2016 (Annexure 40)
32	The Project Proponent shall carry out-safety audit in the different operating zones of the plant at least once in a year and the same shall be considered as base for reviewing the unsafe conditions during the plant safety meeting.	Complied. We confirm that the safety audit is being conducted once in a year by competent person (Annexure 33)
33	The Project Proponent shall prepare a code of practice for safe operation for educating the safety standards to the work force deployed in the plant through appropriate training by the concerned experts.	Complied. We confirm that we are having safety manual/SOP for every process and training being imparted to all the employees for safe handling of chemicals as well as for safe operations (Annexure 45)
34	As the plant operation involves the sensitive processing, the medical officer and the supporting staff involved in the health center activities shall be trained in occupational health surveillance (OHS) aspects through the outsourced training from the experts available in the field of OHS for ensuring the health standard of persons employed.	Complied. We state that our factory medical officer and the supporting staff (3 Nos.) is being involved in the occupational health center activities and has been trained in occupational health surveillance (OHS) aspects as per Tamil Nadu Factories Rules 1950. (Annexure 42)
35	The Activity of the industry should no way pollute water bodies such as Uppanar River, Perumal Lake & Bay of Bengal.	Complied. We confirm that in no way the activity of the industry pollute the nearby water bodies such as Uppanar river, Perumal lake & Bay of Bengal. We

		have Zero liquid discharge system. All treated water is being reused.
36	The Activity of the industry should not impact on agricultural, irrigation system and mangroves surrounding the area.	<p>Complied.</p> <p>We confirm that we have provided and maintaining the air and water pollution control/prevention equipment's as per the condition of the TNPCB consent order. Our manufacturing activities do not affect nearby agricultural, irrigation system and mangroves surrounding the area.</p>
37	The EMP cost of Rs.576 lakhs and operation and maintenance cost Rs. 23.6 lakhs shall be deposited in a nationalized bank by opening a separate account and the head wise expenses statement shall be submitted to TNPCB with a copy to SEIAA annually.	<p>Complied.</p> <p>We confirm that we maintain a separate bank account (A/c no.: 37888950027, State Bank of India, O.T, Cuddalore) for expenses related to implementation of Environment Management Plan. Our corporate office has approved dedicated budget for improvement of the existing Environment management programme. The approved budget spent for Environmental activities along with the expense details are submitted to TNPCB with a copy to SEIAA. Bank statement is enclosed (Annexure 11)</p>
38	There should be no threat to Biodiversity due to the operation of the industry.	<p>Complied.</p> <ol style="list-style-type: none"> 1. Biodiversity with birds with natural habitat in the green belt maintained. Different tree varieties are planted (Calophylluminophyllum-Pungan 2. Syzygiumcumini- Naval 3. Thespesiapopulnea- Poovarasu 4. Terminalia arjuna- Neermarudu 5. Ficusbengalensis — Alamaram 6. Ficusretusa- Atthi 7. Ficusbengalensis- Arasamaram 8. Alstoniascholaris- Palai 9. Mimusopselengi - Mahilam

		10. Madhucalongifolia - Ihupai
39	The Flora & Fauna present in and around the project site should not get affected due to the activity as reported.	Complied. Garden is maintained. We confirm that the Flora & Fauna present in and around the factory premises are in good condition. They will not get affected due to our manufacturing operation. Sparrow, Wood pecker, Parrot, Myna, king fisher, different species of sparrows are present.
40	The Project Proponent has to provide rain water harvesting collection tank to the capacity of 200 cu.m in order to recover and reuse the rain water during normal rains.	Complied. We state that we had provided rain water harvesting tank of 200 cu.m capacity within the plant. We also have 20000 cum rain water harvesting facility beyond the fence (in Sedapallam, Agraharathu Eri, T Palayam, Krishnankuppam, Annavallithangal, Kambankulam)
41	The operation of the activity should not Impact on the soil, micro flora & Fauna present in and around the project site.	Complied. We state that the operation of the activity has no Impact on the soil, micro flora & Fauna present in and around the Factory premises.
42	The project proponent shall carry out' risk assessment process for all the operations involved in the plant and a suitable, risk; management plan showing the contours of sensitive zones should be prepared.	Complied. We confirm that we had carried out a detailed Quantitative Risk assessment showing the contours of sensitive zones by competent person for all the operations involved in the plant. The recommended points have been implemented (Annexure 48)

43	<p>The industry shall develop green belt in the open areas by planting the following species in future:</p> <ol style="list-style-type: none"> 1. Calophylluminophyllum-Pungan 2. Syzygiumcumini- Naval 3. Thespesiapopulnea- Poovarasu 4. Terminalia arjuna- Neermarudu 5. Ficusbengalensis — Alamaram 6. Ficusretusa- Atthi 7. Ficusbengalensis- Arasamaram 8. Alstoniascholaris- Palai 9. Mimusopselengi - Mahilam 10. Madhucalongifolia - Ihupai 	<p>Complied.</p> <p>We state that we had planted 14957 trees in the factory premises.</p>
44	<p>The project proponent shall take up better housekeeping measures including scraps disposal and up keeping the machineries, pipes etc.</p>	<p>Complied.</p> <p>Asian Paints is adhering with the better Housekeeping practice for housekeeping. Scrap disposal is regularly done. Machinery upkeep is regularly done.</p>
45	<p>The proponent should continuously monitor the VOC and ensure that VOC levels are within permissible limits.</p>	<p>Complied.</p> <p>We confirm that we had already installed online VOC monitoring system in our plant for continuous monitoring and the same is connected to CARE AIR CENTRE, TNPCB, GUINDY We maintain VOC levels within the permissible limit. Photos enclosed as annexure 14.</p>

46	<p>Air pollution control — there are four sources of air emissions within the industry process-Tech PE drier, Sodium formate drier, Mono drier and Di PE drier.</p> <ol style="list-style-type: none"> 1. From the Tech PE drier, particulates of Pentaerythritol will be emanating which will be controlled in a bag filter and finally emitted to the environment through a stack. There will be increase in the pollutant load from 1.33 kgs/ day to 1.72 kgs/day and hence additional bag filter capacity should be created. 2. From the Sodium formate drier, suspended particulate matter will be emitted which is sent to wet scrubber and then to the stack. The existing scrubber should be replaced with a new one. 3. From both Mono PE drier and Di PE drier, SPM will be emitted which is sent to wet scrubber and then to stacks. There is an increase in the amount of pollutant, but the proponent should increase the efficiency of the scrubber to absorb the additional pollutant load. 	<p>Complied.</p> <p>We ensure that the air pollution control system has been established in the following locations.</p> <ol style="list-style-type: none"> 1. The existing TECH PE Drier bag filter capacity has been increased from 74.30 m² to 75.46 m² thereby capable to handle pollution load to 1.72 Kgs / day. 2. The low-capacity wet scrubber has been replaced with higher capacity wet Scrubber there by improving the scrubbing efficiency as recommended. 3. The existing wet scrubber scrubbing liquid flow rate has been increased as mentioned below by which the scrubbing efficiency has got increased by which the emission levels got reduced. <ol style="list-style-type: none"> 1. Mono PE Scrubber – 6 litres per minute (lpm) to 6.5 lpm 2. Di PE Scrubber – 7.5 lpm to 8 lpm.
47	<p>The project proponent has to provide/ install the following -before 30.04.2018 as committed and furnish proof of the same to SETAA-TN :</p> <ol style="list-style-type: none"> 1. The Sewage sludge bed capacity should be increased from 5.27 m³ to 10.5 m³ . 2. The sludge drying bed 2. Nos should be provided in additional to the existing Sludge drying bed for managing sludge . 3. The agreement with hazardous waste management and disposal facilities shall be made including the quantum of hazardous waste and the life period. 	<p>Complied.</p> <p>We confirm that we have installed the below mentioned activities before 30.04.2018:</p> <ol style="list-style-type: none"> 1. We state that the sludge bed capacity has been increased from 5.27 m³ to 10.5 m³ as recommended. 2. We state that the existing 2 nos. of open type sludge bed has been provided as closed type solar drying bed by covering with UV stabilized sheet there by the drying capacity/efficiency has got

		<p>increased, which meets the said requirement.</p> <p>3. We are commissioned sludge handling facilities like Filter press and screw press in Financial year 23-24.</p> <p>4. The agreement has been amended for the quantum of Hazardous waste with life period.</p>
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(B) General Conditions

S.No	Condition	Compliance
1	This Environment clearance shall not be cited to relax any other rules applicable to this project	Agreed upon.
2.	The project proponent should advertise at least in two local newspapers widely circulated. One of which shall be in the vernacular language of the locality concerned within 7 days of the issue of the Environmental clearance informing that the project has been accorded Environmental clearance and a copy of the clearance letter is available with TNPCB and also at the website of the SEIAA, TN at Http://www.seiaa.tn.gov.in	Complied. Information on accordance of the Environment clearance to the project has been published in two local newspapers (Annexure 22)
3	A copy of the Environmental clearance shall be sent by the project proponent to concern local body and local NGO, if any from whom suggestions/ representatives if any were received while processing the proposal.	Complied. A copy of the Environment clearance has been submitted to local body and local NGO. (Annexure 20)
4	The Environmental clearance shall also be put on the website of the company	Complied. The Environment clearance has been published in Company web site.
5	No expansion or modernization in the project shall be carried out without prior approval of the SEIAA – TN. In case of any deviations or alterations in the project proposal from those submitted to this authority for clearance, a fresh reference shall be made to the SEIAA –	Agreed upon and followed

	TN to assess the adequacy of conditions imposed and to add additional environmental protection measures required if any	
6	All the environmental protection measures and safeguards as recommended in the EIA report shall be complied with	Complied. All Environmental protection measures and safeguards are complied with.
7	The implementation of the project vis a vis environmental action plans shall be monitored by the Regional office of MoEF & CC at Chennai TNPCB and CPCB six monthly compliance status report shall be submitted to monitoring agencies regularly	Complied. Half yearly compliance report is being submitted once in 6 months as per the timelines (Annexure 51)
8	Data on ambient air, stack and fugitive emissions shall be regularly submitted online to the Regional office of MoEF & CC, GOI at Chennai TNPCB and central Pollution control board as well as hard copy once in six months and display data on RSPM, SO2 and Nox outside the premises at the appropriate place for the general Public.	Complied. The data on ambient air, stack and fugitive emissions are being submitted as per the timelines. Data on SPM, SO2 and Nox are displayed near the factory gate for the general Public (Annexure 52) Data is submitted to IRO MOEF&CC, TNPCB, CPCB.
9	Occupational health surveillance of the workers shall be done on a regular basis and record maintained as per the factories act.	Complied. Occupational health surveillance of the workers is being carried out on regular basis and records are maintained as per the factories act. Copy is enclosed as 42.
10	Proper housekeeping and cleanliness must be maintained within and outside plant	Complied. Housekeeping is being done inside and outside the plant. Photo is enclosed as 37.
11	Occupational health surveillance programme shall be undertaken as regular exercise for all the employees, especially for those engaged in handling hazardous substances. The first aid facilities in the occupational health center shall be strengthened and the medical records	Complied. Occupational health surveillance programme is being undertaken for all employees specifically for those engaged in handling hazardous substances. The occupational health center is equipped with full-fledged

	of each employee should be maintained separately.	first aid facilities and the medical records of the employees are being maintained. Copy is enclosed as annexure 42.
12	The overall noise levels in and around the plant area shall be kept well within the standards prescribed for by providing noise control measures including acoustic hoods, silencers, enclosures etc., on all the sources of noise generation. The ambient noise levels should conform to the standard prescribed under EPA rules, 1989 viz 75 dBA (Day time) and 70 dBA (Nighttime)	Complied. The Overall noise levels in and around the plant area are maintained well within the standards by providing required noise control measures such as acoustic enclosures, silencers on all sources of noise generation. Ambient noise levels were measured by TNPCB Lab and all the measured values are within the permissible limits. ROA is enclosed as annexure 2.
13	The actual CSR funds utilized in future should at least be 2% of the annual profit but not less than Rs.33.60 Lakh per annum	Complied. The CSR activities were carried out and completed as per the commitment of not less than 33.60 Lakhs per annum. Details are enclosed as annexure 19. All the amounts spent are more than 2% of the annual profit.
14	A separate environmental Management cell equipped with full-fledged laboratory facilities to carry out the various environmental management and monitoring functions shall be set up under the control of a senior executive.	Complied. A separate environmental Management cell equipped with full-fledged laboratory facilities to carry out the various environmental management and monitoring functions is available.
15	The requisite amount earmarked towards capital cost and recurring cost / annum for implementing pollution control measures shall be used judiciously to implement the environment management plan as furnished in the EIA report. The funds so provided shall not be diverted for any other purpose.	Agreed upon & followed.

16	The project proponent shall upload the status of compliance of the stipulated environmental clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the regional office of the MoEF, CC, GOI at Chennai the respective zonal office of CPCB and the SPCB. The criteria pollutant levels namely RSPM, So ₂ , Nox (Ambient levels as well as stack emissions) or critical sector parameters, indicated for the projects shall be monitored and displayed at convenient locations near the main gate of the company in the public domain.	Complied. The status of compliance of the stipulated environmental clearance conditions, including the results of the monitored data are uploaded in the website and simultaneously sent to the regional office of MoEF & CC, respective zonal office. The pollutant levels namely SPM, SOX, NOX (Ambient levels as well as stack emissions) are monitored and displayed near the main gate of the company in the public domain. Enclosed as annexure 51, 52.
17	The environmental statement for each financial year ending 31 st March in form V as is mandated to be submitted by the project proponent to the concerned state pollution control Board as prescribed under the Environment (protection) Rules 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental conditions and shall also be sent to the respective regional offices of the MoEF by e mail.	Complied. The environment statement for each financial year ending 31 st March in Form V is being submitted to the concerned state pollution control Board as prescribed under the Environment(Protection)Rules 1986, as amended subsequently and also published in the company website along with the compliance of environmental conditions and the same is being sent to the respective regional offices of the MoEF & CC. Submitted on 28/06/2024
18	The environmental Clearance is valid for 7 years from the date of issue	Agreed upon.
19	Environmental clearance is being issued without prejudice to the action initiated under Environment (Protection) Act 1986 or any court case pending or any other court order shall prevail	Agreed upon.
20	The SEIAA TN may alter/modify the above conditions or stipulate any further condition in the interest of Environment protection	Agreed upon.

21	The SEIAA/SEAC or any competent authority may suitably add any further conditions on receiving reports from the project authority. The above condition shall be monitored by the Regional office of MoEF located at Chennai.	Agreed upon.
22	The SEIAA TN may revoke or suspend the Environmental clearance, if implementation of any other above conditions is not satisfactory	Agreed upon.
23	The SEIAA, TN may cancel the environmental clearance granted to this project under the provisions of EIA notification, 2006, if, at any stage of the validity of this Environmental Clearance, if it is found or if it comes to the knowledge of this SEIAA, TN that the project proponent has deliberately concealed and or submitted false or misleading information or inadequate data or submitted misleading information or inadequate data for obtaining the Environmental clearance.	Agreed upon.
24.	Failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of the Environment (Protection) Act 1986.	Agreed upon.
25	This SEIAA – TN reserves the right to stipulate additional conditions if found necessary. The industry in a time bound manner shall implement these conditions	Agreed upon.
26	The above conditions will be enforced inter alia , under the provisions of the water (Prevention & Control of pollution) Act 1974, the air (Prevention and control of pollution) Act 1981, The Environment protection act 1986, the public Liability insurance Act 1991, along with their amendments draft minor mineral conservation & development rules – 2010 framed under MMDR Act 1957, national commission for protection of Child	Agreed upon.

	Right Rules 2006 and rules made there under and also any other orders passed by the hon'ble supreme court of India Hon'ble High Court of Madras and any other courts of law relating to the subject matter.	
27	Any appeal against this environmental clearance shall lie with the Hon'ble national green tribunal, if preferred, with in a period of 30 days as prescribed under section 16 of the National Green Tribunal Act 2010.	Agreed upon.

Annexure 25
MOEF APPROVED EMISSION AND EFFLUENT LAB
REPORT



SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT



TC-6118

ULR - TC611824000023351F
Report No : QEN24050330-01

Page 1 of 1
Report Date : 20 May 2024

Customer Name : M/s. ASIAN PAINTS LIMITED. (PENTA DIVISION)
Customer Address : B5 - B10, Sipcot Industrial Complex, Kudikadu Village, Cuddalore - 607005.
Sample Name : Ambient Air Quality Monitoring
Sampling Date & Time : 14 to 15 May 2024
09.35 am to 09.35 am
Sample Description : Ambient Air Quality Monitoring
Sample Received on : 16 May 2024
Reference : Test Request Form Dated 14.05.2024
Test Started on : 17 May 2024
Sample Drawn By : Laboratory
Test Completed on : 20 May 2024
Sample Location : Near Coal Yard (Down Wind)
Sample Procedure : IS 5182
Relative Humidity : 58%
Ambient Temperature : 34°C

TEST RESULTS

S.NO	Parameter	Test Method	Results	Unit	Limit as per NAAQS Specification
Chemical					
1	Ammonia as NH ₃	IS 5182 (Part 25)	BLQ(LOQ:20.0)	µg/m ³	400 Max
2	Carbon Monoxide as CO (8hrs)	IS 5182 (Part 10)	BLQ(LOQ:1.14)	mg/m ³	02 Max
3	Nitrogen dioxide as NO ₂	IS 5182 (Part 06)	20.4	µg/m ³	80 Max
4	Ozone as O ₃	IS 5182 (Part 09)	BLQ(LOQ:20.0)	µg/m ³	180 Max
5	Particulate Matter (PM ₁₀)	IS 5182 (Part 23)	62.3	µg/m ³	100 Max
6	Particulate Matter (PM _{2.5})	IS 5182 (Part 24)	25.8	µg/m ³	60 Max
7	Sulphur Dioxide as SO ₂	IS 5182 (Part 02)	9.9	µg/m ³	80 Max
Polycyclic Aromatic Hydrocarbons					
8	Benzo(a)Pyrene (Particulate Phase)	SMSLA/GS/SOP/06	BLQ(LOQ:0.05)	ng/m ³	01 Max
Trace Metal Elements					
9	Arsenic	Compendium Method IO-3.4	BLQ(LOQ:0.1)	ng/m ³	06 Max
10	Lead	Compendium Method IO-3.4	BLQ(LOQ:0.001)	µg/m ³	1.0 Max
11	Nickel	Compendium Method IO-3.4	BLQ(LOQ:0.1)	ng/m ³	20 Max
Volatile Organic Compounds					
12	Benzene	SMSLA/GM/SOP/31	BLQ(LOQ:1.0)	µg/m ³	05 Max

Note : BLQ: Below Limit of Quantification LOQ: Limit of Quantification

Conclusion : The above tested Sample Conforms to the NAAQS Standards for the above tested Parameters.

/***** End of the Report *****/

M. Sarathkumar
Authorized Signatory-Chemical

Laboratory Address: 39-6, Thiruvallur High Road, Pudukhatram Post, Thirumazhisarai Via, Poonamallee Taluk, Chennai - 600124.

Note: Test results relate only to the items tested. Test Report shall not be reproduced in full or part without the approval of SMS Labs. Non-Perishable remnant samples will be disposed 15 days from the date of receipt unless otherwise agreed with the customer except in case of regulatory samples, which will be retained for a specific period as per regulatory requirements, while perishable and environmental remnant samples will be disposed consequently upon completion of testing. Samples are not drawn by laboratory unless otherwise stated. A satisfactory test report in no way implies that a product so tested is approved by NABL. The Laboratory accepts no liability with regard to the origin or source from which the sample(s) is/are said to be extracted.



SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT



TC-6118

ULR - TC611824000023353F
Report No : QEN24050330-02

Page 1 of 1
Report Date : 20 May 2024

Customer Name : M/s. ASIAN PAINTS LIMITED. (PENTA DIVISION)
Customer Address : B5 - B10, Sipcot Industrial Complex, Kudikadu Village, Cuddalore - 607005.
Sample Name : Ambient Air Quality Monitoring
Sampling Date & Time : 14 to 15 May 2024
09.30 am to 09.30 am
Sample Description : Ambient Air Quality Monitoring
Sample Received on : 16 May 2024
Reference : Test Request Form Dated 14.05.2024
Test Started on : 17 May 2024
Sample Drawn By : Laboratory
Test Completed on : 20 May 2024
Sample Location : Near Weigh Bridge (up Wind)
Sample Procedure : IS 5182
Ambient Temperature : 34°C
Relative Humidity : 58%

TEST RESULTS

S.NO	Parameter	Test Method	Results	Unit	Limit as per NAAQS Specification
Chemical					
1	Ammonia as NH ₃	IS 5182 (Part 25)	BLQ(LOQ:20.0)	µg/m ³	400 Max
2	Carbon Monoxide as CO (8hrs)	IS 5182 (Part 10)	BLQ(LOQ:1.14)	mg/m ³	02 Max
3	Nitrogen dioxide as NO ₂	IS 5182 (Part 06)	24.5	µg/m ³	80 Max
4	Ozone as O ₃	IS 5182 (Part 09)	BLQ(LOQ:20.0)	µg/m ³	180 Max
5	Particulate Matter (PM ₁₀)	IS 5182 (Part 23)	65.0	µg/m ³	100 Max
6	Particulate Matter (PM _{2.5})	IS 5182 (Part 24)	27.3	µg/m ³	60 Max
7	Sulphur Dioxide as SO ₂	IS 5182 (Part 02)	12.6	µg/m ³	80 Max
Polycyclic Aromatic Hydrocarbons					
8	Benzo(a)Pyrene (Particulate Phase)	SMSLA/GS/SOP/06	BLQ(LOQ:0.05)	ng/m ³	01 Max
Trace Metal Elements					
9	Arsenic	Compendium Method IO-3.4	BLQ(LOQ:0.1)	ng/m ³	06 Max
10	Lead	Compendium Method IO-3.4	BLQ(LOQ:0.001)	µg/m ³	1.0 Max
11	Nickel	Compendium Method IO-3.4	BLQ(LOQ:0.1)	ng/m ³	20 Max
Volatile Organic Compounds					
12	Benzene	SMSLA/GM/SOP/31	BLQ(LOQ:1.0)	µg/m ³	05 Max

Note : BLQ: Below Limit of Quantification LOQ: Limit of Quantification
Conclusion : The above tested Sample Conforms to the NAAQS Standards for the above tested Parameters.

/***** End of the Report *****/

M. Sarathkumar
Authorized Signatory-Chemical

Laboratory Address: 39/6, Thiruvallur High Road, Pudukhatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124.

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SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT



TC-6118

ULR - TC611824000030721F
Report No : QEN24060618-01

Page 1 of 1
Report Date : 01 Jul 2024

Customer Name : M/s. ASIAN PAINTS LIMITED. (PENTA DIVISION)
Customer Address : B5 - B10, Sipcot Industrial Complex, Kudikadu Village, Cuddalore - 607005.
Sample Name : Ambient Air Quality Monitoring
Sampling Date & Time : 24 to 25 Jun 2024
09.20 am to 09.20 am
Sample Description : Ambient Air Quality Monitoring
Sample Received on : 27 Jun 2024
Reference : Test Request Form Dated 24.06.2024
Test Started on : 27 Jun 2024
Sample Drawn By : Laboratory
Test Completed on : 01 Jul 2024
Sample Location : Near Coal Yard (Down Wind)
Sample Procedure : IS 5182
Relative Humidity : 64%
Ambient Temperature : 34°C

TEST RESULTS

S.NO	Parameter	Test Method	Results	Unit	Limit as per NAAQS Specification
Chemical					
1	Ammonia as NH ₃	IS 5182 (Part 25) - 2018	BLQ(LOQ:20.0)	µg/m ³	400 Max
2	Carbon Monoxide as CO (8hrs)	IS 5182 (Part 10) - 1999 (Reaffirmend 2019)	BLQ(LOQ:1.14)	mg/m ³	02 Max
3	Nitrogen dioxide as NO ₂	IS 5182 (Part 06) - 2006 (Reaffirmend 2022)	23.4	µg/m ³	80 Max
4	Ozone as O ₃	IS 5182 (Part 09) - 1974 (Reaffirmed 2019)	BLQ(LOQ:20.0)	µg/m ³	180 Max
5	Particulate Matter (PM ₁₀)	IS 5182 (Part 23) - 2006 (Reaffirmend 2022)	61.6	µg/m ³	100 Max
6	Particulate Matter (PM _{2.5})	IS 5182 (Part 24) - 2019	30.5	µg/m ³	60 Max
7	Sulphur Dioxide as SO ₂	IS 5182 (Part 02) - 2001 (Reaffirmend 2022)	9.6	µg/m ³	80 Max
Polycyclic Aromatic Hydrocarbons					
8	Benzo(a)Pyrene (Particulate Phase)	SMSLA/GS/SOP/06 - 2019	BLQ(LOQ:0.05)	ng/m ³	01 Max
Trace Metal Elements					
9	Arsenic	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.1)	ng/m ³	06 Max
10	Lead	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.001)	µg/m ³	1.0 Max
11	Nickel	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.1)	ng/m ³	20 Max
Volatile Organic Compounds					
12	Benzene	SMSLA/GM/SOP/31 - 2019	BLQ(LOQ:1.0)	µg/m ³	05 Max

Note : BLQ: Below Limit of Quantification LOQ: Limit of Quantification

Conclusion : The above tested Sample Conforms to the NAAQS Standards for the above tested Parameters.

/***** End of the Report *****/

M. Sarathkumar
Authorized Signatory-Chemical

Laboratory Address: 39/6, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124.

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SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT



TC-6118

ULR - TC611824000030731F
Report No : QEN24060618-02

Page 1 of 1
Report Date : 01 Jul 2024

Customer Name : M/s. ASIAN PAINTS LIMITED. (PENTA DIVISION)
Customer Address : B5 - B10, Sipcot Industrial Complex, Kudikadu Village, Cuddalore - 607005.
Sample Name : Ambient Air Quality Monitoring Sampling Date & Time : 24 to 25 Jun 2024
09.10 am to 09.10 am
Sample Description : Ambient Air Quality Monitoring Sample Received on : 27 Jun 2024
Reference : Test Request Form Dated 24.06.2024 Test Started on : 27 Jun 2024
Sample Drawn By : Laboratory Test Completed on : 01 Jul 2024
Sample Location : Near Weigh Bridge (Up Wind)
Sample Procedure : IS 5182
Relative Humidity : 64% Ambient Temperature : 34°C

TEST RESULTS

S.NO	Parameter	Test Method	Results	Unit	Limit as per NAAQS Specification
Chemical					
1	Ammonia as NH ₃	IS 5182 (Part 25) - 2018	BLQ(LOQ:20.0)	µg/m ³	400 Max
2	Carbon Monoxide as CO (8hrs)	IS 5182 (Part 10) - 1999 (Reaffirmend 2019)	BLQ(LOQ:1.14)	mg/m ³	02 Max
3	Nitrogen dioxide as NO ₂	IS 5182 (Part 06) - 2006 (Reaffirmend 2022)	20.5	µg/m ³	80 Max
4	Ozone as O ₃	IS 5182 (Part 09) - 1974 (Reaffirmed 2019)	BLQ(LOQ:20.0)	µg/m ³	180 Max
5	Particulate Matter (PM ₁₀)	IS 5182 (Part 23) - 2006 (Reaffirmend 2022)	58.4	µg/m ³	100 Max
6	Particulate Matter (PM _{2.5})	IS 5182 (Part 24) - 2019	27.3	µg/m ³	60 Max
7	Sulphur Dioxide as SO ₂	IS 5182 (Part 02) - 2001 (Reaffirmend 2022)	11.5	µg/m ³	80 Max
Polycyclic Aromatic Hydrocarbons					
8	Benzo(a)Pyrene (Particulate Phase)	SMSLA/GS/SOP/06 - 2019	BLQ(LOQ:0.05)	ng/m ³	01 Max
Trace Metal Elements					
9	Arsenic	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.1)	ng/m ³	06 Max
10	Lead	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.001)	µg/m ³	1.0 Max
11	Nickel	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.1)	ng/m ³	20 Max
Volatile Organic Compounds					
12	Benzene	SMSLA/GM/SOP/31 - 2019	BLQ(LOQ:1.0)	µg/m ³	05 Max

Note : BLQ: Below Limit of Quantification LOQ: Limit of Quantification

Conclusion : The above tested Sample Conforms to the NAAQS Standards for the above tested Parameters.
/***** End of the Report *****/

M. Sarathkumar
Authorized Signatory-Chemical

Laboratory Address: 39/6, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124.

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SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT



TC-6118

ULR - TC611824000035792F
Report No : QEN24070634-01

Page 1 of 1
Report Date : 27 Jul 2024

Customer Name : M/s. ASIAN PAINTS LIMITED. (PENTA DIVISION)
Customer Address : B5 - B10, Sipcot Industrial Complex, Kudikadu Village, Cuddalore - 607005.
Sample Name : Ambient Air Quality Monitoring
Sampling Date & Time : 22 to 23 Jul 2024
09.40 am to 09.40 am
Sample Description : Ambient Air Quality Monitoring
Sample Received on : 24 Jul 2024
Reference : Test Request Form Dated 22.07.2024
Test Started on : 24 Jul 2024
Sample Drawn By : Laboratory
Test Completed on : 27 Jul 2024
Sample Location : Near Coal Yard (Down Wind)
Sample Procedure : IS 5182
Relative Humidity : 57%
Ambient Temperature : 34°C

TEST RESULTS

S.NO	Parameter	Test Method	Results	Unit	Limit as per NAAQS Specification
Chemical					
1	Ammonia as NH ₃	IS 5182 (Part 25) - 2018	BLQ(LOQ:20.0)	µg/m ³	400 Max
2	Carbon Monoxide as CO (8hrs)	IS 5182 (Part 10) - 1999 (Reaffirmed 2019)	BLQ(LOQ:1.14)	mg/m ³	02 Max
3	Nitrogen dioxide as NO ₂	IS 5182 (Part 06) - 2006 (Reaffirmed 2022)	21.4	µg/m ³	80 Max
4	Ozone as O ₃	IS 5182 (Part 09) - 1974 (Reaffirmed 2019)	BLQ(LOQ:20.0)	µg/m ³	180 Max
5	Particulate Matter (PM ₁₀)	IS 5182 (Part 23) - 2006 (Reaffirmed 2022)	66.4	µg/m ³	100 Max
6	Particulate Matter (PM _{2.5})	IS 5182 (Part 24) - 2019	30.2	µg/m ³	60 Max
7	Sulphur Dioxide as SO ₂	IS 5182 (Part 02) - 2001 (Reaffirmed 2022)	11.2	µg/m ³	80 Max
Polycyclic Aromatic Hydrocarbons					
8	Benzo(a)Pyrene (Particulate Phase)	SMSLA/GS/SOP/06 - 2019	BLQ(LOQ:0.05)	ng/m ³	01 Max
Trace Metal Elements					
9	Arsenic	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.1)	ng/m ³	06 Max
10	Lead	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.001)	µg/m ³	1.0 Max
11	Nickel	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.1)	ng/m ³	20 Max
Volatile Organic Compounds					
12	Benzene	SMSLA/GM/SOP/31 - 2019	BLQ(LOQ:1.0)	µg/m ³	05 Max

Note : BLQ: Below Limit of Quantification LOQ: Limit of Quantification
Conclusion : The above tested Sample Conforms to the NAAQS Standards for the above tested Parameters.

/***** End of the Report *****/

M. Sarathkumar
Authorized Signatory-Chemical

Laboratory Address: 39/6, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124.

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SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT



TC-6118

ULR - TC611824000035793F

Report No : QEN24070634-02

Page 1 of 1

Report Date : 27 Jul 2024

Customer Name : M/s. ASIAN PAINTS LIMITED. (PENTA DIVISION)
Customer Address : B5 - B10, Sipcot Industrial Complex, Kudikadu Village, Cuddalore - 607005.
Sample Name : Ambient Air Quality Monitoring
Sampling Date & Time : 22 to 23 Jul 2024
09.30 am to 09.30 am
Sample Description : Ambient Air Quality Monitoring
Sample Received on : 24 Jul 2024
Reference : Test Request Form Dated 22.07.2024
Test Started on : 24 Jul 2024
Sample Drawn By : Laboratory
Test Completed on : 27 Jul 2024
Sample Location : Near Weigh Bridge (up Wind)
Sample Procedure : IS 5182
Relative Humidity : 57%
Ambient Temperature : 34°C

TEST RESULTS

S.NO	Parameter	Test Method	Results	Unit	Limit as per NAAQS Specification
Chemical					
1	Ammonia as NH ₃	IS 5182 (Part 25) - 2018	BLQ(LOQ:20.0)	µg/m ³	400 Max
2	Carbon Monoxide as CO (8hrs)	IS 5182 (Part 10) - 1999 (Reaffirmend 2019)	BLQ(LOQ:1.14)	mg/m ³	02 Max
3	Nitrogen dioxide as NO ₂	IS 5182 (Part 06) - 2006 (Reaffirmend 2022)	19.7	µg/m ³	80 Max
4	Ozone as O ₃	IS 5182 (Part 09) - 1974 (Reaffirmed 2019)	BLQ(LOQ:20.0)	µg/m ³	180 Max
5	Particulate Matter (PM ₁₀)	IS 5182 (Part 23) - 2006 (Reaffirmend 2022)	69.4	µg/m ³	100 Max
6	Particulate Matter (PM _{2.5})	IS 5182 (Part 24) - 2019	28.6	µg/m ³	60 Max
7	Sulphur Dioxide as SO ₂	IS 5182 (Part 02) - 2001 (Reaffirmend 2022)	9.8	µg/m ³	80 Max
Polycyclic Aromatic Hydrocarbons					
8	Benzo(a)Pyrene (Particulate Phase)	SMSLA/GS/SOP/06 - 2019	BLQ(LOQ:0.05)	ng/m ³	01 Max
Trace Metal Elements					
9	Arsenic	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.1)	ng/m ³	06 Max
10	Lead	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.001)	µg/m ³	1.0 Max
11	Nickel	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.1)	ng/m ³	20 Max
Volatile Organic Compounds					
12	Benzene	SMSLA/GM/SOP/31 - 2019	BLQ(LOQ:1.0)	µg/m ³	05 Max

Note : BLQ: Below Limit of Quantification LOQ: Limit of Quantification

Conclusion : The above tested Sample Conforms to the NAAQS Standards for the above tested Parameters.

/***** End of the Report *****/

M. Sarathkumar
Authorized Signatory-Chemical

Laboratory Address: 39/6, Thiruvallur High Road, Puduchattam Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124.

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SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT



TC-6118

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ULR - TC611824000041128F

Report No : QEN24080625-01

Report Date : 27 Aug 2024

Customer Name : M/s. ASIAN PAINTS LIMITED. (PENTA DIVISION)
Customer Address : B5 - B10, Sipcot Industrial Complex, Kudikadu Village, Cuddalore - 607005.
Sample Name : Ambient Air Quality Monitoring
Sampling Date & Time : 21 to 22 Aug 2024
09.15 am to 09.15 am
Sample Description : Ambient Air Quality Monitoring
Sample Received on : 23 Aug 2024
Reference : Test Request Form Dated 21.08.2024
Test Started on : 23 Aug 2024
Sample Drawn By : Laboratory
Test Completed on : 27 Aug 2024
Sample Location : Near Coal Yard (Down Wind)
Sample Procedure : IS 5182
Relative Humidity : 64%
Ambient Temperature : 33°C

TEST RESULTS

S.NO	Parameter	Test Method	Results	Unit	Limit as per NAAQS Specification
Chemical					
1	Ammonia as NH ₃	IS 5182 (Part 25) - 2018	BLQ(LOQ:20.0)	µg/m ³	400 Max
2	Carbon Monoxide as CO (8hrs)	IS 5182 (Part 10) - 1999 (Reaffirmend 2019)	BLQ(LOQ:1.14)	mg/m ³	02 Max
3	Nitrogen dioxide as NO ₂	IS 5182 (Part 06) - 2006 (Reaffirmend 2022)	22.7	µg/m ³	80 Max
4	Ozone as O ₃	IS 5182 (Part 09) - 1974 (Reaffirmend 2019)	BLQ(LOQ:20.0)	µg/m ³	180 Max
5	Particulate Matter (PM ₁₀)	IS 5182 (Part 23) - 2006 (Reaffirmend 2022)	64.8	µg/m ³	100 Max
6	Particulate Matter (PM _{2.5})	IS 5182 (Part 24) - 2019	31.4	µg/m ³	60 Max
7	Sulphur Dioxide as SO ₂	IS 5182 (Part 02) - 2001 (Reaffirmend 2022)	11.5	µg/m ³	80 Max
Polycyclic Aromatic Hydrocarbons					
8	Benzo(a)Pyrene (Particulate Phase)	SMSLA/GS/SOP/06 - 2019	BLQ(LOQ:0.05)	ng/m ³	01 Max
Trace Metal Elements					
9	Arsenic	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.1)	ng/m ³	06 Max
10	Lead	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.001)	µg/m ³	1.0 Max
11	Nickel	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.1)	ng/m ³	20 Max
Volatile Organic Compounds					
12	Benzene	SMSLA/GM/SOP/31 - 2019	BLQ(LOQ:1.0)	µg/m ³	05 Max

Note : BLQ: Below Limit of Quantification LOQ: Limit of Quantification
Conclusion : The above tested Sample Conforms to the NAAQS Standards for the above tested Parameters.

/***** End of the Report *****/

M. Sarathkumar
Authorized Signatory-Chemical

Laboratory Address: 39/6, Thiruvallur High Road, Paduchatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124

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SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT



TC-6118

Page 1 of 1

ULR - TC611824000041129F
Report No : QEN24080625-02

Report Date : 27 Aug 2024

Customer Name : M/s. ASIAN PAINTS LIMITED. (PENTA DIVISION)
Customer Address : B5 - B10, Sipcot Industrial Complex, Kudikadu Village, Cuddalore - 607005.
Sample Name : Ambient Air Quality Monitoring
Sampling Date & Time : 21 to 22 Aug 2024
09.10 am to 09.10 am
Sample Description : Ambient Air Quality Monitoring
Sample Received on : 23 Aug 2024
Reference : Test Request Form Dated 21.08.2024
Test Started on : 23 Aug 2024
Sample Drawn By : Laboratory
Test Completed on : 27 Aug 2024
Sample Location : Near Weigh Bridge (Up Wind)
Sample Procedure : IS 5182
Relative Humidity : 64%
Ambient Temperature : 33°C

TEST RESULTS

S.NO	Parameter	Test Method	Results	Unit	Limit as per NAAQS Specification
Chemical					
1	Ammonia as NH ₃	IS 5182 (Part 25) - 2018	BLQ(LOQ:20.0)	µg/m ³	400 Max
2	Carbon Monoxide as CO (8hrs)	IS 5182 (Part 10) - 1999 (Reaffirmend 2019)	BLQ(LOQ:1.14)	mg/m ³	02 Max
3	Nitrogen dioxide as NO ₂	IS 5182 (Part 06) - 2006 (Reaffirmend 2022)	19.8	µg/m ³	80 Max
4	Ozone as O ₃	IS 5182 (Part 09) - 1974 (Reaffirmed 2019)	BLQ(LOQ:20.0)	µg/m ³	180 Max
5	Particulate Matter (PM ₁₀)	IS 5182 (Part 23) - 2006 (Reaffirmend 2022)	59.7	µg/m ³	100 Max
6	Particulate Matter (PM _{2.5})	IS 5182 (Part 24) - 2019	28.7	µg/m ³	60 Max
7	Sulphur Dioxide as SO ₂	IS 5182 (Part 02) - 2001 (Reaffirmend 2022)	9.8	µg/m ³	80 Max
Polycyclic Aromatic Hydrocarbons					
8	Benzo(a)Pyrene (Particulate Phase)	SMSLA/GS/SOP/06 - 2019	BLQ(LOQ:0.05)	ng/m ³	01 Max
Trace Metal Elements					
9	Arsenic	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.1)	ng/m ³	06 Max
10	Lead	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.001)	µg/m ³	1.0 Max
11	Nickel	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.1)	ng/m ³	20 Max
Volatile Organic Compounds					
12	Benzene	SMSLA/GM/SOP/31 - 2019	BLQ(LOQ:1.0)	µg/m ³	05 Max

Note : BLQ: Below Limit of Quantification LOQ: Limit of Quantification

Conclusion : The above tested Sample Conforms to the NAAQS Standards for the above tested Parameters.

/***** End of the Report *****/

M. Sarathkumar
Authorized Signatory-Chemical

Laboratory Address: 39/6, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124.

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SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT



TC-6118

ULR - TC611824000000096F

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Report No : QEN24090624-01

Report Date : 01 Oct 2024

Customer Name : M/s. ASIAN PAINTS LIMITED. (PENTA DIVISION)

Customer Address : B5-B10, SIPCOT Industrial Complex, Kudikadu Village, Cuddalore - 607005.

Sample Name : Ambient Air Quality Monitoring Sampling Date & Time : 24 to 25 Sep 2024
09.20 am to 09.20 am

Sample Description : Ambient Air Quality Monitoring Sample Received on : 27 Sep 2024

Reference : Test Request Form Dated 24.09.2024 Test Started on : 27 Sep 2024

Sample Drawn By : Laboratory Test Completed on : 01 Oct 2024

Sample Location : Near Coal Yard (Down Wind)

Sample Procedure : IS 5182

Relative Humidity : 64%

Ambient Temperature : 35°C

TEST RESULTS

S.NO	Parameter	Test Method	Results	Unit	Limit as per NAAQS Specification
Chemical					
1	Ammonia as NH ₃	IS 5182 (Part 25) - 2018	BLQ(LOQ:20.0)	µg/m ³	400 Max
2	Carbon Monoxide as CO (8hrs)	IS 5182 (Part 10) - 1999 (Reaffirmed 2019)	BLQ(LOQ:1.14)	mg/m ³	02 Max
3	Nitrogen dioxide as NO ₂	IS 5182 (Part 06) - 2006 (Reaffirmed 2022)	23.7	µg/m ³	80 Max
4	Ozone as O ₃	IS 5182 (Part 09) - 1974 (Reaffirmed 2019)	BLQ(LOQ:20.0)	µg/m ³	180 Max
5	Particulate Matter (PM ₁₀)	IS 5182 (Part 23) - 2006 (Reaffirmed 2022)	60.4	µg/m ³	100 Max
6	Particulate Matter (PM _{2.5})	IS 5182 (Part 24) - 2019	31.2	µg/m ³	60 Max
7	Sulphur Dioxide as SO ₂	IS 5182 (Part 02) - 2001 (Reaffirmed 2022)	11.8	µg/m ³	80 Max
Polycyclic Aromatic Hydrocarbons (PAHs)					
8	Benzo(a)Pyrene (Particulate Phase)	SMSLA/GC/SOP/46 - 2024	BLQ(LOQ:0.05)	ng/m ³	01 Max
Trace Elements					
9	Arsenic	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.1)	ng/m ³	06 Max
10	Lead	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.001)	µg/m ³	1.0 Max
11	Nickel	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.1)	ng/m ³	20 Max
Volatile Organic Compounds-NAAQM					
12	Benzene	SMSLA/GC/SOP/43 - 2024	BLQ(LOQ:1.0)	µg/m ³	05 Max

Note : BLQ: Below Limit of Quantification LOQ: Limit of Quantification

Conclusion : The above tested Sample Conforms to the NAAQS Standards for the above tested Parameters.

/***** End of the Report *****/ B. Karthikeyan

B. Karthikeyan
Authorized Signatory-Chemical

Laboratory Address: 39/6, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Vin, Poonamallee Taluk, Chennai - 600124.

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SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT



TC-6118

ULR - TC61182400000097F
Report No : QEN24090624-02

Page 1 of 1
Report Date : 01 Oct 2024

Customer Name : M/s. ASIAN PAINTS LIMITED. (PENTA DIVISION)
Customer Address : B5-B10, SIPCOT Industrial Complex, Kudikadu Village, Cuddalore - 607005.
Sample Name : Ambient Air Quality Monitoring
Sampling Date & Time : 24 to 25 Sep 2024
09.10 am to 09.10 am
Sample Description : Ambient Air Quality Monitoring
Sample Received on : 27 Sep 2024
Reference : Test Request Form Dated 24.09.2024
Test Started on : 27 Sep 2024
Sample Drawn By : Laboratory
Test Completed on : 01 Oct 2024
Sample Location : Near Weigh Bridge (Up Wind)
Sample Procedure : IS 5182
Relative Humidity : 64%
Ambient Temperature : 33°C

TEST RESULTS

S.NO	Parameter	Test Method	Results	Unit	Limit as per NAAQS Specification
Chemical					
1	Ammonia as NH ₃	IS 5182 (Part 25) - 2018	BLQ(LOQ:20.0)	µg/m ³	400 Max
2	Carbon Monoxide as CO (8hrs)	IS 5182 (Part 10) - 1999 (Reaffirmed 2019)	BLQ(LOQ:1.14)	mg/m ³	02 Max
3	Nitrogen dioxide as NO ₂	IS 5182 (Part 06) - 2006 (Reaffirmed 2022)	20.4	µg/m ³	80 Max
4	Ozone as O ₃	IS 5182 (Part 09) - 1974 (Reaffirmed 2019)	BLQ(LOQ:20.0)	µg/m ³	180 Max
5	Particulate Matter (PM ₁₀)	IS 5182 (Part 23) - 2006 (Reaffirmed 2022)	59.7	µg/m ³	100 Max
6	Particulate Matter (PM _{2.5})	IS 5182 (Part 24) - 2019	28.4	µg/m ³	60 Max
7	Sulphur Dioxide as SO ₂	IS 5182 (Part 02) - 2001 (Reaffirmed 2022)	9.9	µg/m ³	80 Max
Polycyclic Aromatic Hydrocarbons (PAHs)					
8	Benzo(a)Pyrene (Particulate Phase)	SMSLA/GC/SOP/46 - 2024	BLQ(LOQ:0.05)	ng/m ³	01 Max
Trace Elements					
9	Arsenic	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.1)	ng/m ³	06 Max
10	Lead	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.001)	µg/m ³	1.0 Max
11	Nickel	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.1)	ng/m ³	20 Max
Volatile Organic Compounds-NAAQM					
12	Benzene	SMSLA/GC/SOP/43 - 2024	BLQ(LOQ:1.0)	µg/m ³	05 Max

Note : BLQ: Below Limit of Quantification LOQ: Limit of Quantification
Conclusion : The above tested Sample Conforms to the NAAQS Standards for the above tested Parameters.

***** End of the Report *****

B. Karthikeyan
Authorized Signatory-Chemical

Laboratory Address: 39/6, Thiruvallur High Road, Puduchattaram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124.

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SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT



TC-6118

ULR - TC611824000004366F

Report No : QEN24100650-02

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Report Date : 02 Nov 2024

Customer Name : M/s. Asian Paints Limited. (Penta Division)

Customer Address : B5-B10, SIPCOT Industrial Complex, Kudikadu, Cuddalore-607005.

Sample Name : Ambient Air Quality Monitoring

Sampling Date & Time : 23 to 24 Oct 2024
09.10 am to 09.10 am

Sample Description : Ambient Air Quality Monitoring

Sample Received on : 28 Oct 2024

Reference : Test Request Form Dated 24.10.2024

Test Started on : 28 Oct 2024

Sample Drawn By : Laboratory

Test Completed on : 02 Nov 2024

Sample Location : Near Coal Yard (Down Wind)

Sample Procedure : IS 5182

Relative Humidity : 54%

Ambient Temperature : 34°C

TEST RESULTS

S.NO	Parameter	Test Method	Results	Unit	Limit as per NAAQS Specification
Chemical					
1	Ammonia as NH ₃	IS 5182 (Part 25) - 2018	BLQ(LOQ:20.0)	µg/m ³	400 Max
2	Carbon Monoxide as CO (8hrs)	IS 5182 (Part 10) - 1999 (Reaffirmend 2019)	BLQ(LOQ:1.14)	mg/m ³	02 Max
3	Nitrogen dioxide as NO ₂	IS 5182 (Part 06) - 2006 (Reaffirmend 2022)	24.8	µg/m ³	80 Max
4	Ozone as O ₃	IS 5182 (Part 09) - 1974 (Reaffirmed 2019)	BLQ(LOQ:20.0)	µg/m ³	180 Max
5	Particulate Matter (PM ₁₀)	IS 5182 (Part 23) - 2006 (Reaffirmend 2022)	59.6	µg/m ³	100 Max
6	Particulate Matter (PM _{2.5})	IS 5182 (Part 24) - 2019	28.2	µg/m ³	60 Max
7	Sulphur Dioxide as SO ₂	IS 5182 (Part 02) - 2001 (Reaffirmend 2022)	11.8	µg/m ³	80 Max
Polycyclic Aromatic Hydrocarbons (PAHs)					
8	Benzo(a)Pyrene (Particulate Phase)	SMSLA/GC/SOP/46 - 2024	BLQ(LOQ:0.05)	ng/m ³	01 Max
Trace Elements					
9	Arsenic	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.1)	ng/m ³	06 Max
10	Lead	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.001)	µg/m ³	1.0 Max
11	Nickel	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.1)	ng/m ³	20 Max
Volatile Organic Compounds-NAAQM					
12	Benzene	SMSLA/GC/SOP/43 - 2024	BLQ(LOQ:1.0)	µg/m ³	05 Max

Note : BLQ: Below Limit of Quantification LOQ: Limit of Quantification

Conclusion : The above tested Sample Conforms to the NAAQS Standards for the above tested Parameters.

/***** End of the Report *****/

S. Kanimozhi

Authorized Signatory-Chemical

Laboratory Address: 39/6, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124.

Note: Test results relate only to the items tested. Test Report shall not be reproduced in full or part without the approval of SMS Labs. Non-Perishable remnant samples will be disposed 15 days from the date of receipt unless otherwise agreed with the customer except in case of regulatory samples, which will be retained for a specific period as per regulatory requirements; while perishable and environmental remnant samples will be disposed consequently upon completion of testing. Samples are not drawn by laboratory unless or otherwise stated. A satisfactory test report in no way implies that a product so tested is approved by NABL. The Laboratory accepts no liability with regard to the origin or source from which the sample(s) is/ are said to be extracted.



SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT



TC-6118

ULR - TC611824000004365F

Report No : QEN24100650-01

Page 1 of 1

Report Date : 02 Nov 2024

Customer Name : M/s. Asian Paints Limited. (Penta Division)

Customer Address : B5-B10, SIPCOT Industrial Complex, Kudikadu, Cuddalore-607005.

Sample Name : Ambient Air Quality Monitoring

Sampling Date & Time : 23 to 24 Oct 2024
09.20 am to 09.20 am

Sample Description : Ambient Air Quality Monitoring

Sample Received on : 28 Oct 2024

Reference : Test Request Form Dated 24.10.2024

Test Started on : 28 Oct 2024

Sample Drawn By : Laboratory

Test Completed on : 02 Nov 2024

Sample Location : Near Weigh Bridge (Up Wind)

Sample Procedure : IS 5182

Relative Humidity : 54%

Ambient Temperature : 34°C

TEST RESULTS

S.NO	Parameter	Test Method	Results	Unit	Limit as per NAAQS Specification
Chemical					
1	Ammonia as NH ₃	IS 5182 (Part 25) - 2018	BLQ(LOQ:20.0)	µg/m ³	400 Max
2	Carbon Monoxide as CO (8hrs)	IS 5182 (Part 10) - 1999 (Reaffirmend 2019)	BLQ(LOQ:1.14)	mg/m ³	02 Max
3	Nitrogen dioxide as NO ₂	IS 5182 (Part 06) - 2006 (Reaffirmend 2022)	21.6	µg/m ³	80 Max
4	Ozone as O ₃	IS 5182 (Part 09) - 1974 (Reaffirmed 2019)	BLQ(LOQ:20.0)	µg/m ³	180 Max
5	Particulate Matter (PM10)	IS 5182 (Part 23) - 2006 (Reaffirmend 2022)	60.4	µg/m ³	100 Max
6	Particulate Matter (PM2.5)	IS 5182 (Part 24) - 2019	27.8	µg/m ³	60 Max
7	Sulphur Dioxide as SO ₂	IS 5182 (Part 02) - 2001 (Reaffirmend 2022)	10.4	µg/m ³	80 Max
Polycyclic Aromatic Hydrocarbons (PAHs)					
8	Benzo(a)Pyrene (Particulate Phase)	SMSLA/GC/SOP/46 - 2024	BLQ(LOQ:0.05)	ng/m ³	01 Max
Trace Elements					
9	Arsenic	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.1)	ng/m ³	06 Max
10	Lead	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.001)	µg/m ³	1.0 Max
11	Nickel	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.1)	ng/m ³	20 Max
Volatile Organic Compounds-NAAQM					
12	Benzene	SMSLA/GC/SOP/43 - 2024	BLQ(LOQ:1.0)	µg/m ³	05 Max

Note : BLQ: Below Limit of Quantification LOQ: Limit of Quantification

Conclusion : The above tested Sample Conforms to the NAAQS Standards for the above tested Parameters.

/***** End of the Report *****/

S. Kanimozhi
Authorized Signatory-Chemical

Laboratory Address: 39/6, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124.

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SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT



TC-6118

ULR - TC61182400006276F

Report No : QEN24110134-02

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Report Date : 13 Nov 2024

Customer Name : M/s. Asian Paints Limited. (Penta Division)

Customer Address : B5-B10, SIPCOT Industrial Complex, Kudikadu, Cuddalore-607005.

Sample Name : Ambient Air Quality Monitoring

Sampling Date & Time : 06 to 07 Nov 2024
09.40 am to 09.40 am

Sample Description : Ambient Air Quality Monitoring

Sample Received on : 08 Nov 2024

Reference : Test Request Form Dated 07.11.2024

Test Started on : 08 Nov 2024

Sample Drawn By : Laboratory

Test Completed on : 13 Nov 2024

Sample Location : Near Coal Yard (Down Wind)

Sample Procedure : IS 5182

Relative Humidity : 54%

Ambient Temperature : 34°C

TEST RESULTS

S.NO	Parameter	Test Method	Results	Unit	Limit as per NAAQS Specification
Chemical					
1	Ammonia as NH ₃	IS 5182 (Part 25) - 2018	BLQ(LOQ:20.0)	µg/m ³	400 Max
2	Carbon Monoxide as CO (8hrs)	IS 5182 (Part 10) - 1999 (Reaffirmend 2019)	BLQ(LOQ:1.14)	mg/m ³	02 Max
3	Nitrogen dioxide as NO ₂	IS 5182 (Part 06) - 2006 (Reaffirmend 2022)	22.6	µg/m ³	80 Max
4	Ozone as O ₃	IS 5182 (Part 09) - 1974 (Reaffirmed 2019)	BLQ(LOQ:20.0)	µg/m ³	180 Max
5	Particulate Matter (PM ₁₀)	IS 5182 (Part 23) - 2006 (Reaffirmend 2022)	62.0	µg/m ³	100 Max
6	Particulate Matter (PM _{2.5})	IS 5182 (Part 24) - 2019	31.3	µg/m ³	60 Max
7	Sulphur Dioxide as SO ₂	IS 5182 (Part 02) - 2001 (Reaffirmend 2022)	11.5	µg/m ³	80 Max
Polycyclic Aromatic Hydrocarbons (PAHs)					
8	Benzo(a)Pyrene (Particulate Phase)	SMSLA/GC/SOP/46 - 2024	BLQ(LOQ:0.05)	ng/m ³	01 Max
Trace Elements					
9	Arsenic	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.1)	ng/m ³	06 Max
10	Lead	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.001)	µg/m ³	1.0 Max
11	Nickel	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.1)	ng/m ³	20 Max
Volatile Organic Compounds-NAAQM					
12	Benzene	SMSLA/GC/SOP/43 - 2024	BLQ(LOQ:1.0)	µg/m ³	05 Max

Note : BLQ: Below Limit of Quantification LOQ: Limit of Quantification

Conclusion : The above tested Sample Conforms to the NAAQS Standards for the above tested Parameters.

/***** End of the Report *****/

S. Kanimozhi

Authorized Signatory-Chemical

Laboratory Address: 39/6, Thiruvallur High Road, Puduchattam Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124

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SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT



TC-6118

ULR - TC611824000006275F
Report No : QEN24110134-01

Page 1 of 1
Report Date : 13 Nov 2024

Customer Name : M/s. Asian Paints Limited. (Penta Division)
Customer Address : B5-B10, SIPCOT Industrial Complex, Kudikadu, Cuddalore-607005.
Sample Name : Ambient Air Quality Monitoring
Sampling Date & Time : 06 to 07 Nov 2024
09.30 am to 09.30 am
Sample Description : Ambient Air Quality Monitoring
Sample Received on : 08 Nov 2024
Reference : Test Request Form Dated 07.11.2024
Test Started on : 08 Nov 2024
Sample Drawn By : Laboratory
Test Completed on : 13 Nov 2024
Sample Location : Near Weigh Bridge (Up Wind)
Sample Procedure : IS 5182
Relative Humidity : 54%
Ambient Temperature : 34°C

TEST RESULTS

S.NO	Parameter	Test Method	Results	Unit	Limit as per NAAQS Specification
Chemical					
1	Ammonia as NH ₃	IS 5182 (Part 25) - 2018	BLQ(LOQ:20.0)	µg/m ³	400 Max
2	Carbon Monoxide as CO (8hrs)	IS 5182 (Part 10) - 1999 (Reaffirmed 2019)	BLQ(LOQ:1.14)	mg/m ³	02 Max
3	Nitrogen dioxide as NO ₂	IS 5182 (Part 06) - 2006 (Reaffirmed 2022)	19.8	µg/m ³	80 Max
4	Ozone as O ₃	IS 5182 (Part 09) - 1974 (Reaffirmed 2019)	BLQ(LOQ:20.0)	µg/m ³	180 Max
5	Particulate Matter (PM ₁₀)	IS 5182 (Part 23) - 2006 (Reaffirmed 2022)	59.4	µg/m ³	100 Max
6	Particulate Matter (PM _{2.5})	IS 5182 (Part 24) - 2019	27.5	µg/m ³	60 Max
7	Sulphur Dioxide as SO ₂	IS 5182 (Part 02) - 2001 (Reaffirmed 2022)	9.7	µg/m ³	80 Max
Polycyclic Aromatic Hydrocarbons (PAHs)					
8	Benzo(a)Pyrene (Particulate Phase)	SMSLA/GC/SOP/46 - 2024	BLQ(LOQ:0.05)	ng/m ³	01 Max
Trace Elements					
9	Arsenic	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.1)	ng/m ³	06 Max
10	Lead	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.001)	µg/m ³	1.0 Max
11	Nickel	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.1)	ng/m ³	20 Max
Volatile Organic Compounds-NAAQM					
12	Benzene	SMSLA/GC/SOP/43 - 2024	BLQ(LOQ:1.0)	µg/m ³	05 Max

Note : BLQ: Below Limit of Quantification LOQ: Limit of Quantification

Conclusion : The above tested Sample Conforms to the NAAQS Standards for the above tested Parameters.

/***** End of the Report *****/

S. Kanimozhi
Authorized Signatory-Chemical

Laboratory Address: 39/6, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124

Note: Test results relate only to the items tested. Test Report shall not be reproduced in full or part without the approval of SMS Labs. Non-Perishable remnant samples will be disposed 15 days from the date of receipt unless otherwise agreed with the customer except in case of regulatory samples, which will be retained for a specific period as per regulatory requirements; while perishable and environmental remnant samples will be disposed consequently upon completion of testing. Samples are not drawn by laboratory unless or otherwise stated. A satisfactory test report in no way implies that a product so tested is approved by NABL. The Laboratory accepts no liability with regard to the origin or source from which the sample(s) is/ are said to be extracted.



SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT



TC-6118

ULR - TC611824000011069F
Report No : QEN241207024-02

Page 1 of 1
Report Date : 12 Dec 2024

Customer Name : M/s. ASIAN PAINTS LIMITED. (PENTA DIVISION)
Customer Address : B5 - B10, Sipcot Industrial Complex, Kudikadu Village, Cuddalore - 607005.
Sample Name : Ambient Air Quality Monitoring
Sampling Date & Time : 05 to 06 Dec 2024
09.40 am to 09.40 am
Sample Description : Ambient Air Quality Monitoring
Sample Received on : 07 Dec 2024
Reference : Test Request Form Dated 06.12.2024
Test Started on : 07 Dec 2024
Sample Drawn By : Laboratory
Test Completed on : 12 Dec 2024
Sample Location : Near Coal Yard (Down Wind)
Sample Procedure : IS 5182
Relative Humidity : 54%
Ambient Temperature : 34°C

TEST RESULTS

S.NO	Parameter	Test Method	Results	Unit	Limit as per NAAQS Specification
Chemical					
1	Ammonia as NH ₃	IS 5182 (Part 25) - 2018	BLQ(LOQ:20.0)	µg/m ³	400 Max
2	Carbon Monoxide as CO (8hrs)	IS 5182 (Part 10) - 1999 (Reaffirmed 2019)	BLQ(LOQ:1.14)	mg/m ³	02 Max
3	Nitrogen dioxide as NO ₂	IS 5182 (Part 06) - 2006 (Reaffirmed 2022)	19.4	µg/m ³	80 Max
4	Ozone as O ₃	IS 5182 (Part 09) - 1974 (Reaffirmed 2019)	BLQ(LOQ:20.0)	µg/m ³	180 Max
5	Particulate Matter (PM ₁₀)	IS 5182 (Part 23) - 2006 (Reaffirmed 2022)	60.8	µg/m ³	100 Max
6	Particulate Matter (PM _{2.5})	IS 5182 (Part 24) - 2019	28.2	µg/m ³	60 Max
7	Sulphur Dioxide as SO ₂	IS 5182 (Part 02) - 2001 (Reaffirmed 2022)	11.7	µg/m ³	80 Max
Polycyclic Aromatic Hydrocarbons (PAHs)					
8	Benzo(a)Pyrene (Particulate Phase)	SMSLA/GC/SOP/46 - 2024	BLQ(LOQ:0.05)	ng/m ³	01 Max
Trace Elements					
9	Arsenic	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.1)	ng/m ³	06 Max
10	Lead	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.001)	µg/m ³	1.0 Max
11	Nickel	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.1)	ng/m ³	20 Max
Volatile Organic Compounds-NAAQM					
12	Benzene	SMSLA/GC/SOP/43 - 2024	BLQ(LOQ:1.0)	µg/m ³	05 Max

Note : BLQ : Below Limit of Quantification LOQ : Limit of Quantification

Conclusion : The above tested Sample Conforms to the NAAQS Standards for the above tested Parameters.

/***** End of the Report *****/

M. Sarathkumar
Authorized Signatory-Chemical

Laboratory Address: 39/6, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124.

Note: Test results relate only to the items tested. Test Report shall not be reproduced in full or part without the approval of SMS Labs. Non-Perishable remnant samples will be disposed 15 days from the date of receipt unless otherwise agreed with the customer except in case of regulatory samples, which will be retained for a specific period as per regulatory requirements; while perishable and environmental remnant samples will be disposed consequently upon completion of testing. Samples are not drawn by laboratory unless or otherwise stated. A satisfactory test report in no way implies that a product so tested is approved by NABL. The Laboratory accepts no liability with regard to the origin or source from which the sample(s) is/ are said to be extracted.



SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT



TC-6118

ULR - TC611824000011068F

Report No : QEN241207024-01

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Report Date : 12 Dec 2024

Customer Name : M/s. ASIAN PAINTS LIMITED. (PENTA DIVISION)
Customer Address : B5 - B10, Sipcot Industrial Complex, Kudikadu Village, Cuddalore - 607005.
Sample Name : Ambient Air Quality Monitoring Sampling Date & Time : 05 to 06 Dec 2024
09.30 am to 09.30 am
Sample Description : Ambient Air Quality Monitoring Sample Received on : 07 Dec 2024
Reference : Test Request Form Dated 06.12.2024 Test Started on : 07 Dec 2024
Sample Drawn By : Laboratory Test Completed on : 12 Dec 2024
Sample Location : Near Weigh Bridge (Up Wind)
Sample Procedure : IS 5182
Relative Humidity : 54% Ambient Temperature : 34°C

TEST RESULTS

S.NO	Parameter	Test Method	Results	Unit	Limit as per NAAQS Specification
Chemical					
1	Ammonia as NH ₃	IS 5182 (Part 25) - 2018	BLQ(LOQ:20.0)	µg/m ³	400 Max
2	Carbon Monoxide as CO (8hrs)	IS 5182 (Part 10) - 1999 (Reaffirmed 2019)	BLQ(LOQ:1.14)	mg/m ³	02 Max
3	Nitrogen dioxide as NO ₂	IS 5182 (Part 06) - 2006 (Reaffirmed 2022)	19.6	µg/m ³	80 Max
4	Ozone as O ₃	IS 5182 (Part 09) - 1974 (Reaffirmed 2019)	BLQ(LOQ:20.0)	µg/m ³	180 Max
5	Particulate Matter (PM ₁₀)	IS 5182 (Part 23) - 2006 (Reaffirmed 2022)	58.6	µg/m ³	100 Max
6	Particulate Matter (PM _{2.5})	IS 5182 (Part 24) - 2019	28.4	µg/m ³	60 Max
7	Sulphur Dioxide as SO ₂	IS 5182 (Part 02) - 2001 (Reaffirmed 2022)	9.6	µg/m ³	80 Max
Polycyclic Aromatic Hydrocarbons (PAHs)					
8	Benzo(a)Pyrene (Particulate Phase)	SMSLA/GC/SOP/46 - 2024	BLQ(LOQ:0.05)	ng/m ³	01 Max
Trace Elements					
9	Arsenic	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.1)	ng/m ³	06 Max
10	Lead	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.001)	µg/m ³	1.0 Max
11	Nickel	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.1)	ng/m ³	20 Max
Volatile Organic Compounds-NAAQM					
12	Benzene	SMSLA/GC/SOP/43 - 2024	BLQ(LOQ:1.0)	µg/m ³	05 Max

Note : BLQ : Below Limit of Quantification LOQ : Limit of Quantification

Conclusion : The above tested Sample Conforms to the NAAQS Standards for the above tested Parameters.

/***** End of the Report *****/

M. Sarathkumar
Authorized Signatory-Chemical

Laboratory Address: 39/6, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124.

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TEST REPORT



TC-6118

ULR - TC61182500004996F

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Report No : QEN250129020-01

Report Date : 31 Jan 2025

Customer Name : M/s. ASIAN PAINTS LIMITED. (PENTA DIVISION)
 Customer Address : B5-B10, SIPCOT Industrial Complex, Kudikadu, Cuddalore-607005.
 Sample Name : Ambient Air Quality Monitoring Sampling Date & Time : 27 to 28 Jan 2025
 09.00 am to 09.00 am
 Sample Description : Ambient Air Quality Monitoring Sample Received on : 29 Jan 2025
 Reference : Test Request Form Dated 27.01.2025 Test Started on : 29 Jan 2025
 Sample Drawn By : Laboratory Test Completed on : 31 Jan 2025
 Sample Location : Near Weigh Bridge (Up Wind)
 Sample Procedure : IS 5182
 Relative Humidity : 54% Ambient Temperature : 34°C

TEST RESULTS

S.NO	Parameter	Test Method	Results	Unit	Limit as per NAAQS Specification
Chemical					
1	Ammonia as NH ₃	IS 5182 (Part 25) - 2018	BLQ(LOQ:20.0)	µg/m ³	400 Max
2	Carbon Monoxide as CO (8hrs)	IS 5182 (Part 10) - 1999 (Reaffirmed 2019)	BLQ(LOQ:1.14)	mg/m ³	02 Max
3	Nitrogen dioxide as NO ₂	IS 5182 (Part 06) - 2006 (Reaffirmed 2022)	21.4	µg/m ³	80 Max
4	Ozone as O ₃	IS 5182 (Part 09) - 1974 (Reaffirmed 2019)	BLQ(LOQ:20.0)	µg/m ³	180 Max
5	Particulate Matter (PM ₁₀)	IS 5182 (Part 23) - 2006 (Reaffirmed 2022)	57.2	µg/m ³	100 Max
6	Particulate Matter (PM _{2.5})	IS 5182 (Part 24) - 2019	26.8	µg/m ³	60 Max
7	Sulphur Dioxide as SO ₂	IS 5182 (Part 02) - 2001 (Reaffirmed 2022)	10.1	µg/m ³	80 Max
Polycyclic Aromatic Hydrocarbons (PAHs)					
8	Benzo(a)Pyrene (Particulate Phase)	SMSLA/GC/SOP/46 - 2024	BLQ(LOQ:0.05)	ng/m ³	01 Max
Trace Elements					
9	Arsenic	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.1)	ng/m ³	06 Max
10	Lead	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.001)	µg/m ³	1.0 Max
11	Nickel	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.1)	ng/m ³	20 Max
Volatile Organic Compounds-NAAQM					
12	Benzene	SMSLA/GC/SOP/43 - 2024	BLQ(LOQ:1.0)	µg/m ³	05 Max

Note : BLQ : Below Limit of Quantification LOQ : Limit of Quantification

Conclusion : The above tested Sample Conforms to the NAAQS Standards for the above tested Parameters.

/***** End of the Report *****/

M. Sarathkumar
 Authorized Signatory-Chemical

Laboratory Address: 39/6, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124

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SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT



TC-6118

ULR - TC611825000004997F

Page 1 of 1

Report No : QEN250129020-02

Report Date : 31 Jan 2025

Customer Name : M/s. ASIAN PAINTS LIMITED. (PENTA DIVISION)

Customer Address : B5-B10, SIPCOT Industrial Complex, Kudikadu, Cuddalore-607005.

Sample Name : Ambient Air Quality Monitoring

Sampling Date & Time : 27 to 28 Jan 2025
09.10 am to 09.10 am

Sample Description : Ambient Air Quality Monitoring

Sample Received on : 29 Jan 2025

Reference : Test Request Form Dated 27.01.2025

Test Started on : 29 Jan 2025

Sample Drawn By : Laboratory

Test Completed on : 31 Jan 2025

Sample Location : Near Coal Yard (Down Wind)

Sample Procedure : IS 5182

Relative Humidity : 54%

Ambient Temperature : 34°C

TEST RESULTS

S.NO	Parameter	Test Method	Results	Unit	Limit as per NAAQS Specification
Chemical					
1	Ammonia as NH ₃	IS 5182 (Part 25) - 2018	BLQ(LOQ:20.0)	µg/m ³	400 Max
2	Carbon Monoxide as CO (8hrs)	IS 5182 (Part 10) - 1999 (Reaffirmed 2019)	BLQ(LOQ:1.14)	mg/m ³	02 Max
3	Nitrogen dioxide as NO ₂	IS 5182 (Part 06) - 2006 (Reaffirmed 2022)	23.8	µg/m ³	80 Max
4	Ozone as O ₃	IS 5182 (Part 09) - 1974 (Reaffirmed 2019)	BLQ(LOQ:20.0)	µg/m ³	180 Max
5	Particulate Matter (PM ₁₀)	IS 5182 (Part 23) - 2006 (Reaffirmed 2022)	61.7	µg/m ³	100 Max
6	Particulate Matter (PM _{2.5})	IS 5182 (Part 24) - 2019	30.6	µg/m ³	60 Max
7	Sulphur Dioxide as SO ₂	IS 5182 (Part 02) - 2001 (Reaffirmed 2022)	12.0	µg/m ³	80 Max
Polycyclic Aromatic Hydrocarbons (PAHs)					
8	Benzo(a)Pyrene (Particulate Phase)	SMSLA/GC/SOP/46 - 2024	BLQ(LOQ:0.05)	ng/m ³	01 Max
Trace Elements					
9	Arsenic	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.1)	ng/m ³	06 Max
10	Lead	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.001)	µg/m ³	1.0 Max
11	Nickel	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.1)	ng/m ³	20 Max
Volatile Organic Compounds-NAAQM					
12	Benzene	SMSLA/GC/SOP/43 - 2024	BLQ(LOQ:1.0)	µg/m ³	05 Max

Note : BLQ : Below Limit of Quantification LOQ : Limit of Quantification

Conclusion : The above tested Sample Conforms to the NAAQS Standards for the above tested Parameters.

/***** End of the Report *****/

M. Sarathkumar
Authorized Signatory-Chemical

Laboratory Address: 39/6, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124.

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SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT



TC-6118

ULR - TC611825000010791F

Report No : QEN250226024-01

Page 1 of 1

Report Date : 28 Feb 2025

Customer Name : M/s. Asian Paints Limited

Customer Address : B5-B10, SIPCOT Industrial Complex, Kudikadu Village, Cuddalore-607005.

Sample Name : Ambient Air Quality Monitoring

Sampling Date & Time : 24 to 25 Feb 2025
11.45 am to 11.45 am

Sample Description : Ambient Air Quality Monitoring

Sample Received on : 26 Feb 2025

Reference : Test Request Form Dated 24.02.2025

Test Started on : 26 Feb 2025

Sample Drawn By : Laboratory

Test Completed on : 28 Feb 2025

Sample Location : Near Coal Yard (Down Wind)

Sample Procedure : IS 5182

Relative Humidity : 54%

Ambient Temperature : 34°C

TEST RESULTS

S.NO	Parameter	Test Method	Results	Unit	Limit as per NAAQS Specification
Chemical					
1	Ammonia as NH ₃	IS 5182 (Part 25) - 2018	BLQ(LOQ:20.0)	µg/m ³	400 Max
2	Carbon Monoxide as CO (8hrs)	IS 5182 (Part 10) - 1999 (Reaffirmed 2019)	BLQ(LOQ:1.14)	mg/m ³	02 Max
3	Nitrogen dioxide as NO ₂	IS 5182 (Part 06) - 2006 (Reaffirmed 2022)	20.6	µg/m ³	80 Max
4	Ozone as O ₃	IS 5182 (Part 09) - 1974 (Reaffirmed 2019)	BLQ(LOQ:20.0)	µg/m ³	180 Max
5	Particulate Matter (PM ₁₀)	IS 5182 (Part 23) - 2006 (Reaffirmed 2022)	57.9	µg/m ³	100 Max
6	Particulate Matter (PM _{2.5})	IS 5182 (Part 24) - 2019	28.5	µg/m ³	60 Max
7	Sulphur Dioxide as SO ₂	IS 5182 (Part 02) - 2001 (Reaffirmed 2022)	9.9	µg/m ³	80 Max
Polycyclic Aromatic Hydrocarbons (PAHs)					
8	Benzo(a)Pyrene (Particulate Phase)	SMSLA/GC/SOP/46 - 2024	BLQ(LOQ:0.05)	ng/m ³	01 Max
Trace Elements					
9	Arsenic	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.1)	ng/m ³	06 Max
10	Lead	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.001)	µg/m ³	1.0 Max
11	Nickel	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.1)	ng/m ³	20 Max
Volatile Organic Compounds-NAAQM					
12	Benzene	SMSLA/GC/SOP/43 - 2024	BLQ(LOQ:1.0)	µg/m ³	05 Max

Note : BLQ : Below Limit of Quantification LOQ : Limit of Quantification.

Conclusion : The above tested Sample Conforms to the NAAQS Standards for the above tested Parameters.

/***** End of the Report *****/

M.C
M. Sarathkumar
Authorized Signatory-Chemical

Laboratory Address: 39/6, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Vin, Poonamallee Taluk, Chennai - 600124.

Note: Test results relate only to the items tested. Test Report shall not be reproduced in full or part without the approval of SMS Labs. Non-Perishable remnant samples will be disposed 15 days from the date of receipt unless otherwise agreed with the customer except in case of regulatory samples, which will be retained for a specific period as per regulatory requirements; while perishable and environmental remnant samples will be disposed consequently upon completion of testing. Samples are not drawn by laboratory unless or otherwise stated. A satisfactory test report in no way implies that a product so tested is approved by NABL. The Laboratory accepts no liability with regard to the origin or source from which the sample(s) is/are said to be extracted.



SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT



TC-6118

ULR - TC611825000010792F

Report No : QEN250226024-02

Page 1 of 1

Report Date : 28 Feb 2025

Customer Name : M/s. Asian Paints Limited

Customer Address : B5-B10, SIPCOT Industrial Complex, Kudikadu Village, Cuddalore-607005.

Sample Name : Ambient Air Quality Monitoring

Sampling Date & Time : 24 to 25 Feb 2025

11.55 am to 11.55 am

Sample Description : Ambient Air Quality Monitoring

Sample Received on : 26 Feb 2025

Reference : Test Request Form Dated 24.02.2025

Test Started on : 26 Feb 2025

Sample Drawn By : Laboratory

Test Completed on : 28 Feb 2025

Sample Location : Near Weigh Bridge (Up Wind)

Sample Procedure : IS 5182

Relative Humidity : 54%

Ambient Temperature : 34°C

TEST RESULTS

S.NO	Parameter	Test Method	Results	Unit	Limit as per NAAQS Specification
Chemical					
1	Ammonia as NH ₃	IS 5182 (Part 25) - 2018	BLQ(LOQ:20.0)	µg/m ³	400 Max
2	Carbon Monoxide as CO (8hrs)	IS 5182 (Part 10) - 1999 (Reaffirmed 2019)	BLQ(LOQ:1.14)	mg/m ³	02 Max
3	Nitrogen dioxide as NO ₂	IS 5182 (Part 06) - 2006 (Reaffirmed 2022)	21.7	µg/m ³	80 Max
4	Ozone as O ₃	IS 5182 (Part 09) - 1974 (Reaffirmed 2019)	BLQ(LOQ:20.0)	µg/m ³	180 Max
5	Particulate Matter (PM ₁₀)	IS 5182 (Part 23) - 2006 (Reaffirmed 2022)	58.6	µg/m ³	100 Max
6	Particulate Matter (PM _{2.5})	IS 5182 (Part 24) - 2019	29.3	µg/m ³	60 Max
7	Sulphur Dioxide as SO ₂	IS 5182 (Part 02) - 2001 (Reaffirmed 2022)	10.8	µg/m ³	80 Max
Polycyclic Aromatic Hydrocarbons (PAHs)					
8	Benzo(a)Pyrene (Particulate Phase)	SMSLA/GC/SOP/46 - 2024	BLQ(LOQ:0.05)	ng/m ³	01 Max
Trace Elements					
9	Arsenic	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.1)	ng/m ³	06 Max
10	Lead	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.001)	µg/m ³	1.0 Max
11	Nickel	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.1)	ng/m ³	20 Max
Volatile Organic Compounds-NAAQM					
12	Benzene	SMSLA/GC/SOP/43 - 2024	BLQ(LOQ:1.0)	µg/m ³	05 Max

Note : BLQ : Below Limit of Quantification LOQ : Limit of Quantification.

Conclusion : The above tested Sample Conforms to the NAAQS Standards for the above tested Parameters.

/***** End of the Report *****/

M. Sarathkumar
Authorized Signatory-Chemical

Laboratory Address: 39/6, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124.

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SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT



TC-6118

ULR - TC611825000010771F

Report No : QEN250225029-01

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Report Date : 27 Feb 2025

Customer Name : M/s. ASIAN PAINTS LIMITED. (PENTA DIVISION)

Customer Address : B5 - B10, Sipcot Industrial Complex, Kudikadu Village, Cuddalore - 607005.

Sample Name : Ambient Air Quality Monitoring

Sampling Date & Time : 20 to 21 Feb 2025
09.45 am to 09.45 am

Sample Description : Ambient Air Quality Monitoring

Sample Received on : 25 Feb 2025

Reference : Test Request Form Dated 20.02.2025

Test Started on : 26 Feb 2025

Sample Drawn By : Laboratory

Test Completed on : 27 Feb 2025

Sample Location : Near Coal Yard (Down Wind)

Sample Procedure : IS 5182

Relative Humidity : 64%

Ambient Temperature : 33°C

TEST RESULTS

S.NO	Parameter	Test Method	Results	Unit	Limit as per NAAQS Specification
Chemical					
1	Ammonia as NH ₃	IS 5182 (Part 25) - 2018	BLQ(LOQ:20.0)	µg/m ³	400 Max
2	Carbon Monoxide as CO (8hrs)	IS 5182 (Part 10) - 1999 (Reaffirmed 2019)	BLQ(LOQ:1.14)	mg/m ³	02 Max
3	Nitrogen dioxide as NO ₂	IS 5182 (Part 06) - 2006 (Reaffirmed 2022)	24.8	µg/m ³	80 Max
4	Ozone as O ₃	IS 5182 (Part 09) - 1974 (Reaffirmed 2019)	BLQ(LOQ:20.0)	µg/m ³	180 Max
5	Particulate Matter (PM ₁₀)	IS 5182 (Part 23) - 2006 (Reaffirmed 2022)	66.7	µg/m ³	100 Max
6	Particulate Matter (PM _{2.5})	IS 5182 (Part 24) - 2019	29.2	µg/m ³	60 Max
7	Sulphur Dioxide as SO ₂	IS 5182 (Part 02) - 2001 (Reaffirmed 2022)	11.6	µg/m ³	80 Max
Polycyclic Aromatic Hydrocarbons (PAHs)					
8	Benzo(a)Pyrene (Particulate Phase)	SMSLA/GC/SOP/46 - 2024	BLQ(LOQ:0.05)	ng/m ³	01 Max
Trace Elements					
9	Arsenic	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.1)	ng/m ³	06 Max
10	Lead	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.001)	µg/m ³	1.0 Max
11	Nickel	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.1)	ng/m ³	20 Max
Volatile Organic Compounds-NAAQM					
12	Benzene	SMSLA/GC/SOP/43 - 2024	BLQ(LOQ:1.0)	µg/m ³	05 Max

Note : BLQ : Below Limit of Quantification LOQ : Limit of Quantification.

Conclusion : The above tested Sample Conforms to the NAAQS Standards for the above tested Parameters.

/***** End of the Report *****/

B. Karthikeyan

B.Karthikeyan

Authorized Signatory-Chemical

Laboratory Address: 39/6, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124.

Note: Test results relate only to the items tested. Test Report shall not be reproduced in full or part without the approval of SMS Labs. Non-Perishable remnant samples will be disposed 15 days from the date of receipt unless otherwise agreed with the customer except in case of regulatory samples, which will be retained for a specific period as per regulatory requirements; while perishable and environmental remnant samples will be disposed consequently upon completion of testing. Samples are not drawn by laboratory unless or otherwise stated. A satisfactory test report in no way implies that a product so tested is approved by NABL. The Laboratory accepts no liability with regard to the origin or source from which the sample(s) is/ are said to be extracted.



SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT



TC-6118

ULR - TC611825000010772F
Report No : QEN250225029-02

Page 1 of 1
Report Date : 27 Feb 2025

Customer Name : M/s. ASIAN PAINTS LIMITED. (PENTA DIVISION)
Customer Address : B5 - B10, Sipcot Industrial Complex, Kudikadu Village, Cuddalore - 607005.
Sample Name : Ambient Air Quality Monitoring
Sampling Date & Time : 20 to 21 Feb 2025
10.00 am to 10.00 am
Sample Description : Ambient Air Quality Monitoring
Sample Received on : 25 Feb 2025
Reference : Test Request Form Dated 20.02.2025
Test Started on : 26 Feb 2025
Sample Drawn By : Laboratory
Test Completed on : 27 Feb 2025
Sample Location : Near Weigh Bridge (Up Wind)
Sample Procedure : IS 5182
Relative Humidity : 64%
Ambient Temperature : 34°C

TEST RESULTS

S.NO	Parameter	Test Method	Results	Unit	Limit as per NAAQS Specification
Chemical					
1	Ammonia as NH ₃	IS 5182 (Part 25) - 2018	BLQ(LOQ:20.0)	µg/m ³	400 Max
2	Carbon Monoxide as CO (8hrs)	IS 5182 (Part 10) - 1999 (Reaffirmed 2019)	BLQ(LOQ:1.14)	mg/m ³	02 Max
3	Nitrogen dioxide as NO ₂	IS 5182 (Part 06) - 2006 (Reaffirmed 2022)	22.9	µg/m ³	80 Max
4	Ozone as O ₃	IS 5182 (Part 09) - 1974 (Reaffirmed 2019)	BLQ(LOQ:20.0)	µg/m ³	180 Max
5	Particulate Matter (PM ₁₀)	IS 5182 (Part 23) - 2006 (Reaffirmed 2022)	62.5	µg/m ³	100 Max
6	Particulate Matter (PM _{2.5})	IS 5182 (Part 24) - 2019	27.8	µg/m ³	60 Max
7	Sulphur Dioxide as SO ₂	IS 5182 (Part 02) - 2001 (Reaffirmed 2022)	10.2	µg/m ³	80 Max
Polycyclic Aromatic Hydrocarbons (PAHs)					
8	Benzo(a)Pyrene (Particulate Phase)	SMSLA/GC/SOP/46 - 2024	BLQ(LOQ:0.05)	ng/m ³	01 Max
Trace Elements					
9	Arsenic	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.1)	ng/m ³	06 Max
10	Lead	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.001)	µg/m ³	1.0 Max
11	Nickel	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.1)	ng/m ³	20 Max
Volatile Organic Compounds-NAAQM					
12	Benzene	SMSLA/GC/SOP/43 - 2024	BLQ(LOQ:1.0)	µg/m ³	05 Max

Note : BLQ : Below Limit of Quantification LOQ : Limit of Quantification.

Conclusion : The above tested Sample Conforms to the NAAQS Standards for the above tested Parameters.

/***** End of the Report *****/

B. Karthikeyan

Authorized Signatory-Chemical

Laboratory Address: 39.6, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124.

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SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT



TC-6118

ULR - TC61182500009193F

Report No : QEN250219034-01

Page 1 of 1

Report Date : 21 Feb 2025

Customer Name : M/s. Asian Paints Limited

Customer Address : B5-B10, SIPCOT Industrial Complex, Kudikadu Village, Cuddalore-607005.

Sample Name : Ambient Air Quality Monitoring

Sampling Date & Time : 17 to 18 Feb 2025
10.45 am to 10.45 am

Sample Description : Ambient Air Quality Monitoring

Sample Received on : 19 Feb 2025

Reference : Test Request Form Dated 17.02.2025

Test Started on : 19 Feb 2025

Sample Drawn By : Laboratory

Test Completed on : 21 Feb 2025

Sample Location : Near Coal Yard (Down Wind)

Sample Procedure : IS 5182

Relative Humidity : 54%

Ambient Temperature : 34°C

TEST RESULTS

S.NO	Parameter	Test Method	Results	Unit	Limit as per NAAQS Specification
Chemical					
1	Ammonia as NH ₃	IS 5182 (Part 25) - 2018	BLQ(LOQ:20.0)	µg/m ³	400 Max
2	Carbon Monoxide as CO (8hrs)	IS 5182 (Part 10) - 1999 (Reaffirmed 2019)	BLQ(LOQ:1.14)	mg/m ³	02 Max
3	Nitrogen dioxide as NO ₂	IS 5182 (Part 06) - 2006 (Reaffirmed 2022)	19.5	µg/m ³	80 Max
4	Ozone as O ₃	IS 5182 (Part 09) - 1974 (Reaffirmed 2019)	BLQ(LOQ:20.0)	µg/m ³	180 Max
5	Particulate Matter (PM ₁₀)	IS 5182 (Part 23) - 2006 (Reaffirmed 2022)	58.1	µg/m ³	100 Max
6	Particulate Matter (PM _{2.5})	IS 5182 (Part 24) - 2019	27.3	µg/m ³	60 Max
7	Sulphur Dioxide as SO ₂	IS 5182 (Part 02) - 2001 (Reaffirmed 2022)	9.8	µg/m ³	80 Max
Polycyclic Aromatic Hydrocarbons (PAHs)					
8	Benzo(a)Pyrene (Particulate Phase)	SMSLA/GC/SOP/46 - 2024	BLQ(LOQ:0.05)	ng/m ³	01 Max
Trace Elements					
9	Arsenic	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.1)	ng/m ³	06 Max
10	Lead	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.001)	µg/m ³	1.0 Max
11	Nickel	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.1)	ng/m ³	20 Max
Volatile Organic Compounds-NAAQM					
12	Benzene	SMSLA/GC/SOP/43 - 2024	BLQ(LOQ:1.0)	µg/m ³	05 Max

Note : BLQ : Below Limit of Quantification LOQ : Limit of Quantification

Conclusion : The above tested Sample Conforms to the NAAQS Standards for the above tested Parameters.

/***** End of the Report *****/

M. Sarathkumar
Authorized Signatory-Chemical

Laboratory Address: 39/6, Thiruvallur High Road, Puduchattaram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124.

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SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT



TC-6118

ULR - TC61182500009194F

Page 1 of 1

Report No : QEN250219034-02

Report Date : 21 Feb 2025

Customer Name : M/s. Asian Paints Limited

Customer Address : B5-B10, SIPCOT Industrial Complex, Kudikadu Village, Cuddalore-607005.

Sample Name : Ambient Air Quality Monitoring

Sampling Date & Time : 17 to 18 Feb 2025
10.30 am to 10.330 am

Sample Description : Ambient Air Quality Monitoring

Sample Received on : 19 Feb 2025

Reference : Test Request Form Dated 17.02.2025

Test Started on : 19 Feb 2025

Sample Drawn By : Laboratory

Test Completed on : 21 Feb 2025

Sample Location : Near Weigh Bridge (Up Wind)

Sample Procedure : IS 5182

Relative Humidity : 54%

Ambient Temperature : 34°C

TEST RESULTS

S.NO	Parameter	Test Method	Results	Unit	Limit as per NAAQS Specification
Chemical					
1	Ammonia as NH ₃	IS 5182 (Part 25) - 2018	BLQ(LOQ:20.0)	µg/m ³	400 Max
2	Carbon Monoxide as CO (8hrs)	IS 5182 (Part 10) - 1999 (Reaffirmed 2019)	BLQ(LOQ:1.14)	mg/m ³	02 Max
3	Nitrogen dioxide as NO ₂	IS 5182 (Part 06) - 2006 (Reaffirmed 2022)	20.1	µg/m ³	80 Max
4	Ozone as O ₃	IS 5182 (Part 09) - 1974 (Reaffirmed 2019)	BLQ(LOQ:20.0)	µg/m ³	180 Max
5	Particulate Matter (PM ₁₀)	IS 5182 (Part 23) - 2006 (Reaffirmed 2022)	56.3	µg/m ³	100 Max
6	Particulate Matter (PM _{2.5})	IS 5182 (Part 24) - 2019	26.5	µg/m ³	60 Max
7	Sulphur Dioxide as SO ₂	IS 5182 (Part 02) - 2001 (Reaffirmed 2022)	10.3	µg/m ³	80 Max
Polycyclic Aromatic Hydrocarbons (PAHs)					
8	Benzo(a)Pyrene (Particulate Phase)	SMSLA/GC/SOP/46 - 2024	BLQ(LOQ:0.05)	ng/m ³	01 Max
Trace Elements					
9	Arsenic	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.1)	ng/m ³	06 Max
10	Lead	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.001)	µg/m ³	1.0 Max
11	Nickel	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.1)	ng/m ³	20 Max
Volatile Organic Compounds-NAAQM					
12	Benzene	SMSLA/GC/SOP/43 - 2024	BLQ(LOQ:1.0)	µg/m ³	05 Max

Note : BLQ : Below Limit of Quantification LOQ : Limit of Quantification

Conclusion : The above tested Sample Conforms to the NAAQS Standards for the above tested Parameters.

/***** End of the Report *****/

M. Sarathkumar

Authorized Signatory-Chemical

Laboratory Address: 39/6, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124.

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SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT



TC-6118

ULR - TC611825000011574F
Report No : QEN250301011-01

Page 1 of 1
Report Date : 04 Mar 2025

Customer Name : M/s. Asian Paints Limited
Customer Address : B5-B10, SIPCOT Industrial Complex, Kudikadu Village, Cuddalore-607005.
Sample Name : Ambient Air Quality Monitoring
Sampling Date & Time : 27 to 28 Feb 2025
10.10 am to 10.10 am
Sample Description : Ambient Air Quality Monitoring
Sample Received on : 01 Mar 2025
Reference : Test Request Form Dated 27.02.2025
Test Started on : 01 Mar 2025
Sample Drawn By : Laboratory
Test Completed on : 04 Mar 2025
Sample Location : Near Coal Yard (Down Wind)
Sample Procedure : IS 5182
Relative Humidity : 54%
Ambient Temperature : 34°C

TEST RESULTS

S.NO	Parameter	Test Method	Results	Unit	Limit as per NAAQS Specification
Chemical					
1	Ammonia as NH ₃	IS 5182 (Part 25) - 2018	BLQ(LOQ:20.0)	µg/m ³	400 Max
2	Carbon Monoxide as CO (8hrs)	IS 5182 (Part 10) - 1999 (Reaffirmed 2019)	BLQ(LOQ:1.14)	mg/m ³	02 Max
3	Nitrogen dioxide as NO ₂	IS 5182 (Part 06) - 2006 (Reaffirmed 2022)	21.7	µg/m ³	80 Max
4	Ozone as O ₃	IS 5182 (Part 09) - 1974 (Reaffirmed 2019)	BLQ(LOQ:20.0)	µg/m ³	180 Max
5	Particulate Matter (PM ₁₀)	IS 5182 (Part 23) - 2006 (Reaffirmed 2022)	58.1	µg/m ³	100 Max
6	Particulate Matter (PM _{2.5})	IS 5182 (Part 24) - 2019	27.8	µg/m ³	60 Max
7	Sulphur Dioxide as SO ₂	IS 5182 (Part 02) - 2001 (Reaffirmed 2022)	10.8	µg/m ³	80 Max
Polycyclic Aromatic Hydrocarbons (PAHs)					
8	Benzo(a)Pyrene (Particulate Phase)	SMSLA/GC/SOP/46 - 2024	BLQ(LOQ:0.05)	ng/m ³	01 Max
Trace Elements					
9	Arsenic	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.1)	ng/m ³	06 Max
10	Lead	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.001)	µg/m ³	1.0 Max
11	Nickel	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.1)	ng/m ³	20 Max
Volatile Organic Compounds-NAAQM					
12	Benzene	SMSLA/GC/SOP/43 - 2024	BLQ(LOQ:1.0)	µg/m ³	05 Max

Note : BLQ : Below Limit of Quantification LOQ : Limit of Quantification.

Conclusion : The above tested Sample Conforms to the NAAQS Standards for the above tested Parameters.

/***** End of the Report *****/

S. Kanimozhi

Authorized Signatory-Chemical

Laboratory Address: 39/6, Thiruvallur High Road, Pudukhatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124.

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SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT



TC-6118

ULR - TC611825000011575F

Report No : QEN250301011-02

Page 1 of 1

Report Date : 04 Mar 2025

Customer Name : M/s. Asian Paints Limited
Customer Address : B5-B10, SIPCOT Industrial Complex, Kudikadu Village, Cuddalore-607005.
Sample Name : Ambient Air Quality Monitoring
Sampling Date & Time : 27 to 28 Feb 2025
10.00 am to 10.00 am
Sample Description : Ambient Air Quality Monitoring
Sample Received on : 01 Mar 2025
Reference : Test Request Form Dated 27.02.2025
Test Started on : 01 Mar 2025
Sample Drawn By : Laboratory
Test Completed on : 04 Mar 2025
Sample Location : Near Weigh Bridge (Up Wind)
Sample Procedure : IS 5182
Relative Humidity : 54%
Ambient Temperature : 34°C

TEST RESULTS

S.NO	Parameter	Test Method	Results	Unit	Limit as per NAAQS Specification
Chemical					
1	Ammonia as NH ₃	IS 5182 (Part 25) - 2018	BLQ(LOQ:20.0)	µg/m ³	400 Max
2	Carbon Monoxide as CO (8hrs)	IS 5182 (Part 10) - 1999 (Reaffirmed 2019)	BLQ(LOQ:1.14)	mg/m ³	02 Max
3	Nitrogen dioxide as NO ₂	IS 5182 (Part 06) - 2006 (Reaffirmed 2022)	19.5	µg/m ³	80 Max
4	Ozone as O ₃	IS 5182 (Part 09) - 1974 (Reaffirmed 2019)	BLQ(LOQ:20.0)	µg/m ³	180 Max
5	Particulate Matter (PM ₁₀)	IS 5182 (Part 23) - 2006 (Reaffirmed 2022)	57.6	µg/m ³	100 Max
6	Particulate Matter (PM _{2.5})	IS 5182 (Part 24) - 2019	28.3	µg/m ³	60 Max
7	Sulphur Dioxide as SO ₂	IS 5182 (Part 02) - 2001 (Reaffirmed 2022)	9.4	µg/m ³	80 Max
Polycyclic Aromatic Hydrocarbons (PAHs)					
8	Benzo(a)Pyrene (Particulate Phase)	SMSLA/GC/SOP/46 - 2024	BLQ(LOQ:0.05)	ng/m ³	01 Max
Trace Elements					
9	Arsenic	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.1)	ng/m ³	06 Max
10	Lead	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.001)	µg/m ³	1.0 Max
11	Nickel	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.1)	ng/m ³	20 Max
Volatile Organic Compounds-NAAQM					
12	Benzene	SMSLA/GC/SOP/43 - 2024	BLQ(LOQ:1.0)	µg/m ³	05 Max

Note : BLQ : Below Limit of Quantification LOQ : Limit of Quantification.

Conclusion : The above tested Sample Conforms to the NAAQS Standards for the above tested Parameters.

/***** End of the Report *****/

S. Kanimozhi

S.Kanimozhi

Authorized Signatory-Chemical

Laboratory Address: 39/6, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124.

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SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT



TC-6118

ULR - TC611825000012498F
Report No : QEN250305014-01

Page 1 of 1
Report Date : 08 Mar 2025

Customer Name : M/s. Asian Paints Limited
Customer Address : B5-B10, SIPCOT Industrial Complex, Kudikadu Village, Cuddalore-607005.
Sample Name : Ambient Air Quality Monitoring
Sampling Date & Time : 03 to 04 Mar 2025
10.40 am to 10.40 am
Sample Description : Ambient Air Quality Monitoring
Sample Received on : 05 Mar 2025
Reference : Test Request Form Dated 08.03.2025
Test Started on : 06 Mar 2025
Sample Drawn By : Laboratory
Test Completed on : 08 Mar 2025
Sample Location : Near Coal Yard (Down Wind)
Sample Procedure : IS 5182
Relative Humidity : 54%
Ambient Temperature : 34°C

TEST RESULTS

S.NO	Parameter	Test Method	Results	Unit	Limit as per NAAQS Specification
Chemical					
1	Ammonia as NH ₃	IS 5182 (Part 25) - 2018	BLQ(LOQ:20.0)	µg/m ³	400 Max
2	Carbon Monoxide as CO (8hrs)	IS 5182 (Part 10) - 1999 (Reaffirmed 2019)	BLQ(LOQ:1.14)	mg/m ³	02 Max
3	Nitrogen dioxide as NO ₂	IS 5182 (Part 06) - 2006 (Reaffirmed 2022)	22.3	µg/m ³	80 Max
4	Ozone as O ₃	IS 5182 (Part 09) - 1974 (Reaffirmed 2019)	BLQ(LOQ:20.0)	µg/m ³	180 Max
5	Particulate Matter (PM ₁₀)	IS 5182 (Part 23) - 2006 (Reaffirmed 2022)	59.1	µg/m ³	100 Max
6	Particulate Matter (PM _{2.5})	IS 5182 (Part 24) - 2019	28.7	µg/m ³	60 Max
7	Sulphur Dioxide as SO ₂	IS 5182 (Part 02) - 2001 (Reaffirmed 2022)	11.4	µg/m ³	80 Max
Polycyclic Aromatic Hydrocarbons (PAHs)					
8	Benzo(a)Pyrene (Particulate Phase)	SMSLA/GC/SOP/46 - 2024	BLQ(LOQ:0.05)	ng/m ³	01 Max
Trace Elements					
9	Arsenic	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.1)	ng/m ³	06 Max
10	Lead	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.001)	µg/m ³	1.0 Max
11	Nickel	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.1)	ng/m ³	20 Max
Volatile Organic Compounds-NAAQM					
12	Benzene	SMSLA/GC/SOP/43 - 2024	BLQ(LOQ:1.0)	µg/m ³	05 Max

Note : BLQ : Below Limit of Quantification LOQ : Limit of Quantification.

Conclusion : The above tested Sample Conforms to the NAAQS Standards for the above tested Parameters.

/***** End of the Report *****/ B. Karthikeyan

B.Karthikeyan
Authorized Signatory-Chemical

Laboratory Address: 39/6, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124.

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SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT



TC-6118

ULR - TC611825000012499F
Report No : QEN250305014-02

Page 1 of 1
Report Date : 08 Mar 2025

Customer Name : M/s. Asian Paints Limited
Customer Address : B5-B10, SIPCOT Industrial Complex, Kudikadu Village, Cuddalore-607005.
Sample Name : Ambient Air Quality Monitoring
Sampling Date & Time : 03 to 04 Mar 2025
10.30 am to 10.30 am
Sample Description : Ambient Air Quality Monitoring
Sample Received on : 05 Mar 2025
Reference : Test Request Form Dated 03.03.2025
Test Started on : 06 Mar 2025
Sample Drawn By : Laboratory
Test Completed on : 08 Mar 2025
Sample Location : Near Weigh Bridge (Up Wind)
Sample Procedure : IS 5182
Relative Humidity : 54%
Ambient Temperature : 34°C

TEST RESULTS

S.NO	Parameter	Test Method	Results	Unit	Limit as per NAAQS Specification
Chemical					
1	Ammonia as NH ₃	IS 5182 (Part 25) - 2018	BLQ(LOQ:20.0)	µg/m ³	400 Max
2	Carbon Monoxide as CO (8hrs)	IS 5182 (Part 10) - 1999 (Reaffirmed 2019)	BLQ(LOQ:1.14)	mg/m ³	02 Max
3	Nitrogen dioxide as NO ₂	IS 5182 (Part 06) - 2006 (Reaffirmed 2022)	21.1	µg/m ³	80 Max
4	Ozone as O ₃	IS 5182 (Part 09) - 1974 (Reaffirmed 2019)	BLQ(LOQ:20.0)	µg/m ³	180 Max
5	Particulate Matter (PM ₁₀)	IS 5182 (Part 23) - 2006 (Reaffirmed 2022)	58.3	µg/m ³	100 Max
6	Particulate Matter (PM _{2.5})	IS 5182 (Part 24) - 2019	27.8	µg/m ³	60 Max
7	Sulphur Dioxide as SO ₂	IS 5182 (Part 02) - 2001 (Reaffirmed 2022)	10.6	µg/m ³	80 Max
Polycyclic Aromatic Hydrocarbons (PAHs)					
8	Benzo(a)Pyrene (Particulate Phase)	SMSLA/GC/SOP/46 - 2024	BLQ(LOQ:0.05)	ng/m ³	01 Max
Trace Elements					
9	Arsenic	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.1)	ng/m ³	06 Max
10	Lead	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.001)	µg/m ³	1.0 Max
11	Nickel	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.1)	ng/m ³	20 Max
Volatile Organic Compounds-NAAQM					
12	Benzene	SMSLA/GC/SOP/43 - 2024	BLQ(LOQ:1.0)	µg/m ³	05 Max

Note : BLQ : Below Limit of Quantification LOQ : Limit of Quantification.

Conclusion : The above tested Sample Conforms to the NAAQS Standards for the above tested Parameters.

***** End of the Report *****/ B. Karthikeyan

B.Karthikeyan
Authorized Signatory-Chemical

Laboratory Address: 39/6, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124.

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SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT



TC-6118

ULR - TC611825000014281F

Report No : QEN250312008-01

Page 1 of 1

Report Date : 17 Mar 2025

Customer Name : M/s. Asian Paints Limited

Customer Address : B5-B10, SIPCOT Industrial Complex, Kudikadu Village, Cuddalore-607005.

Sample Name : Ambient Air Quality Monitoring

Sampling Date & Time : 10 to 11 Mar 2025
09.45 am to 09.45 am

Sample Description : Ambient Air Quality Monitoring

Sample Received on : 12 Mar 2025

Reference : Test Request Form Dated 0.03.2025

Test Started on : 12 Mar 2025

Sample Drawn By : Laboratory

Test Completed on : 17 Mar 2025

Sample Location : Near Weigh bridge (Up Wind)

Sample Procedure : IS 5182

Relative Humidity : 54%

Ambient Temperature : 34°C

TEST RESULTS

S.NO	Parameter	Test Method	Results	Unit	Limit as per NAAQS Specification
Chemical					
1	Ammonia as NH ₃	IS 5182 (Part 25) - 2018	BLQ(LOQ:20.0)	µg/m ³	400 Max
2	Carbon Monoxide as CO (8hrs)	IS 5182 (Part 10) - 1999 (Reaffirmed 2019)	BLQ(LOQ:1.14)	mg/m ³	02 Max
3	Nitrogen dioxide as NO ₂	IS 5182 (Part 06) - 2006 (Reaffirmed 2022)	21.6	µg/m ³	80 Max
4	Ozone as O ₃	IS 5182 (Part 09) - 1974 (Reaffirmed 2019)	BLQ(LOQ:20.0)	µg/m ³	180 Max
5	Particulate Matter (PM ₁₀)	IS 5182 (Part 23) - 2006 (Reaffirmed 2022)	59.1	µg/m ³	100 Max
6	Particulate Matter (PM _{2.5})	IS 5182 (Part 24) - 2019	28.5	µg/m ³	60 Max
7	Sulphur Dioxide as SO ₂	IS 5182 (Part 02) - 2001 (Reaffirmed 2022)	10.3	µg/m ³	80 Max
Polycyclic Aromatic Hydrocarbons (PAHs)					
8	Benzo(a)Pyrene (Particulate Phase)	SMSLA/GC/SOP/46 - 2024	BLQ(LOQ:0.05)	ng/m ³	01 Max
Trace Elements					
9	Arsenic	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.1)	ng/m ³	06 Max
10	Lead	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.001)	µg/m ³	1.0 Max
11	Nickel	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.1)	ng/m ³	20 Max
Volatile Organic Compounds-NAAQM					
12	Benzene	SMSLA/GC/SOP/43 - 2024	BLQ(LOQ:1.0)	µg/m ³	05 Max

Note : BLQ : Below Limit of Quantification LOQ : Limit of Quantification.

Conclusion : The above tested Sample Conforms to the NAAQS Standards for the above tested Parameters.

/***** End of the Report *****/

M. Sarathkumar
Authorized Signatory-Chemical

Laboratory Address: 39/6, Thiruvallur High Road, Puduchattam Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124.

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SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT



TC-6118

ULR - TC611825000014282F
Report No : QEN250312008-02

Page 1 of 1
Report Date : 17 Mar 2025

Customer Name : M/s. Asian Paints Limited
Customer Address : B5-B10, SIPCOT Industrial Complex, Kudikadu Village, Cuddalore-607005.
Sample Name : Ambient Air Quality Monitoring
Sampling Date & Time : 10 to 11 Mar 2025
10.00 am to 10.00 am
Sample Description : Ambient Air Quality Monitoring
Sample Received on : 12 Mar 2025
Reference : Test Request Form Dated 10.03.2025
Test Started on : 12 Mar 2025
Sample Drawn By : Laboratory
Test Completed on : 17 Mar 2025
Sample Location : Near Coal Yard (Down Wind)
Sample Procedure : IS 5182
Relative Humidity : 54%
Ambient Temperature : 34°C

TEST RESULTS

S.NO	Parameter	Test Method	Results	Unit	Limit as per NAAQS Specification
Chemical					
1	Ammonia as NH ₃	IS 5182 (Part 25) - 2018	BLQ(LOQ:20.0)	µg/m ³	400 Max
2	Carbon Monoxide as CO (8hrs)	IS 5182 (Part 10) - 1999 (Reaffirmed 2019)	BLQ(LOQ:1.14)	mg/m ³	02 Max
3	Nitrogen dioxide as NO ₂	IS 5182 (Part 06) - 2006 (Reaffirmed 2022)	20.5	µg/m ³	80 Max
4	Ozone as O ₃	IS 5182 (Part 09) - 1974 (Reaffirmed 2019)	BLQ(LOQ:20.0)	µg/m ³	180 Max
5	Particulate Matter (PM ₁₀)	IS 5182 (Part 23) - 2006 (Reaffirmed 2022)	58.2	µg/m ³	100 Max
6	Particulate Matter (PM _{2.5})	IS 5182 (Part 24) - 2019	27.7	µg/m ³	60 Max
7	Sulphur Dioxide as SO ₂	IS 5182 (Part 02) - 2001 (Reaffirmed 2022)	9.8	µg/m ³	80 Max
Polycyclic Aromatic Hydrocarbons (PAHs)					
8	Benzo(a)Pyrene (Particulate Phase)	SMSLA/GC/SOP/46 - 2024	BLQ(LOQ:0.05)	ng/m ³	01 Max
Trace Elements					
9	Arsenic	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.1)	ng/m ³	06 Max
10	Lead	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.001)	µg/m ³	1.0 Max
11	Nickel	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.1)	ng/m ³	20 Max
Volatile Organic Compounds-NAAQM					
12	Benzene	SMSLA/GC/SOP/43 - 2024	BLQ(LOQ:1.0)	µg/m ³	05 Max

Note : BLQ : Below Limit of Quantification LOQ : Limit of Quantification.

Conclusion : The above tested Sample Conforms to the NAAQS Standards for the above tested Parameters.

/***** End of the Report *****/

M. Sarathkumar
Authorized Signatory-Chemical

Laboratory Address : 39/6, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124.

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SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT



TC-6118

ULR - TC611825000013051F

Report No : QEN250308021-01

Page 1 of 1

Report Date : 11 Mar 2025

Customer Name : M/s. Asian Paints Limited

Customer Address : B5-B10, SIPCOT Industrial Complex, Kudikadu Village, Cuddalore-607005.

Sample Name : Ambient Air Quality Monitoring

Sampling Date & Time : 06 to 07 Mar 2025
09.40 am to 09.40 am

Sample Description : Ambient Air Quality Monitoring

Sample Received on : 08 Mar 2025

Reference : Test Request Form Dated 06.03.2025

Test Started on : 08 Mar 2025

Sample Drawn By : Laboratory

Test Completed on : 11 Mar 2025

Sample Location : Near Coal Yard (Down Wind)

Sample Procedure : IS 5182

Relative Humidity : 64%

Ambient Temperature : 34°C

TEST RESULTS

S.NO	Parameter	Test Method	Results	Unit	Limit as per NAAQS Specification
Chemical					
1	Ammonia as NH ₃	IS 5182 (Part 25) - 2018	BLQ(LOQ:20.0)	µg/m ³	400 Max
2	Carbon Monoxide as CO (8hrs)	IS 5182 (Part 10) - 1999 (Reaffirmed 2019)	BLQ(LOQ:1.14)	mg/m ³	02 Max
3	Nitrogen dioxide as NO ₂	IS 5182 (Part 06) - 2006 (Reaffirmed 2022)	22.7	µg/m ³	80 Max
4	Ozone as O ₃	IS 5182 (Part 09) - 1974 (Reaffirmed 2019)	BLQ(LOQ:20.0)	µg/m ³	180 Max
5	Particulate Matter (PM ₁₀)	IS 5182 (Part 23) - 2006 (Reaffirmed 2022)	59.1	µg/m ³	100 Max
6	Particulate Matter (PM _{2.5})	IS 5182 (Part 24) - 2019	28.8	µg/m ³	60 Max
7	Sulphur Dioxide as SO ₂	IS 5182 (Part 02) - 2001 (Reaffirmed 2022)	10.6	µg/m ³	80 Max
Polycyclic Aromatic Hydrocarbons (PAHs)					
8	Benzo(a)Pyrene (Particulate Phase)	SMSLA/GC/SOP/46 - 2024	BLQ(LOQ:0.05)	ng/m ³	01 Max
Trace Elements					
9	Arsenic	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.1)	ng/m ³	06 Max
10	Lead	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.001)	µg/m ³	1.0 Max
11	Nickel	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.1)	ng/m ³	20 Max
Volatile Organic Compounds-NAAQM					
12	Benzene	SMSLA/GC/SOP/43 - 2024	BLQ(LOQ:1.0)	µg/m ³	05 Max

Note : BLQ : Below Limit of Quantification LOQ : Limit of Quantification.

Conclusion : The above tested Sample Conforms to the NAAQS Standards for the above tested Parameters.

/***** End of the Report *****/

M.S.
M. Sarathkumar
Authorized Signatory-Chemical

Laboratory Address 39/6, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124.

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SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT



TC-6118

ULR - TC611825000013052F

Page 1 of 1

Report No : QEN250308021-02

Report Date : 11 Mar 2025

Customer Name : M/s. Asian Paints Limited

Customer Address : B5-B10, SIPCOT Industrial Complex, Kudikadu Village, Cuddalore-607005.

Sample Name : Ambient Air Quality Monitoring

Sampling Date & Time : 06 to 07 Mar 2025

09.30 am to 09.30 am

Sample Description : Ambient Air Quality Monitoring

Sample Received on : 08 Mar 2025

Reference : Test Request Form Dated 06.03.2025

Test Started on : 08 Mar 2025

Sample Drawn By : Laboratory

Test Completed on : 11 Mar 2025

Sample Location : Near Weigh Bridge (Up Wind)

Sample Procedure : IS 5182

Relative Humidity : 64%

Ambient Temperature : 34°C

TEST RESULTS

S.NO	Parameter	Test Method	Results	Unit	Limit as per NAAQS Specification
Chemical					
1	Ammonia as NH ₃	IS 5182 (Part 25) - 2018	BLQ(LOQ:20.0)	µg/m ³	400 Max
2	Carbon Monoxide as CO (8hrs)	IS 5182 (Part 10) - 1999 (Reaffirmed 2019)	BLQ(LOQ:1.14)	mg/m ³	02 Max
3	Nitrogen dioxide as NO ₂	IS 5182 (Part 06) - 2006 (Reaffirmed 2022)	21.5	µg/m ³	80 Max
4	Ozone as O ₃	IS 5182 (Part 09) - 1974 (Reaffirmed 2019)	BLQ(LOQ:20.0)	µg/m ³	180 Max
5	Particulate Matter (PM ₁₀)	IS 5182 (Part 23) - 2006 (Reaffirmed 2022)	58.6	µg/m ³	100 Max
6	Particulate Matter (PM _{2.5})	IS 5182 (Part 24) - 2019	27.9	µg/m ³	60 Max
7	Sulphur Dioxide as SO ₂	IS 5182 (Part 02) - 2001 (Reaffirmed 2022)	10.1	µg/m ³	80 Max
Polycyclic Aromatic Hydrocarbons (PAHs)					
8	Benzo(a)Pyrene (Particulate Phase)	SMSLA/GC/SOP/46 - 2024	BLQ(LOQ:0.05)	ng/m ³	01 Max
Trace Elements					
9	Arsenic	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.1)	ng/m ³	06 Max
10	Lead	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.001)	µg/m ³	1.0 Max
11	Nickel	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.1)	ng/m ³	20 Max
Volatile Organic Compounds-NAAQM					
12	Benzene	SMSLA/GC/SOP/43 - 2024	BLQ(LOQ:1.0)	µg/m ³	05 Max

Note : BLQ : Below Limit of Quantification LOQ : Limit of Quantification.

Conclusion : The above tested Sample Conforms to the NAAQS Standards for the above tested Parameters.

/***** End of the Report *****/

M. Sarathkumar
Authorized Signatory-Chemical

Laboratory Address: 39/6, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124.

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SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT



TC-6118

ULR - TC611825000014559F

Page 1 of 1

Report No : QEN250315011-01

Report Date : 18 Mar 2025

Customer Name : M/s. Asian Paints Limited

Customer Address : B5-B10, SIPCOT Industrial Complex, Kudikadu Village, Cuddalore-607005.

Sample Name : Ambient Air Quality Monitoring

Sampling Date & Time : 13 to 14 Mar 2025
10.30 am to 10.30 am

Sample Description : Ambient Air Quality Monitoring

Sample Received on : 15 Mar 2025

Reference : Test Request Form Dated 13.03.2025

Test Started on : 15 Mar 2025

Sample Drawn By : Laboratory

Test Completed on : 18 Mar 2025

Sample Location : Near Coal Yard (Up Wind)

Sample Procedure : IS 5182

Relative Humidity : 64%

Ambient Temperature : 34°C

TEST RESULTS

S.NO	Parameter	Test Method	Results	Unit	Limit as per NAAQS Specification
Chemical					
1	Ammonia as NH ₃	IS 5182 (Part 25) - 2018	BLQ(LOQ:20.0)	µg/m ³	400 Max
2	Carbon Monoxide as CO (8hrs)	IS 5182 (Part 10) - 1999 (Reaffirmed 2019)	BLQ(LOQ:1.14)	mg/m ³	02 Max
3	Nitrogen dioxide as NO ₂	IS 5182 (Part 06) - 2006 (Reaffirmed 2022)	22.1	µg/m ³	80 Max
4	Ozone as O ₃	IS 5182 (Part 09) - 1974 (Reaffirmed 2019)	BLQ(LOQ:20.0)	µg/m ³	180 Max
5	Particulate Matter (PM ₁₀)	IS 5182 (Part 23) - 2006 (Reaffirmed 2022)	58.5	µg/m ³	100 Max
6	Particulate Matter (PM _{2.5})	IS 5182 (Part 24) - 2019	28.3	µg/m ³	60 Max
7	Sulphur Dioxide as SO ₂	IS 5182 (Part 02) - 2001 (Reaffirmed 2022)	10.9	µg/m ³	80 Max
Polycyclic Aromatic Hydrocarbons (PAHs)					
8	Benzo(a)Pyrene (Particulate Phase)	SMSLA/GC/SOP/46 - 2024	BLQ(LOQ:0.05)	ng/m ³	01 Max
Trace Elements					
9	Arsenic	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.1)	ng/m ³	06 Max
10	Lead	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.001)	µg/m ³	1.0 Max
11	Nickel	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.1)	ng/m ³	20 Max
Volatile Organic Compounds-NAAQM					
12	Benzene	SMSLA/GC/SOP/43 - 2024	BLQ(LOQ:1.0)	µg/m ³	05 Max

Note : BLQ : Below Limit of Quantification LOQ : Limit of Quantification

Conclusion : The above tested Sample Conforms to the NAAQS Standards for the above tested Parameters.

/***** End of the Report *****/

M. Sarathkumar
Authorized Signatory-Chemical

Laboratory Address: 39/6, Thiruvallur High Road, Puduchattam Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124.

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SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT



TC-6118

ULR - TC611825000014560F

Page 1 of 1

Report No : QEN250315011-02

Report Date : 18 Mar 2025

Customer Name : M/s. Asian Paints Limited

Customer Address : B5-B10, SIPCOT Industrial Complex, Kudikadu Village, Cuddalore-607005.

Sample Name : Ambient Air Quality Monitoring

Sampling Date & Time : 13 to 14 Mar 2025
10.40 am to 10.40 am

Sample Description : Ambient Air Quality Monitoring

Sample Received on : 15 Mar 2025

Reference : Test Request Form Dated 13.03.2025

Test Started on : 15 Mar 2025

Sample Drawn By : Laboratory

Test Completed on : 18 Mar 2025

Sample Location : Near Weigh Bridge (Down Wind)

Sample Procedure : IS 5182

Relative Humidity : 64%

Ambient Temperature : 34°C

TEST RESULTS

S.NO	Parameter	Test Method	Results	Unit	Limit as per NAAQS Specification
Chemical					
1	Ammonia as NH ₃	IS 5182 (Part 25) - 2018	BLQ(LOQ:20.0)	µg/m ³	400 Max
2	Carbon Monoxide as CO (8hrs)	IS 5182 (Part 10) - 1999 (Reaffirmed 2019)	BLQ(LOQ:1.14)	mg/m ³	02 Max
3	Nitrogen dioxide as NO ₂	IS 5182 (Part 06) - 2006 (Reaffirmed 2022)	21.7	µg/m ³	80 Max
4	Ozone as O ₃	IS 5182 (Part 09) - 1974 (Reaffirmed 2019)	BLQ(LOQ:20.0)	µg/m ³	180 Max
5	Particulate Matter (PM ₁₀)	IS 5182 (Part 23) - 2006 (Reaffirmed 2022)	58.1	µg/m ³	100 Max
6	Particulate Matter (PM _{2.5})	IS 5182 (Part 24) - 2019	27.6	µg/m ³	60 Max
7	Sulphur Dioxide as SO ₂	IS 5182 (Part 02) - 2001 (Reaffirmed 2022)	9.8	µg/m ³	80 Max
Polycyclic Aromatic Hydrocarbons (PAHs)					
8	Benzo(a)Pyrene (Particulate Phase)	SMSLA/GC/SOP/46 - 2024	BLQ(LOQ:0.05)	ng/m ³	01 Max
Trace Elements					
9	Arsenic	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.1)	ng/m ³	06 Max
10	Lead	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.001)	µg/m ³	1.0 Max
11	Nickel	Compendium Method IO - 3.4 - 1999	BLQ(LOQ:0.1)	ng/m ³	20 Max
Volatile Organic Compounds-NAAQM					
12	Benzene	SMSLA/GC/SOP/43 - 2024	BLQ(LOQ:1.0)	µg/m ³	05 Max

Note : BLQ : Below Limit of Quantification LOQ : Limit of Quantification

Conclusion : The above tested Sample Conforms to the NAAQS Standards for the above tested Parameters.

/***** End of the Report *****/

M.C
M. Sarathkumar

Authorized Signatory-Chemical

Laboratory Address: 39/6, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Vm, Poonamallee Taluk, Chennai - 600124.

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SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT



TC-6118

ULR - TC611824000004369F
Report No : QEN24100650-03

Page 1 of 1
Report Date : 02 Nov 2024

Customer Name : M/s. Asian Paints Limited, (Penta Division)
Customer Address : B5-B10, SIPCOT Industrial Complex, Kudikadu, Cuddalore-607005.
Sample Description : Stack Emission Monitoring
Reference : Test Request Form Dated 24.10.2024
Sample Drawn By : Laboratory
Sample Location : DG 600 KVA
Sample Procedure : IS 11255 & SMSLA/EN/SOP/017
Diameter of Stack (m) : 0.25 m
Sampling Date : 24 Oct 2024
Sample Received on : 28 Oct 2024
Test Started on : 28 Oct 2024
Test Completed on : 02 Nov 2024
Ambient Temperature : 34°C

TEST RESULTS

S.NO	Parameter	Test Method	Unit	Results	Limit as per CPCB Specification
Chemical					
1	Carbon Dioxide as CO ₂	SMSLA/EN/SOP/017 - 2024	%	2.1	--
2	Carbon Monoxide as CO	SMSLA/EN/SOP/017 - 2024	g/kw-hr	1.78	3.5 Max
3	Nitrogen Oxides as NO _x	SMSLA/EN/SOP/017 - 2024	g/kw-hr	0.31	0.40 Max
4	Oxygen as O ₂	SMSLA/EN/SOP/017 - 2024	%	17.4	--
5	Particulate Matter	IS 11255 (Part 01) - 1985 (Reaffirmed 2019)	g/kw-hr	0.010	0.02 Max
6	Stack temperature	IS 11255 (Part 03) - 2008 (Reaffirmed 2018)	K	400	--
7	Sulphur Dioxide as SO ₂	IS 11255 (Part 02) - 1985 (Reaffirmed 2019)	mg/Nm ³	27.8	--
8	Velocity	IS 11255 (Part 3) - 2008 (Reaffirmed 2018)	m/s	11.9	--
9	Volume of Gas Discharged	IS 11255 (Part 3) - 2008 (Reaffirmed 2018)	Nm ³ /hr	1564	--

Conclusion : The above tested Sample Conforms to the CPCB Standards for the above tested Parameters.

/***** End of the Report *****/

S. Kanimozhi
Authorized Signatory-Chemical

Laboratory Address: 39/6, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124.

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SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT



TC-6118

ULR - TC611824000004371F
Report No : QEN24100650-04

Page 1 of 1
Report Date : 02 Nov 2024


Customer Name : M/s. Asian Paints Limited, (Penta Division)
Customer Address : B5-B10, SIPCOT Industrial Complex, Kudikadu, Cuddalore-607005.
Sample Description : Stack Emission Monitoring
Reference : Test Request Form Dated 24.10.2024
Sample Drawn By : Laboratory
Sample Location : DG 500 KVA
Sample Procedure : IS 11255 & SMSLA/EN/SOP/017
Diameter of Stack (m) : 0.25 m
Sampling Date : 24 Oct 2024
Sample Received on : 28 Oct 2024
Test Started on : 28 Oct 2024
Test Completed on : 02 Nov 2024
Ambient Temperature : 34°C

TEST RESULTS

S.NO	Parameter	Test Method	Unit	Results	Limit as per CPCB Specification
Chemical					
1	Carbon Dioxide as CO ₂	SMSLA/EN/SOP/017 - 2024	%	1.9	--
2	Carbon Monoxide as CO	SMSLA/EN/SOP/017 - 2024	g/kw-hr	1.48	3.5 Max
3	Nitrogen Oxides as NO _x	SMSLA/EN/SOP/017 - 2024	g/kw-hr	0.30	0.40 Max
4	Oxygen as O ₂	SMSLA/EN/SOP/017 - 2024	%	17.5	--
5	Particulate Matter	IS 11255 (Part 01) - 1985 (Reaffirmed 2019)	g/kw-hr	0.009	0.02 Max
6	Stack temperature	IS 11255 (Part 03) - 2008 (Reaffirmed 2018)	K	402	--
7	Sulphur Dioxide as SO ₂	IS 11255 (Part 02) - 1985 (Reaffirmed 2019)	mg/Nm ³	24.8	--
8	Velocity	IS 11255 (Part 3) - 2008 (Reaffirmed 2018)	m/s	10.9	--
9	Volume of Gas Discharged	IS 11255 (Part 3) - 2008 (Reaffirmed 2018)	Nm ³ /hr	1425	--

Conclusion : The above tested Sample Conforms to the CPCB Standards for the above tested Parameters.

/***** End of the Report *****/


S. Kanimozhi
Authorized Signatory-Chemical

Laboratory Address: 39/6, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124.

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SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT



TC-6118

ULR - TC61182400006277F
Report No : QEN24110134-03

Page 1 of 1
Report Date : 13 Nov 2024

Customer Name : M/s. Asian Paints Limited, (Penta Division)
Customer Address : B5-B10, SIPCOT Industrial Complex, Kudikadu, Cuddalore-607005.
Sample Description : Stack Emission Monitoring
Reference : Test Request Form Dated 07.11.2024
Sample Drawn By : Laboratory
Sample Location : DG 600 KVA
Sample Procedure : IS 11255 & SMSLA/EN/SOP/017
Diameter of Stack (m) : 0.25 m
Sampling Date : 06 Nov 2024
Sample Received on : 08 Nov 2024
Test Started on : 08 Nov 2024
Test Completed on : 13 Nov 2024
Ambient Temperature : 34°C

TEST RESULTS

S.NO	Parameter	Test Method	Unit	Results	Limit as per CPCB Specification
Chemical					
1	Carbon Dioxide as CO ₂	SMSLA/EN/SOP/017 - 2024	%	1.9	--
2	Carbon Monoxide as CO	SMSLA/EN/SOP/017 - 2024	g/kw-hr	1.99	3.5 Max
3	Nitrogen Oxides as NO _x	SMSLA/EN/SOP/017 - 2024	g/kw-hr	0.31	0.40 Max
4	Oxygen as O ₂	SMSLA/EN/SOP/017 - 2024	%	17.4	--
5	Particulate Matter	IS 11255 (Part 01) - 1985 (Reaffirmed 2019)	g/kw-hr	0.010	0.02 Max
6	Stack temperature	IS 11255 (Part 03) - 2008 (Reaffirmed 2018)	K	404	--
7	Sulphur Dioxide as SO ₂	IS 11255 (Part 02) - 1985 (Reaffirmed 2019)	mg/Nm ³	27.8	--
8	Velocity	IS 11255 (Part 3) - 2008 (Reaffirmed 2018)	m/s	11.5	--
9	Volume of Gas Discharged	IS 11255 (Part 3) - 2008 (Reaffirmed 2018)	Nm ³ /hr	1496	--

Conclusion : The above tested Sample Conforms to the CPCB Standards for the above tested Parameters.

/***** End of the Report *****/

S. Kanimozhi
Authorized Signatory-Chemical

Laboratory Address: 39/6, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124

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SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT



TC-6118

ULR - TC611824000006278F
Report No : QEN24110134-04

Page 1 of 1
Report Date : 13 Nov 2024

Customer Name : M/s. Asian Paints Limited. (Penta Division)
Customer Address : B5-B10, SIPCOT Industrial Complex, Kudikadu, Cuddalore-607005.
Sample Description : Stack Emission Monitoring
Reference : Test Request Form Dated 07.11.2024
Sample Drawn By : Laboratory
Sample Location : DG 500 KVA
Sample Procedure : IS 11255 & SMSLA/EN/SOP/017
Diameter of Stack (m) : 0.25 m
Sampling Date : 06 Nov 2024
Sample Received on : 08 Nov 2024
Test Started on : 08 Nov 2024
Test Completed on : 13 Nov 2024
Ambient Temperature : 34°C

TEST RESULTS

S.NO	Parameter	Test Method	Unit	Results	Limit as per CPCB Specification
Chemical					
1	Carbon Dioxide as CO ₂	SMSLA/EN/SOP/017 - 2024	%	2.1	--
2	Carbon Monoxide as CO	SMSLA/EN/SOP/017 - 2024	g/kw-hr	1.90	3.5 Max
3	Nitrogen Oxides as NO _x	SMSLA/EN/SOP/017 - 2024	g/kw-hr	0.30	0.40 Max
4	Oxygen as O ₂	SMSLA/EN/SOP/017 - 2024	%	17.1	--
5	Particulate Matter	IS 11255 (Part 01) - 1985 (Reaffirmed 2019)	g/kw-hr	0.009	0.02 Max
6	Stack temperature	IS 11255 (Part 03) - 2008 (Reaffirmed 2018)	K	407	--
7	Sulphur Dioxide as SO ₂	IS 11255 (Part 02) - 1985 (Reaffirmed 2019)	mg/Nm ³	25.8	--
8	Velocity	IS 11255 (Part 3) - 2008 (Reaffirmed 2018)	m/s	11.8	--
9	Volume of Gas Discharged	IS 11255 (Part 3) - 2008 (Reaffirmed 2018)	Nm ³ /hr	1536	--

Conclusion : The above tested Sample Conforms to the CPCB Standards for the above tested Parameters.

/***** End of the Report *****/

S. Kanimozhi
Authorized Signatory-Chemical

Laboratory Address: 39/6, Thiruvallur High Road, Puduchattam Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124.

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SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT



TC-6118

ULR - TC611824000006279F

Report No : QEN24110134-05 (Part A)

Page 1 of 1

Report Date : 13 Nov 2024

Customer Name : M/s. Asian Paints Limited. (Penta Division)
Customer Address : B5-B10, SIPCOT Industrial Complex, Kudikadu, Cuddalore-607005.
Sample Description : Stack Emission Monitoring
Reference : Test Request Form Dated 07.11.2024
Sample Drawn By : Laboratory
Sample Location : Mono Dryer
Sample Procedure : IS 11255 & SMSLA/EN/SOP/017
Diameter of Stack (m) : 0.2 m

Sampling Date : 06 Nov 2024
Sample Received on : 08 Nov 2024
Test Started on : 08 Nov 2024
Test Completed on : 13 Nov 2024
Ambient Temperature : 34°C

TEST RESULTS

S.NO	Parameter	Test Method	Unit	Results
Chemical				
1	Particulate Matter	IS 11255 (Part 01) - 1985 (Reaffirmed 2019)	mg/Nm ³	15.4
2	Velocity	IS 11255 (Part 3) - 2008 (Reaffirmed 2018)	m/s	10.7
3	Volume of Gas Discharged	IS 11255 (Part 3) - 2008 (Reaffirmed 2018)	Nm ³ /hr	1078
Volatile Organic Compounds				
4	Methanol	SMSLA/GC/SOP/54 - 2024	mg/m ³	BLQ(LOQ:0.1)

Note : BLQ : Below Limit of Quantification LOQ : Limit of Quantification

/***** End of the Report *****/

S.Kanimozhi

Authorized Signatory-Chemical

Laboratory Address: 39/6, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124

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SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT



TC-6118

ULR - TC611824000011070F
Report No : QEN241207024-03

Page 1 of 1
Report Date : 12 Dec 2024

Customer Name : M/s. ASIAN PAINTS LIMITED. (PENTA DIVISION)
Customer Address : B5 - B10, Sipcot Industrial Complex, Kudikadu Village, Cuddalore - 607005.
Sample Description : Stack Emission Monitoring
Reference : Test Request Form Dated 06.12.2024
Sample Drawn By : Laboratory
Sample Location : DG 600 KVA
Sample Procedure : IS 11255 & SMSLA/EN/SOP/017
Diameter of Stack (m) : 0.25 m
Sampling Date : 05 Dec 2024
Sample Received on : 07 Dec 2024
Test Started on : 07 Dec 2024
Test Completed on : 12 Dec 2024
Ambient Temperature : 34°C

TEST RESULTS

S.NO	Parameter	Test Method	Unit	Results	Limit as per CPCB Specification
Chemical					
1	Carbon Dioxide as CO ₂	SMSLA/EN/SOP/017 - 2024	%	2.2	--
2	Carbon Monoxide as CO	SMSLA/EN/SOP/017 - 2024	g/kw-hr	1.09	3.5 Max
3	Nitrogen Oxides as NO _x	SMSLA/EN/SOP/017 - 2024	g/kw-hr	0.31	0.40 Max
4	Oxygen as O ₂	SMSLA/EN/SOP/017 - 2024	%	17.1	--
5	Particulate Matter	IS 11255 (Part 01) - 1985 (Reaffirmed 2019)	g/kw-hr	0.009	0.02 Max
6	Stack temperature	IS 11255 (Part 03) - 2008 (Reaffirmed 2018)	K	401	--
7	Sulphur Dioxide as SO ₂	IS 11255 (Part 02) - 1985 (Reaffirmed 2019)	mg/Nm ³	26.2	--
8	Velocity	IS 11255 (Part 3) - 2008 (Reaffirmed 2018)	m/s	12.5	--
9	Volume of Gas Discharged	IS 11255 (Part 3) - 2008 (Reaffirmed 2018)	Nm ³ /hr	1341	--

Conclusion : The above tested Sample Conforms to the CPCB Standards for the above tested Parameters.

/***** End of the Report *****/

M. Sarathkumar
Authorized Signatory-Chemical

Laboratory Address: 39.6, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124.

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SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT



TC-6118

ULR - TC611824000011071F
Report No : QEN241207024-04

Page 1 of 1
Report Date : 12 Dec 2024

Customer Name : M/s. ASIAN PAINTS LIMITED. (PENTA DIVISION)
Customer Address : B5 - B10, Sipcot Industrial Complex, Kudikadu Village, Cuddalore - 607005.
Sample Description : Stack Emission Monitoring
Reference : Test Request Form Dated 06.12.2024
Sample Drawn By : Laboratory
Sample Location : DG 500 KVA
Sample Procedure : IS 11255 & SMSLA/EN/SOP/017
Diameter of Stack (m) : 0.25 m
Sampling Date : 05 Dec 2024
Sample Received on : 07 Dec 2024
Test Started on : 07 Dec 2024
Test Completed on : 12 Dec 2024
Ambient Temperature : 34°C

TEST RESULTS

S.NO	Parameter	Test Method	Unit	Results	Limit as per CPCB Specification
Chemical					
1	Carbon Dioxide as CO ₂	SMSLA/EN/SOP/017 - 2024	%	1.7	--
2	Carbon Monoxide as CO	SMSLA/EN/SOP/017 - 2024	g/kw-hr	1.09	3.5 Max
3	Nitrogen Oxides as NO _x	SMSLA/EN/SOP/017 - 2024	g/kw-hr	0.30	0.40 Max
4	Oxygen as O ₂	SMSLA/EN/SOP/017 - 2024	%	176	--
5	Particulate Matter	IS 11255 (Part 01) - 1985 (Reaffirmed 2019)	g/kw-hr	0.012	0.02 Max
6	Stack temperature	IS 11255 (Part 03) - 2008 (Reaffirmed 2018)	K	404	--
7	Sulphur Dioxide as SO ₂	IS 11255 (Part 02) - 1985 (Reaffirmed 2019)	mg/Nm ³	11.4	--
8	Velocity	IS 11255 (Part 3) - 2008 (Reaffirmed 2018)	m/s	10.8	--
9	Volume of Gas Discharged	IS 11255 (Part 3) - 2008 (Reaffirmed 2018)	Nm ³ /hr	1405	--

Conclusion : The above tested Sample Conforms to the CPCB Standards for the above tested Parameters.

/***** End of the Report *****/

M.C. S
M. Sarathkumar
Authorized Signatory-Chemical

Laboratory Address: 39/6, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124.

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SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT



TC-6118

ULR - TC611824000011072F

Report No : QEN241207024-05 (Part A)

Page 1 of 1

Report Date : 12 Dec 2024

Customer Name : M/s. ASIAN PAINTS LIMITED. (PENTA DIVISION)
Customer Address : B5 - B10, Sipcot Industrial Complex, Kudikadu Village, Cuddalore - 607005.
Sample Description : Stack Emission Monitoring
Reference : Test Request Form Dated 06.12.2024
Sample Drawn By : Laboratory
Sample Location : Mono Dryer
Sample Procedure : IS 11255 & SMSLA/EN/SOP/017
Diameter of Stack (m) : 0.2 m
Sampling Date : 06 Dec 2024
Sample Received on : 07 Dec 2024
Test Started on : 07 Dec 2024
Test Completed on : 12 Dec 2024
Ambient Temperature : 34°C

TEST RESULTS

S.NO	Parameter	Test Method	Unit	Results
Chemical				
1	Particulate Matter	IS 11255 (Part 01) - 1985 (Reaffirmed 2019)	mg/Nm ³	11.6
2	Velocity	IS 11255 (Part 3) - 2008 (Reaffirmed 2018)	m/s	9.6
3	Volume of Gas Discharged	IS 11255 (Part 3) - 2008 (Reaffirmed 2018)	Nm ³ /hr	1027
Volatile Organic Compounds				
4	Methanol	SMSLA/GC/SOP/54 - 2024	mg/m ³	BLQ(LOQ:0.1)

Note : BLQ : Below Limit of Quantification LOQ : Limit of Quantification.

/***** End of the Report *****/

M. Sarathkumar
Authorized Signatory-Chemical

Laboratory Address : 39/6, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124.

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SMS LABS SERVICES PRIVATE LIMITED



TC-6118

TEST REPORT

ULR - TC61182500005244F

Report No : QEN250129017-03 (Part A)

Page 1 of 1

Report Date : 01 Feb 2025

Customer Name : M/s. Asian Paints Limited. (Penta Division)
Customer Address : B5-B10, SIPCOT Industrial Complex, Kudikadu, Cuddalore-607005.
Sample Description : Stack Emission Monitoring
Reference : Test Request Form Dated 27.01.2025
Sample Drawn By : Laboratory
Sample Location : Mono Dryer
Sample Procedure : IS 11255 & SMSLA/EN/SOP/017
Diameter of Stack (m) : 0.2 m
Sampling Date : 28 Jan 2025
Sample Received on : 29 Jan 2025
Test Started on : 29 Jan 2025
Test Completed on : 01 Feb 2025
Ambient Temperature : 34°C

TEST RESULTS

S.NO	Parameter	Test Method	Unit	Results
Chemical				
1	Particulate Matter	IS 11255 (Part 01) - 1985 (Reaffirmed 2019)	mg/Nm ³	14.4
2	Velocity	IS 11255 (Part 3) - 2008 (Reaffirmed 2018)	m/s	9.6
3	Volume of Gas Discharged	IS 11255 (Part 3) - 2008 (Reaffirmed 2018)	Nm ³ /hr	964
Volatile Organic Compounds				
4	Methanol	SMSLA/GC/SOP/54 - 2024	mg/m ³	BLQ(LOQ:0.1)

Note : BLQ : Below Limit of Quantification LOQ : Limit of Quantification.

/***** End of the Report *****/

M. Sarathkumar
Authorized Signatory-Chemical

Laboratory Address: 39/6, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124

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SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT

Page 1 of 1

Report No : QEN250129017-03 (Part B)

Report Date : 01 Feb 2025

Customer Name : M/s. Asian Paints Limited. (Penta Division)
Customer Address : B5-B10, SIPCOT Industrial Complex, Kudikadu, Cuddalore-607005.
Sample Description : Stack Emission Monitoring
Reference : Test Request Form Dated 27.01.2025
Sample Drawn By : Laboratory
Sample Location : Mono Dryer
Sample Procedure : IS 11255 & SMSLA/EN/SOP/017
Diameter of Stack (m) : 0.2 m
Sampling Date : 27 Jan 2025
Sample Received on : 29 Jan 2025
Test Started on : 29 Jan 2025
Test Completed on : 01 Feb 2025
Ambient Temperature : 34°C

TEST RESULTS

S.NO	Parameter	Test Method	Unit	Results
Aldehydes				
1	Acetaldehyde	NIOSH 2538 - 1994	mg/m ³	BLQ(LOQ:0.1)
2	Formaldehyde	SMSLA/GC/SOP/60 - 2024	mg/m ³	BLQ(LOQ:0.1)

Note : BLQ : Below Limit of Quantification LOQ : Limit of Quantification.

/***** End of the Report *****/

M. Sarathkumar
Authorized Signatory-Chemical

Laboratory Address: 39/6, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124.

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SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT



TC-6118

ULR - TC611825000005245F
Report No : QEN250129017-04

Page 1 of 1
Report Date : 01 Feb 2025

Customer Name : M/s. Asian Paints Limited. (Penta Division)
Customer Address : B5-B10, SIPCOT Industrial Complex, Kudikadu, Cuddalore-607005.
Sample Description : Stack Emission Monitoring
Reference : Test Request Form Dated 27.01.2025
Sample Drawn By : Laboratory
Sample Location : Boiler 16 TPH
Sample Procedure : IS 11255 & SMSLA/EN/SOP/017
Diameter of Stack (m) : 1.0 m
Sampling Date : 28 Jan 2025
Sample Received on : 29 Jan 2025
Test Started on : 29 Jan 2025
Test Completed on : 01 Feb 2025
Ambient Temperature : 34°C

TEST RESULTS

S.NO	Parameter	Test Method	Unit	Results	Limit as per CPCB
Chemical					
1	Carbon Dioxide as CO ₂	SMSLA/EN/SOP/017 - 2024	%	6.6	--
2	Carbon Monoxide as CO	SMSLA/EN/SOP/017 - 2024	mg/Nm ³	874	--
3	Nitrogen Oxides as NO _x	SMSLA/EN/SOP/017 - 2024	mg/Nm ³	256	--
4	Oxygen as O ₂	SMSLA/EN/SOP/017 - 2024	%	9.3	--
5	Particulate Matter	IS 11255 (Part 01) - 1985 (Reaffirmed 2019)	mg/Nm ³	28.6	*
6	Stack temperature	IS 11255 (Part 03) - 2008 (Reaffirmed 2018)	K	412	--
7	Sulphur Dioxide as SO ₂	IS 11255 (Part 02) - 1985 (Reaffirmed 2019)	mg/Nm ³	26.7	--
8	Velocity	IS 11255 (Part 3) - 2008 (Reaffirmed 2018)	m/s	13.6	--
9	Volume of Gas Discharged	IS 11255 (Part 3) - 2008 (Reaffirmed 2018)	Nm ³ /hr	27765	--

*Note : Less than 2 (Ton/Hour) : 500 mg/Nm³
2 to Less than 10 (Ton/Hour) : 150 mg/Nm³
10 and Above (Ton/Hour) : 100 mg/Nm³

Conclusion : The above tested Sample Conforms to the CPCB Standards for the above tested Parameters.

/***** End of the Report *****/


M. Sarathkumar
Authorized Signatory-Chemical

Laboratory Address: 39.6, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124.

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SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT



TC-6118

ULR - TC61182500008299F
Report No : QEN250215014-01

Page 1 of 1
Report Date : 18 Feb 2025

Customer Name : M/s. ASIAN PAINTS LIMITED. (PENTA DIVISION)
Customer Address : B5 - B10, Sipcot Industrial Complex, Kudikadu Village, Cuddalore - 607005.
Sample Description : Stack Emission Monitoring
Reference : Test Request Form Dated 14.02.2025
Sample Drawn By : Laboratory
Sample Location : Boiler 16 TPH
Sample Procedure : IS 11255 & SMSLA/EN/SOP/017
Diameter of Stack (m) : 1.0 m
Sampling Date : 13 Feb 2025
Sample Received on : 15 Feb 2025
Test Started on : 15 Feb 2025
Test Completed on : 18 Feb 2025
Ambient Temperature : 34°C

TEST RESULTS

S.NO	Parameter	Test Method	Unit	Results	Limit as per CPCB
Chemical					
1	Carbon Dioxide as CO ₂	SMSLA/EN/SOP/017 - 2024	%	4.4	--
2	Carbon Monoxide as CO	SMSLA/EN/SOP/017 - 2024	mg/Nm ³	226	--
3	Nitrogen Oxides as NO _x	SMSLA/EN/SOP/017 - 2024	mg/Nm ³	96	--
4	Oxygen as O ₂	SMSLA/EN/SOP/017 - 2024	%	13.3	--
5	Particulate Matter	IS 11255 (Part 01) - 1985 (Reaffirmed 2019)	mg/Nm ³	23	*
6	Stack temperature	IS 11255 (Part 03) - 2008 (Reaffirmed 2018)	K	671	--
7	Sulphur Dioxide as SO ₂	IS 11255 (Part 02) - 1985 (Reaffirmed 2019)	mg/Nm ³	26.1	--
8	Velocity	IS 11255 (Part 03) - 2008 (Reaffirmed 2018)	m/s	12.8	--
9	Volume of Gas Discharged	IS 11255 (Part 03) - 2008 (Reaffirmed 2018)	Nm ³ /hr	16045	--

*Note : Less than 2 (Ton/Hour) : 500 mg/Nm³
2 to Less than 10 (Ton/Hour) : 150 mg/Nm³
10 and Above (Ton/Hour) : 100 mg/Nm³

Conclusion : The above tested Sample Conforms to the CPCB Standards for the above tested Parameters.

/***** End of the Report *****/

M. Sarathkumar
Authorized Signatory-Chemical

Laboratory Address: 39/6, Thiruvallur High Road, Pudukhatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124.

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SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT



TC-6118

ULR - TC61182500008302F

Report No : QEN250215014-04 (Part A)

Page 1 of 1

Report Date : 18 Feb 2025

Customer Name : M/s. ASIAN PAINTS LIMITED. (PENTA DIVISION)
Customer Address : B5 - B10, Sipcot Industrial Complex, Kudikadu Village, Cuddalore - 607005.
Sample Description : Stack Emission Monitoring
Reference : Test Request Form Dated 14.02.2025
Sample Drawn By : Laboratory
Sample Location : Mono Dryer
Sample Procedure : IS 11255 & SMSLA/EN/SOP/017
Diameter of Stack (m) : 0.2 m
Sampling Date : 13 Feb 2025
Sample Received on : 15 Feb 2025
Test Started on : 15 Feb 2025
Test Completed on : 18 Feb 2025
Ambient Temperature : 34°C

TEST RESULTS

S.NO	Parameter	Test Method	Unit	Results
Chemical				
1	Particulate Matter	IS 11255 (Part 01) - 1985 (Reaffirmed 2019)	mg/Nm ³	10.8
2	Velocity	IS 11255 (Part 3) - 2008 (Reaffirmed 2018)	m/s	11.6
3	Volume of Gas Discharged	IS 11255 (Part 3) - 2008 (Reaffirmed 2018)	Nm ³ /hr	978
Volatile Organic Compounds				
4	Methanol	SMSLA/GC/SOP/54 - 2024	mg/m ³	BLQ(LOQ:0.1)

Note : BLQ : Below Limit of Quantification LOQ : Limit of Quantification.

/***** End of the Report *****/

M.C
M. Sarathkumar
Authorized Signatory-Chemical

Laboratory Address: 39/6, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124.

Note: Test results relate only to the items tested. Test Report shall not be reproduced in full or part without the approval of SMS Labs. Non-Perishable remnant samples will be disposed 15 days from the date of receipt unless otherwise agreed with the customer except in case of regulatory samples, which will be retained for a specific period as per regulatory requirements; while perishable and environmental remnant samples will be disposed consequently upon completion of testing. Samples are not drawn by laboratory unless or otherwise stated. A satisfactory test report in no way implies that a product so tested is approved by NABL. The Laboratory accepts no liability with regard to the origin or source from which the sample(s) is/ are said to be extracted.



SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT

Page 1 of 1

Report No : QEN250215014-04 (Part B)

Report Date : 18 Feb 2025

Customer Name : M/s. ASIAN PAINTS LIMITED. (PENTA DIVISION)
Customer Address : B5 - B10, Sipcot Industrial Complex, Kudikadu Village, Cuddalore - 607005.
Sample Description : Stack Emission Monitoring
Reference : Test Request Form Dated 14.02.2025
Sample Drawn By : Laboratory
Sample Location : Mono Dryer
Sample Procedure : IS 11255 & SMSLA/EN/SOP/017
Diameter of Stack (m) : 0.2 m
Sampling Date : 13 Feb 2025
Sample Received on : 15 Feb 2025
Test Started on : 15 Feb 2025
Test Completed on : 18 Feb 2025
Ambient Temperature : 34°C

TEST RESULTS

S.NO	Parameter	Test Method	Unit	Results
Aldehydes				
1	Acetaldehyde	NIOSH 2538 - 1994	mg/m3	BLQ(LOQ:0.1)
2	Formaldehyde	SMSLA/GC/SOP/60 - 2024	mg/m3	BLQ(LOQ:0.1)

Note : BLQ : Below Limit of Quantification LOQ : Limit of Quantification.

/***** End of the Report *****/


M. Sarathkumar
Authorized Signatory-Chemical

Laboratory Address: 39/6, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124.

Note: Test results relate only to the items tested. Test Report shall not be reproduced in full or part without the approval of SMS Labs. Non-Perishable remnant samples will be disposed 15 days from the date of receipt unless otherwise agreed with the customer except in case of regulatory samples, which will be retained for a specific period as per regulatory requirements, while perishable and environmental remnant samples will be disposed consequently upon completion of testing. Samples are not drawn by laboratory unless or otherwise stated. A satisfactory test report in no way implies that a product so tested is approved by NABL. The Laboratory accepts no liability with regard to the origin or source from which the sample(s) is/ are said to be extracted.



SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT



TC-6118

ULR - TC611825000013662F
Report No : QEN250308023-01

Page 1 of 1
Report Date : 13 Mar 2025

Customer Name : M/s. Asian Paints Limited
Customer Address : B5-B10, SIPCOT Industrial Complex, Kudikadu Village, Cuddalore-607005.
Sample Description : Stack Emission Monitoring
Reference : Test Request Form Dated 06.03.2025
Sample Drawn By : Laboratory
Sample Location : Boiler-16 TPH
Sample Procedure : IS 11255 & SMSLA/EN/SOP/017
Diameter of Stack (m) : 1.0 m
Sampling Date : 06 Mar 2025
Sample Received on : 08 Mar 2025
Test Started on : 08 Mar 2025
Test Completed on : 12 Mar 2025
Ambient Temperature : 34°C

TEST RESULTS

S.NO	Parameter	Test Method	Unit	Results	Limit as per CPCB
Chemical					
1	Carbon Dioxide as CO ₂	SMSLA/EN/SOP/017 - 2024	%	4.8	--
2	Carbon Monoxide as CO	SMSLA/EN/SOP/017 - 2024	mg/Nm ³	241	--
3	Nitrogen Oxides as NO _x	SMSLA/EN/SOP/017 - 2024	mg/Nm ³	158	--
4	Oxygen as O ₂	SMSLA/EN/SOP/017 - 2024	%	13.0	--
5	Particulate Matter	IS 11255 (Part 01) - 1985 (Reaffirmed 2019)	mg/Nm ³	14.3	*
6	Stack temperature	IS 11255 (Part 03) - 2008 (Reaffirmed 2018)	K	663	--
7	Sulphur Dioxide as SO ₂	IS 11255 (Part 02) - 1985 (Reaffirmed 2019)	mg/Nm ³	278	--
8	Velocity	IS 11255 (Part 3) - 2008 (Reaffirmed 2018)	m/s	10.8	--
9	Volume of Gas Discharged	IS 11255 (Part 3) - 2008 (Reaffirmed 2018)	Nm ³ /hr	13701	--

*Note : Less than 2 (Ton/Hour) : 500 mg/Nm³
2 to Less than 10 (Ton/Hour) : 150 mg/Nm³
10 and Above (Ton/Hour) : 100 mg/Nm³

Conclusion : The above tested Sample Conforms to the CPCB Standards for the above tested Parameters.

/***** End of the Report *****/

M. Sarathkumar
Authorized Signatory-Chemical

Laboratory Address: 39/6, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124.

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SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT



TC-6118

ULR - TC611825000013663F
Report No : QEN250308023-02

Page 1 of 1
Report Date : 13 Mar 2025

Customer Name : M/s. Asian Paints Limited
Customer Address : B5-B10, SIPCOT Industrial Complex, Kudikadu Village, Cuddalore-607005.
Sample Description : Stack Emission Monitoring
Reference : Test Request Form Dated 06.03.2025
Sample Drawn By : Laboratory
Sample Location : DG 600 KVA
Sample Procedure : IS 11255 & SMSLA/EN/SOP/017
Diameter of Stack (m) : 0.25 m
Sampling Date : 06 Mar 2025
Sample Received on : 08 Mar 2025
Test Started on : 08 Mar 2025
Test Completed on : 12 Mar 2025
Ambient Temperature : 34°C

TEST RESULTS

S.NO	Parameter	Test Method	Unit	Results	Limit as per CPCB Specification
Chemical					
1	Carbon Dioxide as CO ₂	SMSLA/EN/SOP/017 - 2024	%	1.9	--
2	Carbon Monoxide as CO	SMSLA/EN/SOP/017 - 2024	g/kw-hr	0.31	3.5 Max
3	Nitrogen Oxides as NO _x	SMSLA/EN/SOP/017 - 2024	g/kw-hr	0.28	0.40 Max
4	Oxygen as O ₂	SMSLA/EN/SOP/017 - 2024	%	17.6	--
5	Particulate Matter	IS 11255 (Part 01) - 1985 (Reaffirmed 2019)	g/kw-hr	0.010	0.02 Max
6	Stack temperature	IS 11255 (Part 03) - 2008 (Reaffirmed 2018)	K	409	--
7	Sulphur Dioxide as SO ₂	IS 11255 (Part 02) - 1985 (Reaffirmed 2019)	mg/Nm ³	28.3	--
8	Velocity	IS 11255 (Part 3) - 2008 (Reaffirmed 2018)	m/s	11.38	--
9	Volume of Gas Discharged	IS 11255 (Part 3) - 2008 (Reaffirmed 2018)	Nm ³ /hr	1463	--

Conclusion : The above tested Sample Conforms to the CPCB Standards for the above tested Parameters.

/***** End of the Report *****/

M. Sarathkumar
Authorized Signatory-Chemical

Laboratory Address: 39/6, Thiruvallur High Road, Poduchatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124.

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SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT



TC-6118

ULR - TC611825000013665F
Report No : QEN250308023-03

Page 1 of 1
Report Date : 13 Mar 2025

Customer Name : M/s. Asian Paints Limited
Customer Address : B5-B10, SIPCOT Industrial Complex, Kudikadu Village, Cuddalore-607005.
Sample Description : Stack Emission Monitoring
Reference : Test Request Form Dated 06.03.2025
Sample Drawn By : Laboratory
Sample Location : DG 500 KVA
Sample Procedure : IS 11255 & SMSLA/EN/SOP/017
Diameter of Stack (m) : 0.25 m
Sampling Date : 06 Mar 2025
Sample Received on : 08 Mar 2025
Test Started on : 08 Mar 2025
Test Completed on : 12 Mar 2025
Ambient Temperature : 34°C

TEST RESULTS

S.NO	Parameter	Test Method	Unit	Results	Limit as per CPCB Specification
Chemical					
1	Carbon Dioxide as CO ₂	SMSLA/EN/SOP/017 - 2024	%	2.6	--
2	Carbon Monoxide as CO	SMSLA/EN/SOP/017 - 2024	g/kw-hr	0.27	3.5 Max
3	Nitrogen Oxides as NO _x	SMSLA/EN/SOP/017 - 2024	g/kw-hr	0.24	0.40 Max
4	Oxygen as O ₂	SMSLA/EN/SOP/017 - 2024	%	17.2	--
5	Particulate Matter	IS 11255 (Part 01) - 1985 (Reaffirmed 2019)	g/kw-hr	0.009	0.02 Max
6	Stack temperature	IS 11255 (Part 03) - 2008 (Reaffirmed 2018)	K	405	--
7	Sulphur Dioxide as SO ₂	IS 11255 (Part 02) - 1985 (Reaffirmed 2019)	mg/Nm ³	26.7	--
8	Velocity	IS 11255 (Part 3) - 2008 (Reaffirmed 2018)	m/s	10.5	--
9	Volume of Gas Discharged	IS 11255 (Part 3) - 2008 (Reaffirmed 2018)	Nm ³ /hr	1363	--

Conclusion : The above tested Sample Conforms to the CPCB Standards for the above tested Parameters.

/***** End of the Report *****/

M. Sarathkumar
Authorized Signatory-Chemical

Laboratory Address: 39/6, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124.

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SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT



TC-6118

ULR - TC611824000023366F

Report No : QEN24050330-10 (Part A)

Page 1 of 1

Report Date : 20 May 2024

Customer Name : M/s. ASIAN PAINTS LIMITED. (PENTA DIVISION)
Customer Address : B5 - B10, Sipcot Industrial Complex, Kudikadu Village, Cuddalore - 607005.
Sample Name : Ambient VOC Monitoring
Sample Description : Ambient VOC Monitoring
Reference : Test Request Form Dated 14.05.2024
Sample Drawn By : Laboratory
Sample Location : Near Coal Yard (Down Wind)
Sample Procedure : NIOSH & SOP'S

Sampling Date : 14 May 2024
Sample Received on : 16 May 2024
Test Started on : 17 May 2024
Test Completed on : 20 May 2024

TEST RESULTS

S.NO	Parameter	Test Method	Unit	Results
Others - Hydrocarbons				
1	Total Hydrocarbons	SMSLA/GM/SOP/08	mg/m ³	BLQ(LOQ:0.1)

Note : BLQ : Below Limit of Quantification LOQ : Limit of Quantification.

/***** End of the Report *****/


A. Manikandan
Authorized Signatory-Chemical

Laboratory Address : 396, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124.

Note: Test results relate only to the items tested. Test Report shall not be reproduced in full or part without the approval of SMS Labs. Non-Perishable remnant samples will be disposed 15 days from the date of receipt unless otherwise agreed with the customer except in case of regulatory samples, which will be retained for a specific period as per regulatory requirements; while perishable and environmental remnant samples will be disposed consequently upon completion of testing. Samples are not drawn by laboratory unless or otherwise stated. A satisfactory test report in no way implies that a product so tested is approved by NABL. The Laboratory accepts no liability with regard to the origin or source from which the sample(s) are said to be extracted.



SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT

Page 1 of 1

Report No : QEN24050330-11 (Part B)

Report Date : 20 May 2024

Customer Name : M/s. ASIAN PAINTS LIMITED. (PENTA DIVISION)
Customer Address : B5 - B10, Sipcot Industrial Complex, Kudikadu Village, Cuddalore - 607005.
Sample Name : Ambient VOC Monitoring
Sample Description : Ambient VOC Monitoring
Reference : Test Request Form Dated 14.05.2024
Sample Drawn By : Laboratory
Sample Location : Near Weigh Bridge (up Wind)
Sample Procedure : NIOSH & SOP'S

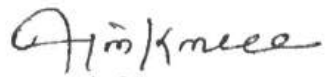
Sampling Date : 14 May 2024
Sample Received on : 16 May 2024
Test Started on : 17 May 2024
Test Completed on : 20 May 2024

TEST RESULTS

S.NO	Parameter	Test Method	Unit	Results
Aldehydes				
1	Acetaldehyde	NIOSH - 2539	mg/m ³	BLQ(LOQ:0.1)
2	Formaldehyde	NIOSH - 2539	mg/m ³	BLQ(LOQ:0.1)
Volatile Organic Compounds				
3	Methanol	SMSLA/GM/SOP/07	mg/m ³	BLQ(LOQ:0.1)

Note : BLQ : Below Limit of Quantification LOQ : Limit of Quantification.

/***** End of the Report *****/


A. Manikandan
Authorized Signatory-Chemical

Laboratory Address : 39/6, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124

Note: Test results relate only to the items tested. Test Report shall not be reproduced in full or part without the approval of SMS Labs. Non-Perishable remnant samples will be disposed 15 days from the date of receipt unless otherwise agreed with the customer except in case of regulatory samples, which will be retained for a specific period as per regulatory requirements, while perishable and environmental remnant samples will be disposed consequently upon completion of testing. Samples are not drawn by laboratory unless or otherwise stated. A satisfactory test report in no way implies that a product so tested is approved by NABL. The Laboratory accepts no liability with regard to the origin or source from which the sample(s) is/are said to be extracted.



SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT



TC-6118

ULR - TC611824000023367F

Report No : QEN24050330-11 (Part A)

Page 1 of 1

Report Date : 20 May 2024

Customer Name : M/s. ASIAN PAINTS LIMITED. (PENTA DIVISION)
Customer Address : B5 - B10, Sipcot Industrial Complex, Kudikadu Village, Cuddalore - 607005.
Sample Name : Ambient VOC Monitoring
Sample Description : Ambient VOC Monitoring
Reference : Test Request Form Dated 14.05.2024
Sample Drawn By : Laboratory
Sample Location : Near Weigh Bridge (up Wind)
Sample Procedure : NIOSH & SOP'S

Sampling Date : 14 May 2024
Sample Received on : 16 May 2024
Test Started on : 17 May 2024
Test Completed on : 20 May 2024

TEST RESULTS

S.NO	Parameter	Test Method	Unit	Results
Others - Hydrocarbons				
I	Total Hydrocarbons	SMSLA/GM/SOP/08	mg/m ³	BLQ(LOQ:0.1)

Note : BLQ : Below Limit of Quantification LOQ : Limit of Quantification.

/***** End of the Report *****/


A. Manikandan
Authorized Signatory-Chemical

Laboratory Address: 39/6, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124.

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SMSLA

SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT

Page 1 of 1

Report No : QEN24050330-10 (Part B)

Report Date : 20 May 2024

Customer Name : M/s. ASIAN PAINTS LIMITED. (PENTA DIVISION)
Customer Address : B5 - B10, Sipcot Industrial Complex, Kudikadu Village, Cuddalore - 607005.
Sample Name : Ambient VOC Monitoring
Sample Description : Ambient VOC Monitoring
Reference : Test Request Form Dated 14.05.2024
Sample Drawn By : Laboratory
Sample Location : Near Coal Yard (Down Wind)
Sample Procedure : NIOSH & SOP'S

Sampling Date : 14 May 2024
Sample Received on : 16 May 2024
Test Started on : 17 May 2024
Test Completed on : 20 May 2024

TEST RESULTS

S.NO	Parameter	Test Method	Unit	Results
Aldehydes				
1	Acetaldehyde	NIOSH - 2539	mg/m ³	BLQ(LOQ:0.1)
2	Formaldehyde	NIOSH - 2539	mg/m ³	BLQ(LOQ:0.1)
Volatile Organic Compounds				
3	Methanol	SMSLA/GM/SOP/07	mg/m ³	BLQ(LOQ:0.1)

Note : BLQ : Below Limit of Quantification LOQ : Limit of Quantification.

/***** End of the Report *****/

A. Manikandan
Authorized Signatory-Chemical

Laboratory Address 39/6, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124.

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SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT

Page 1 of 1

Report No : QEN24060618-10 (Part B)

Report Date : 01 Jul 2024

Customer Name : M/s. ASIAN PAINTS LIMITED. (PENTA DIVISION)
Customer Address : B5 - B10, Sipcot Industrial Complex, Kudikadu Village, Cuddalore - 607005.
Sample Name : Ambient VOC Monitoring Sampling Date : 24 Jun 2024
Sample Description : Ambient VOC Monitoring Sample Received on : 27 Jun 2024
Reference : Test Request Form Dated 24.06.2024 Test Started on : 29 Jun 2024
Sample Drawn By : Laboratory Test Completed on : 01 Jul 2024
Sample Location : Near Weigh Bridge (Up Wind)
Sample Procedure : NIOSH & SOP'S

TEST RESULTS

S.NO	Parameter	Test Method	Unit	Results
Aldehydes				
1	Acetaldehyde	NIOSH - 2539	mg/m ³	BLQ(LOQ:0.1)
2	Formaldehyde	NIOSH - 2539	mg/m ³	BLQ(LOQ:0.1)
Volatile Organic Compounds				
3	Methanol	SMSLA/GM/SOP/07 - 2019	mg/m ³	BLQ(LOQ:0.1)

Note : BLQ : Below Limit of Quantification LOQ : Limit of Quantification.

/***** End of the Report *****/

M. Sridhar
Authorized Signatory-Chemical

Laboratory Address: 39/6, Thiruvallur High Road, Puduchattam Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124.

Note: Test results relate only to the items tested. Test Report shall not be reproduced in full or part without the approval of SMS Labs. Non-Perishable remnant samples will be disposed 15 days from the date of receipt unless otherwise agreed with the customer except in case of regulatory samples, which will be retained for a specific period as per regulatory requirements; while perishable and environmental remnant samples will be disposed consequently upon completion of testing. Samples are not drawn by laboratory unless otherwise stated. A satisfactory test report in no way implies that a product so tested is approved by NABL. The Laboratory accepts no liability with regard to the origin or source from which the sample(s) is/ are said to be extracted.



SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT



TC-6118

ULR - TC611824000030748F

Report No : QEN24060618-10 (Part A)

Page 1 of 1

Report Date : 01 Jul 2024

Customer Name : M/s. ASIAN PAINTS LIMITED. (PENTA DIVISION)
Customer Address : B5 - B10, Sipcot Industrial Complex, Kudikadu Village, Cuddalore - 607005.
Sample Name : Ambient VOC Monitoring
Sample Description : Ambient VOC Monitoring
Reference : Test Request Form Dated 24.06.2024
Sample Drawn By : Laboratory
Sample Location : Near Weigh Bridge (Up Wind)
Sample Procedure : NIOSH & SOP'S

Sampling Date : 24 Jun 2024
Sample Received on : 27 Jun 2024
Test Started on : 29 Jun 2024
Test Completed on : 01 Jul 2024

TEST RESULTS

S.NO	Parameter	Test Method	Unit	Results
Others - Hydrocarbons				
1	Total Hydrocarbons	SMSLA/GM/SOP/08 - 2019	mg/m ³	BLQ(LOQ:0.1)

Note : BLQ : Below Limit of Quantification LOQ : Limit of Quantification.

/***** End of the Report *****/

M. Sridhar
M.Sridhar
Authorized Signatory-Chemical

Laboratory Address: 39/6, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124.

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SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT

Page 1 of 1

Report No : QEN24060618-09 (Part B)

Report Date : 01 Jul 2024

Customer Name : M/s. ASIAN PAINTS LIMITED. (PENTA DIVISION)
Customer Address : B5 - B10, Sipcot Industrial Complex, Kudikadu Village, Cuddalore - 607005.
Sample Name : Ambient VOC Monitoring
Sample Description : Ambient VOC Monitoring
Reference : Test Request Form Dated 24.06.2024
Sample Drawn By : Laboratory
Sample Location : Near Coal Yard (Down Wind)
Sample Procedure : NIOSH & SOP'S

Sampling Date : 24 Jun 2024
Sample Received on : 27 Jun 2024
Test Started on : 29 Jun 2024
Test Completed on : 01 Jul 2024

TEST RESULTS

S.NO	Parameter	Test Method	Unit	Results
Aldehydes				
1	Acetaldehyde	NIOSH - 2539	mg/m ³	BLQ(LOQ:0.1)
2	Formaldehyde	NIOSH - 2539	mg/m ³	BLQ(LOQ:0.1)
Volatile Organic Compounds				
3	Methanol	SMSLA/GM/SOP/07 - 2019	mg/m ³	BLQ(LOQ:0.1)

Note : BLQ : Below Limit of Quantification LOQ : Limit of Quantification.

/***** End of the Report *****/

M. Sridhar
M.Sridhar
Authorized Signatory-Chemical

Laboratory Address : 39 B, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124

Note: Test results relate only to the items tested. Test Report shall not be reproduced in full or part without the approval of SMS Labs. Non-Perishable remnant samples will be disposed 15 days from the date of receipt unless otherwise agreed with the customer except in case of regulatory samples, which will be retained for a specific period as per regulatory requirements, while perishable and environmental remnant samples will be disposed consequently upon completion of testing. Samples are not drawn by laboratory unless or otherwise stated. A satisfactory test report in no way implies that a product so tested is approved by NABL. The Laboratory accepts no liability with regard to the origin or source from which the sample(s) is/ are said to be extracted.



SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT



TC-6118

ULR - TC611824000030735F

Report No : QEN24060618-09 (Part A)

Page 1 of 1

Report Date : 01 Jul 2024

Customer Name : M/s. ASIAN PAINTS LIMITED. (PENTA DIVISION)
Customer Address : B5 - B10, Sipcot Industrial Complex, Kudikadu Village, Cuddalore - 607005.
Sample Name : Ambient VOC Monitoring
Sample Description : Ambient VOC Monitoring
Reference : Test Request Form Dated 24.06.2024
Sample Drawn By : Laboratory
Sample Location : Near Coal Yard (Down Wind)
Sample Procedure : NIOSH & SOP'S

Sampling Date : 24 Jun 2024
Sample Received on : 27 Jun 2024
Test Started on : 29 Jun 2024
Test Completed on : 01 Jul 2024

TEST RESULTS

S.NO	Parameter	Test Method	Unit	Results
Others - Hydrocarbons				
1	Total Hydrocarbons	SMSLA/GM/SOP/08 - 2019	mg/m ³	BLQ(LOQ:0.1)

Note : BLQ : Below Limit of Quantification LOQ : Limit of Quantification.

/***** End of the Report *****/

M. Sridhar

Authorized Signatory-Chemical

Laboratory Address: 39/6, Thiruvallur High Road, Puduchattam Post, Thirumazhisai Vin, Poonamallee Taluk, Chennai - 600124.

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SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT



TC-6118

ULR - TC611824000035800F

Report No : QEN24070634-08 (Part A)

Page 1 of 1

Report Date : 27 Jul 2024

Customer Name : M/s. ASIAN PAINTS LIMITED. (PENTA DIVISION)
Customer Address : B5 - B10, Sipcot Industrial Complex, Kudikadu Village, Cuddalore - 607005.
Sample Name : Ambient VOC Monitoring Sampling Date : 22 Jul 2024
Sample Description : Ambient VOC Monitoring Sample Received on : 24 Jul 2024
Reference : Test Request Form Dated 22.07.2024 Test Started on : 25 Jul 2024
Sample Drawn By : Laboratory Test Completed on : 27 Jul 2024
Sample Location : Near Coal Yard (Down Wind)
Sample Procedure : NIOSH & SOP'S

TEST RESULTS

S.NO	Parameter	Test Method	Unit	Results
Others - Hydrocarbons				
1	Total Hydrocarbons	SMSLA/GM/SOP/08 - 2019	mg/m ³	BLQ(LOQ:0.1)

Note : BLQ : Below Limit of Quantification LOQ : Limit of Quantification.

/***** End of the Report *****/

M.S. S
M. Sarathkumar
Authorized Signatory-Chemical

Laboratory Address: 39/6, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124.

Note: Test results relate only to the items tested. Test Report shall not be reproduced in full or part without the approval of SMS Labs. Non-Perishable remnant samples will be disposed 15 days from the date of receipt unless otherwise agreed with the customer except in case of regulatory samples, which will be retained for a specific period as per regulatory requirements; while perishable and environmental remnant samples will be disposed consequently upon completion of testing. Samples are not drawn by laboratory unless or otherwise stated. A satisfactory test report in no way implies that a product so tested is approved by NABL. The Laboratory accepts no liability with regard to the origin or source from which the sample(s) is/ are said to be extracted.



SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT

Page 1 of 1

Report No : QEN24070634-08 (Part B)

Report Date : 27 Jul 2024

Customer Name : M/s. ASIAN PAINTS LIMITED. (PENTA DIVISION)
Customer Address : B5 - B10, Sipcot Industrial Complex, Kudikadu Village, Cuddalore - 607005.
Sample Name : Ambient VOC Monitoring
Sample Description : Ambient VOC Monitoring
Reference : Test Request Form Dated 22.07.2024
Sample Drawn By : Laboratory
Sample Location : Near Coal Yard (Down Wind)
Sample Procedure : NIOSH & SOP'S

Sampling Date : 22 Jul 2024
Sample Received on : 24 Jul 2024
Test Started on : 25 Jul 2024
Test Completed on : 27 Jul 2024

TEST RESULTS

S.NO	Parameter	Test Method	Unit	Results
Aldehydes				
1	Acetaldehyde	NIOSH - 2539	mg/m ³	BLQ(LOQ:0.1)
2	Formaldehyde	NIOSH - 2539	mg/m ³	BLQ(LOQ:0.1)
Volatile Organic Compounds				
3	Methanol	SMSLA/GM/SOP/07 - 2019	mg/m ³	BLQ(LOQ:0.1)

Note : BLQ : Below Limit of Quantification LOQ : Limit of Quantification.

/***** End of the Report *****/


M. Sarathkumar
Authorized Signatory-Chemical

Laboratory Address: 29/6, Thiruvallur High Road, Paduchatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124.

Note: Test results relate only to the items tested. Test Report shall not be reproduced in full or part without the approval of SMS Labs. Non-Perishable remnant samples will be disposed 15 days from the date of receipt unless otherwise agreed with the customer except in case of regulatory samples, which will be retained for a specific period as per regulatory requirements; while perishable and environmental remnant samples will be disposed consequently upon completion of testing. Samples are not drawn by laboratory unless or otherwise stated. A satisfactory test report in no way implies that a product so tested is approved by NABL. The Laboratory accepts no liability with regard to the origin or source from which the sample(s) is/ are said to be extracted.



SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT



TC-6118

ULR - TC611824000035801F

Report No : QEN24070634-09 (Part A)

Page 1 of 1

Report Date : 27 Jul 2024

Customer Name : M/s. ASIAN PAINTS LIMITED. (PENTA DIVISION)
Customer Address : B5 - B10, Sipcot Industrial Complex, Kudikadu Village, Cuddalore - 607005.
Sample Name : Ambient VOC Monitoring
Sample Description : Ambient VOC Monitoring
Reference : Test Request Form Dated 22.07.2024
Sample Drawn By : Laboratory
Sample Location : Near Weigh Bridge (up Wind)
Sample Procedure : NIOSH & SOP'S

Sampling Date : 22 Jul 2024
Sample Received on : 24 Jul 2024
Test Started on : 25 Jul 2024
Test Completed on : 27 Jul 2024

TEST RESULTS

S.NO	Parameter	Test Method	Unit	Results
Others - Hydrocarbons				
1	Total Hydrocarbons	SMSLA/GM/SOP/08 - 2019	mg/m ³	BLQ(LOQ:0.1)

Note : BLQ : Below Limit of Quantification LOQ : Limit of Quantification.

/***** End of the Report *****/

M.S.
M. Sarathkumar
Authorized Signatory-Chemical

Laboratory Address: 39/6, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124.

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SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT

Page 1 of 1

Report No : QEN24070634-09 (Part B)

Report Date : 27 Jul 2024

Customer Name : M/s. ASIAN PAINTS LIMITED. (PENTA DIVISION)
Customer Address : B5 - B10, Sipcot Industrial Complex, Kudikadu Village, Cuddalore - 607005.
Sample Name : Ambient VOC Monitoring
Sample Description : Ambient VOC Monitoring
Reference : Test Request Form Dated 22.07.2024
Sample Drawn By : Laboratory
Sample Location : Near Weigh Bridge (up Wind)
Sample Procedure : NIOSH & SOP'S

Sampling Date : 22 Jul 2024
Sample Received on : 24 Jul 2024
Test Started on : 25 Jul 2024
Test Completed on : 27 Jul 2024

TEST RESULTS

S.NO	Parameter	Test Method	Unit	Results
Aldehydes				
1	Acetaldehyde	NIOSH - 2539	mg/m ³	BLQ(LOQ:0.1)
2	Formaldehyde	NIOSH - 2539	mg/m ³	BLQ(LOQ:0.1)
Volatile Organic Compounds				
3	Methanol	SMSLA/GM/SOP/07 - 2019	mg/m ³	BLQ(LOQ:0.1)

Note : BLQ : Below Limit of Quantification LOQ : Limit of Quantification.

/***** End of the Report *****/


M. Sarathkumar
Authorized Signatory-Chemical

Laboratory Address: 39/6, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Vm, Peenamalloor Taluk, Chennai - 600124

Note: Test results relate only to the items tested. Test Report shall not be reproduced in full or part without the approval of SMS Labs. Non-Perishable remnant samples will be disposed 15 days from the date of receipt unless otherwise agreed with the customer except in case of regulatory samples, which will be retained for a specific period as per regulatory requirements; while perishable and environmental remnant samples will be disposed consequently upon completion of testing. Samples are not drawn by laboratory unless or otherwise stated. A satisfactory test report in no way implies that a product so tested is approved by NABL. The Laboratory accepts no liability with regard to the origin or source from which the sample(s) is/ are said to be extracted.



SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT

Report No : QEN250308023-09 (Part B)

Page 1 of 1
Report Date : 13 Mar 2025

Customer Name : M/s. Asian Paints Limited
Customer Address : B5-B10, SIPCOT Industrial Complex, Kudikadu Village, Cuddalore-607005.
Sample Name : Ambient VOC Monitoring
Sample Description : Ambient VOC Monitoring
Reference : Test Request Form Dated 06.03.2025
Sample Drawn By : Laboratory
Sample Location : Near Coal Yard (Down Wind)
Sample Procedure : NIOSH & SOP'S
Sampling Date : 06 Mar 2025
Sample Received on : 08 Mar 2025
Test Started on : 08 Mar 2025
Test Completed on : 12 Mar 2025

TEST RESULTS

S.NO	Parameter	Test Method	Unit	Results
Aldehydes				
1	Acetaldehyde	NIOSH 2538 - 1994	mg/m3	BLQ(LOQ:0.1)

Note : BLQ : Below Limit of Quantification LOQ : Limit of Quantification.

/***** End of the Report *****/


M. Sarathkumar
Authorized Signatory-Chemical

Laboratory Address : 39/6, Thiruvallur High Road, Puduchattaram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124.

Note: Test results relate only to the items tested. Test Report shall not be reproduced in full or part without the approval of SMS Labs. Non-Perishable remnant samples will be disposed 15 days from the date of receipt unless otherwise agreed with the customer except in case of regulatory samples, which will be retained for a specific period as per regulatory requirements; while perishable and environmental remnant samples will be disposed consequently upon completion of testing. Samples are not drawn by laboratory unless or otherwise stated. A satisfactory test report in no way implies that a product so tested is approved by NABL. The Laboratory accepts no liability with regard to the origin or source from which the sample(s) is/ are said to be extracted.



SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT



TC-6118

ULR - TC611825000013673F

Page 1 of 1

Report No : QEN250308023-09 (Part A)

Report Date : 13 Mar 2025

Customer Name : M/s. Asian Paints Limited
Customer Address : B5-B10, SIPCOT Industrial Complex, Kudikadu Village, Cuddalore-607005.
Sample Name : Ambient VOC Monitoring
Sample Description : Ambient VOC Monitoring
Reference : Test Request Form Dated 06.03.2025
Sample Drawn By : Laboratory
Sample Location : Near Coal Yard (Down Wind)
Sample Procedure : NIOSH & SOP'S

Sampling Date : 06 Mar 2025
Sample Received on : 08 Mar 2025
Test Started on : 08 Mar 2025
Test Completed on : 12 Mar 2025

TEST RESULTS

S.NO	Parameter	Test Method	Unit	Results
Chemical				
1	Formaldehyde	SMSLA/EN/SOP/026 - 2024	ppm	BLQ(LOQ:0.1)
Hydrocarbons				
2	Total Hydrocarbons	SMSLA/GC/SOP/47 - 2024	mg/m ³	BLQ(LOQ:0.025)
Volatile Organic Compounds				
3	Methanol	SMSLA/GC/SOP/36 - 2024	mg/m ³	BLQ(LOQ:0.1)

Note : BLQ : Below Limit of Quantification LOQ : Limit of Quantification.

/***** End of the Report *****/

M.S. - C

M. Sarathkumar

Authorized Signatory-Chemical

Laboratory Address: 39/6, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124.

Note: Test results relate only to the items tested. Test Report shall not be reproduced in full or part without the approval of SMS Labs. Non-perishable remnant samples will be disposed 15 days from the date of receipt unless otherwise agreed with the customer except in case of regulatory samples, which will be retained for a specific period as per regulatory requirements, while perishable and environmental remnant samples will be disposed consequently upon completion of testing. Samples are not drawn by laboratory unless or otherwise stated. A satisfactory test report in no way implies that a product so tested is approved by NABL. The Laboratory accepts no liability with regard to the origin or source from which the sample(s) is/are said to be extracted.



SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT

Page 1 of 1

Report No : QEN250308023-08 (Part B)

Report Date : 13 Mar 2025

Customer Name : M/s. Asian Paints Limited
Customer Address : B5-B10, SIPCOT Industrial Complex, Kudikadu Village, Cuddalore-607005.
Sample Name : Ambient VOC Monitoring
Sample Description : Ambient VOC Monitoring
Reference : Test Request Form Dated 06.03.2025
Sample Drawn By : Laboratory
Sample Location : Near Weigh Bridge (Up Wind)
Sample Procedure : NIOSH & SOP'S

Sampling Date : 06 Mar 2025
Sample Received on : 08 Mar 2025
Test Started on : 08 Mar 2025
Test Completed on : 12 Mar 2025

TEST RESULTS

S.NO	Parameter	Test Method	Unit	Results
Aldehydes				
1	Acetaldehyde	NIOSH 2538 - 1994	mg/m ³	BLQ(LOQ:0.1)

Note : BLQ : Below Limit of Quantification LOQ : Limit of Quantification.

/***** End of the Report *****/


M. Sarathkumar
Authorized Signatory-Chemical

Laboratory Address: 39/6, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124

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SMS LABS SERVICES PRIVATE LIMITED

TEST REPORT



TC-6118

ULR - TC611825000013671F

Page 1 of 1

Report No : QEN250308023-08 (Part A)

Report Date : 13 Mar 2025

Customer Name : M/s. Asian Paints Limited
Customer Address : B5-B10, SIPCOT Industrial Complex, Kudikadu Village, Cuddalore-607005.
Sample Name : Ambient VOC Monitoring
Sample Description : Ambient VOC Monitoring
Reference : Test Request Form Dated 06.03.2025
Sample Drawn By : Laboratory
Sample Location : Near Weigh Bridge (Up Wind)
Sample Procedure : NIOSH & SOP'S
Sampling Date : 06 Mar 2025
Sample Received on : 08 Mar 2025
Test Started on : 08 Mar 2025
Test Completed on : 12 Mar 2025

TEST RESULTS

S.NO	Parameter	Test Method	Unit	Results
Chemical				
1	Formaldehyde	SMSLA/EN/SOP/026 - 2024	ppm	BLQ(LOQ:0.1)
Hydrocarbons				
2	Total Hydrocarbons	SMSLA/GC/SOP/47 - 2024	mg/m ³	BLQ(LOQ:0.025)
Volatile Organic Compounds				
3	Methanol	SMSLA/GC/SOP/36 - 2024	mg/m ³	BLQ(LOQ:0.1)

Note : BLQ : Below Limit of Quantification LOQ : Limit of Quantification.

/***** End of the Report *****/

M. Sarathkumar
Authorized Signatory-Chemical

Laboratory Address: 39/6, Thiruvallur High Road, Puduchatram Post, Thirumazhisai Via, Poonamallee Taluk, Chennai - 600124.

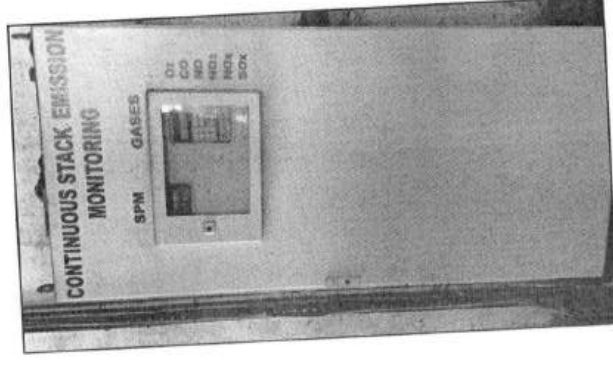
Note: Test results relate only to the items tested. Test Report shall not be reproduced in full or part without the approval of SMS Labs. Non-Perishable remnant samples will be disposed 15 days from the date of receipt unless otherwise agreed with the customer except in case of regulatory samples, which will be retained for a specific period as per regulatory requirements; while perishable and environmental remnant samples will be disposed consequently upon completion of testing. Samples are not drawn by laboratory unless or otherwise stated. A satisfactory test report in no way implies that a product so tested is approved by NABL. The Laboratory accepts no liability with regard to the origin or source from which the sample(s) is/are said to be extracted.

Annexure 26
CARE AIR SENSOR

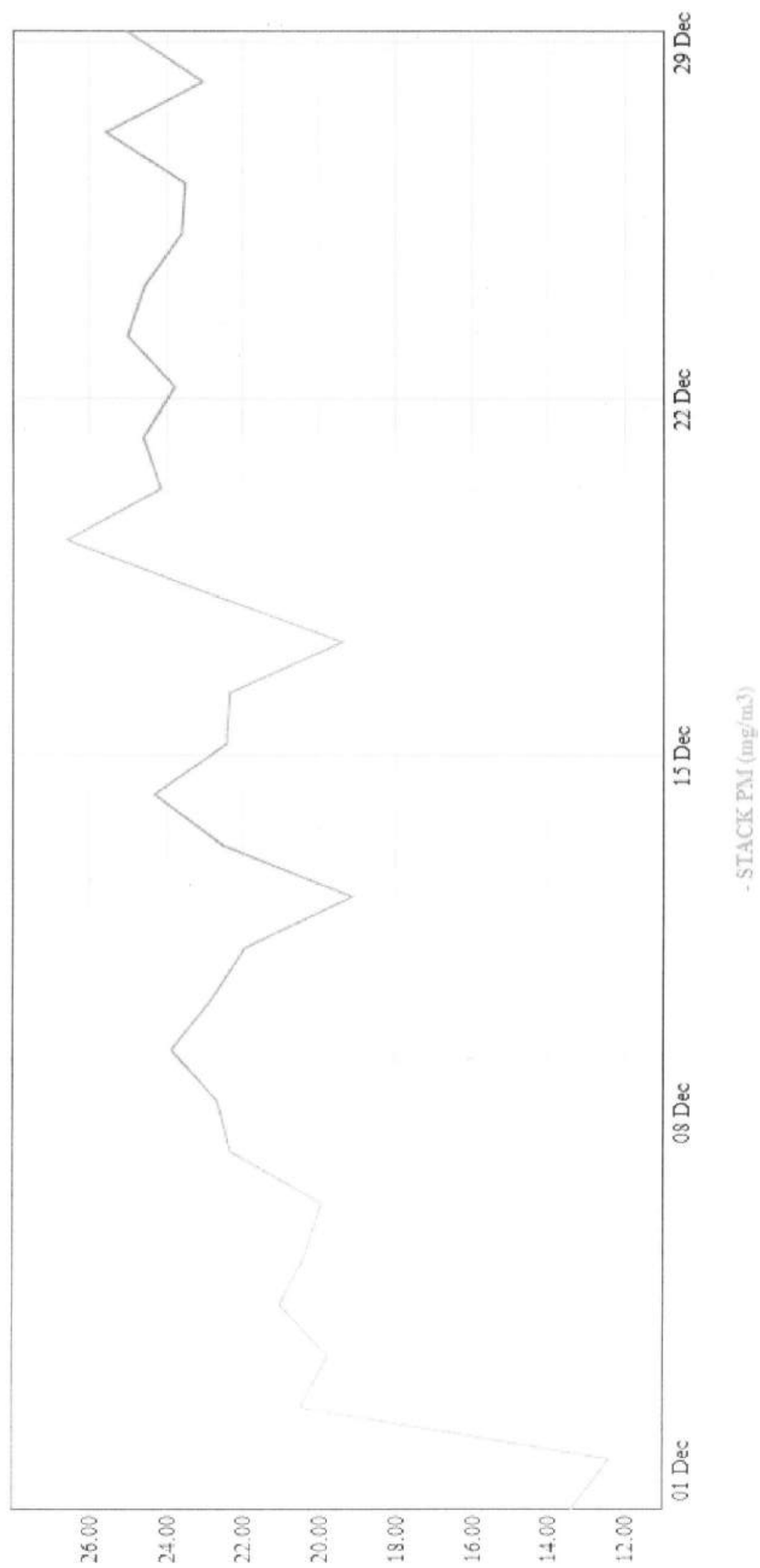
Online stack analyzers connected to care air centre

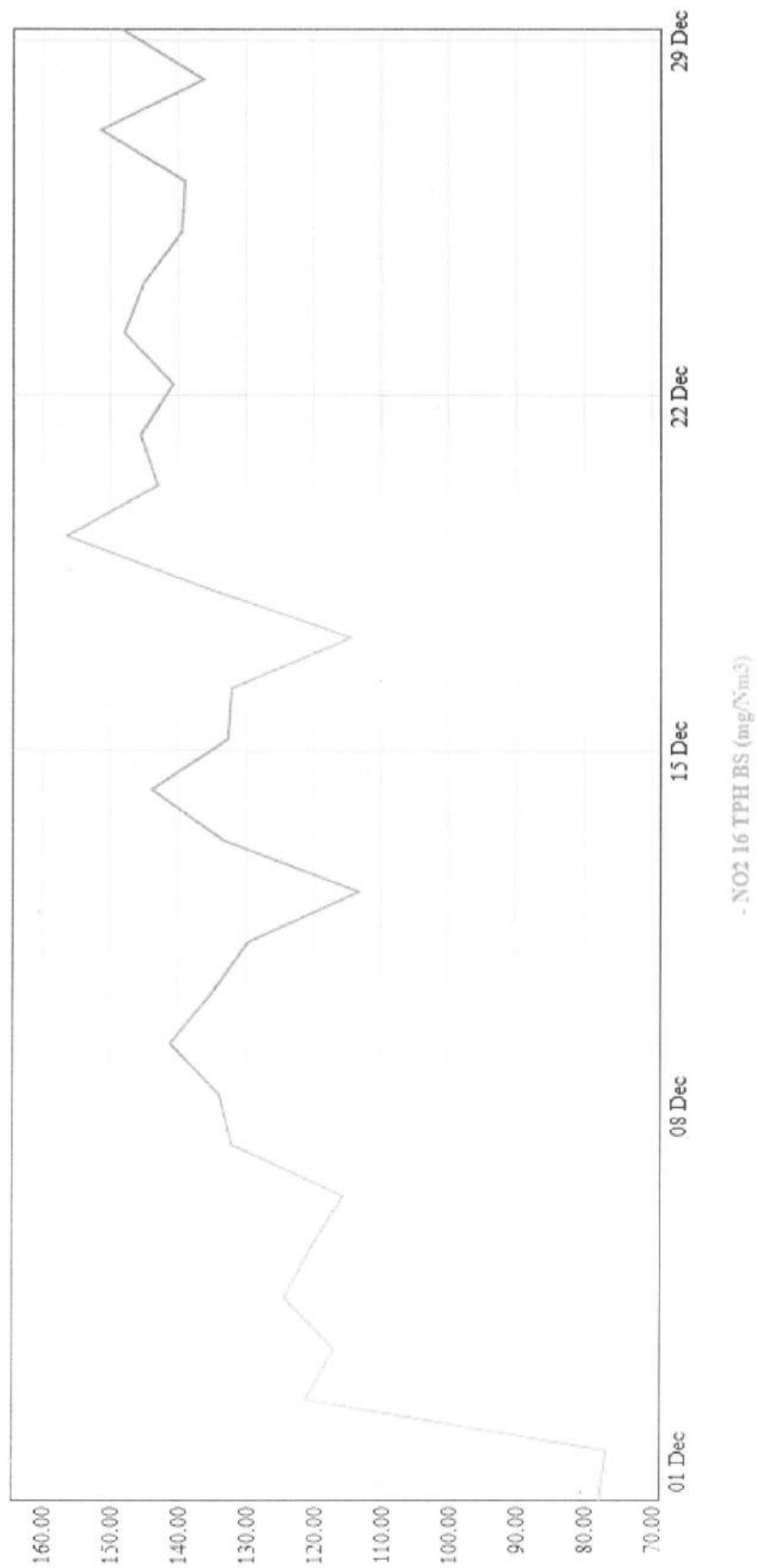


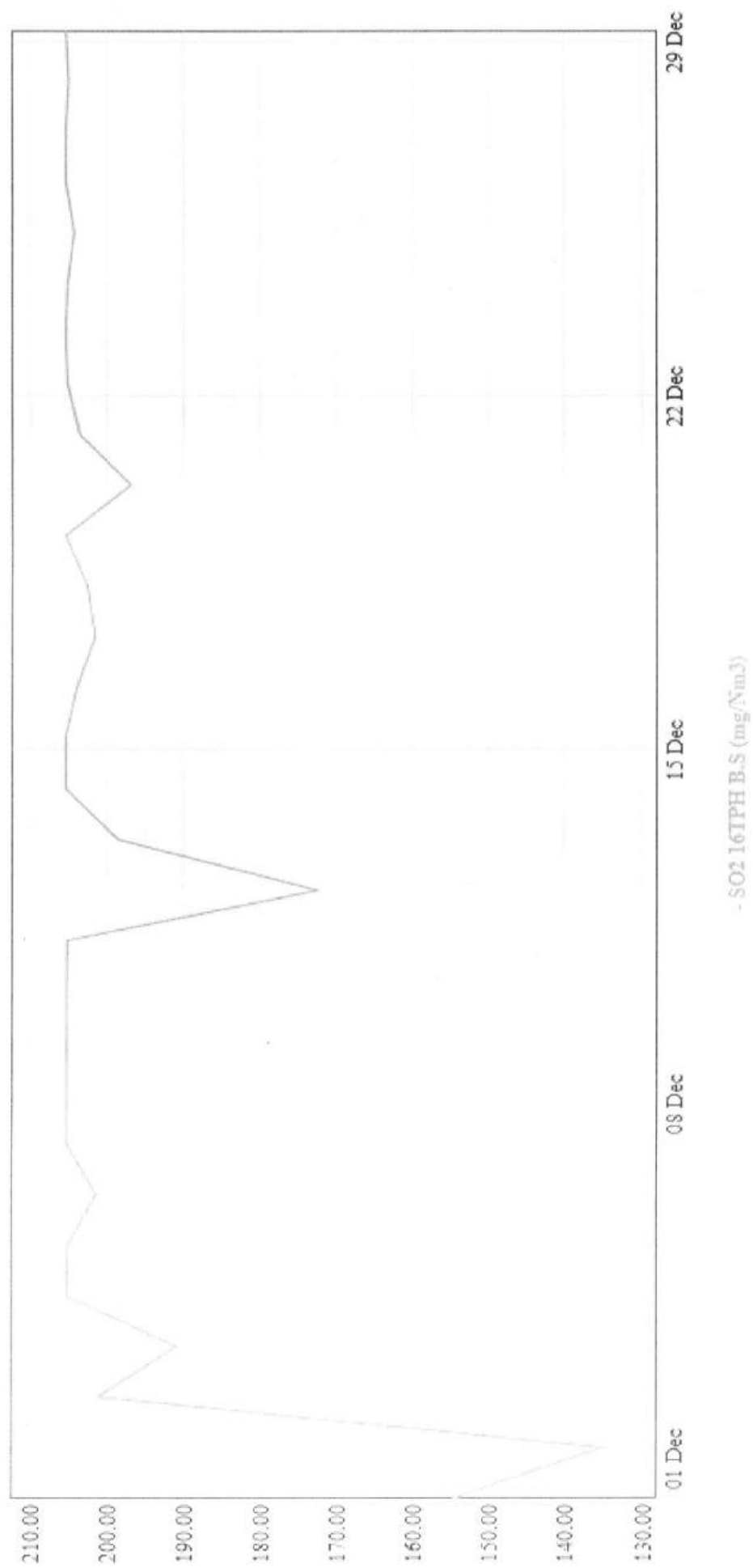
Online Boiler stack SPM analyzer



Online Boiler flue gas SOx / NOx analyzer

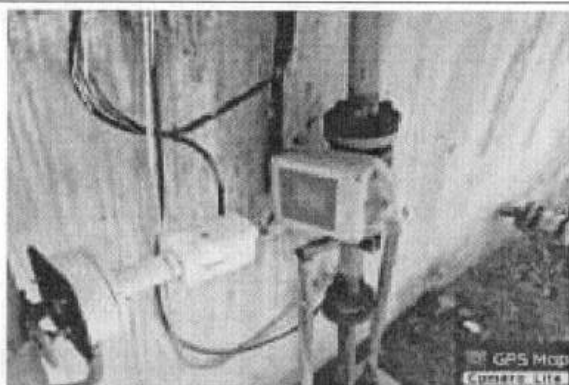






Annexure 27
EMFM PHOTOS

Photos of Web camera & Flow Meters



Unnamed Road, Tamil Nadu 607005, India
 Latitude: 11.67993879434805° Longitude: 79.75256287492812°
 Local 12:38:40 PM Altitude 6 meters
 GMT 07:09:35 AM Tuesday, 25.02.2025

Web Camera



MQJ2+QF1, Cuddalore, Tamil Nadu 607005, India
 Latitude: 11.680853962898254° Longitude: 79.75202190689743°
 Local 12:43:26 PM Altitude 7 meters
 GMT 07:13:20 AM Tuesday, 25.02.2025

Web Camera



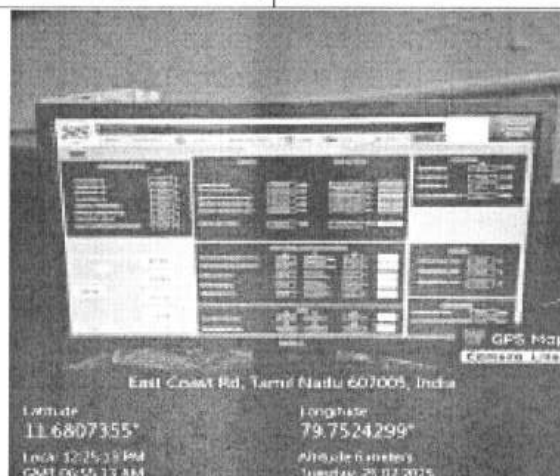
MQG3+XVP, Cuddalore, Tamil Nadu 607005, India
 Latitude: 11.678346768021584° Longitude: 79.75421536713839°
 Local 12:25:52 PM Altitude 6 meters
 GMT 06:55:57 AM Tuesday, 25.02.2025

Flow Meter RO Plant



MQG3+XVP, Cuddalore, Tamil Nadu 607005, India
 Latitude: 11.678626136854291° Longitude: 79.75405091419816°
 Local 12:23:25 PM Altitude 6 meters
 GMT 06:53:25 AM Tuesday, 25.02.2025

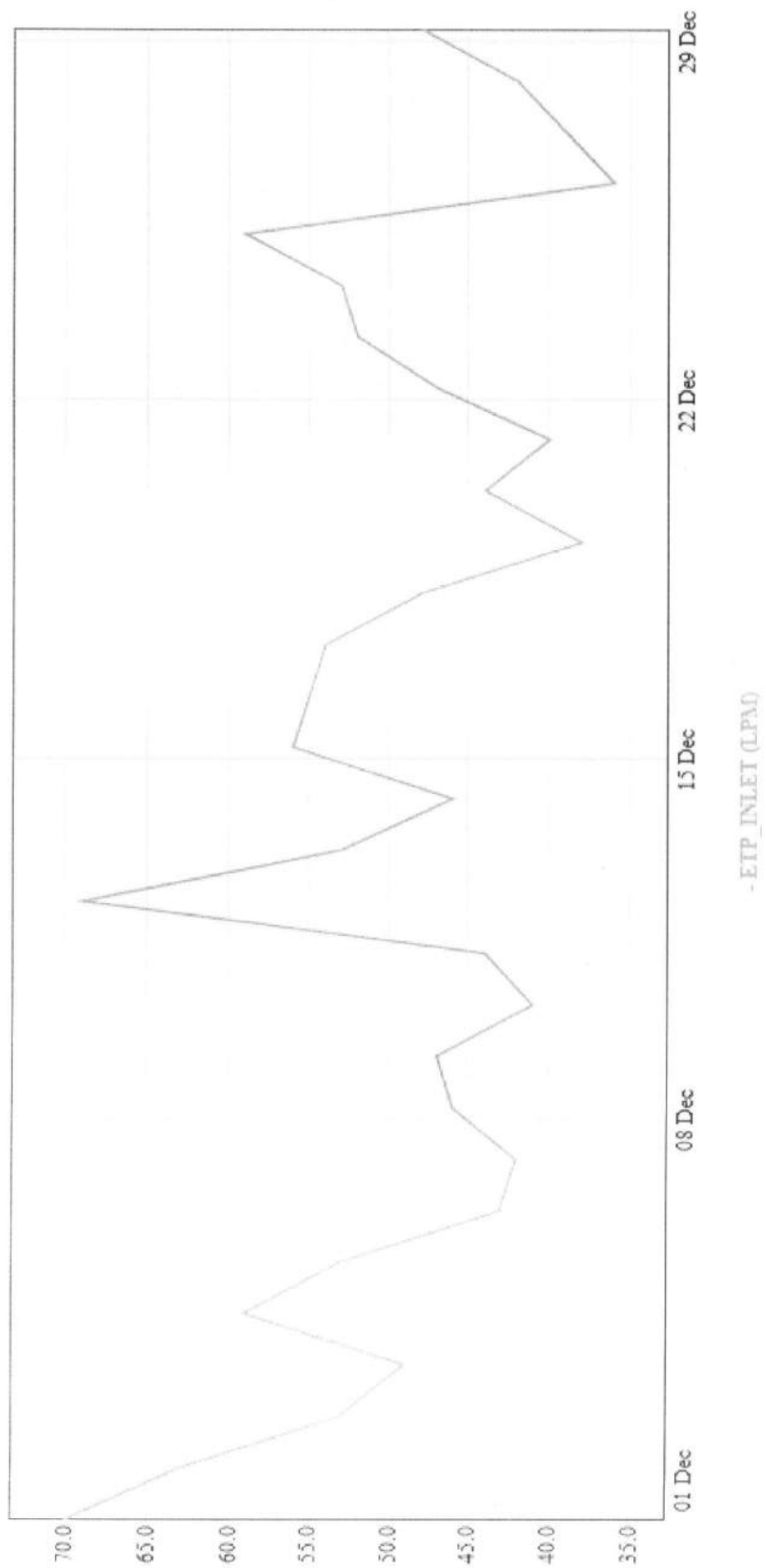
Effluent Flow

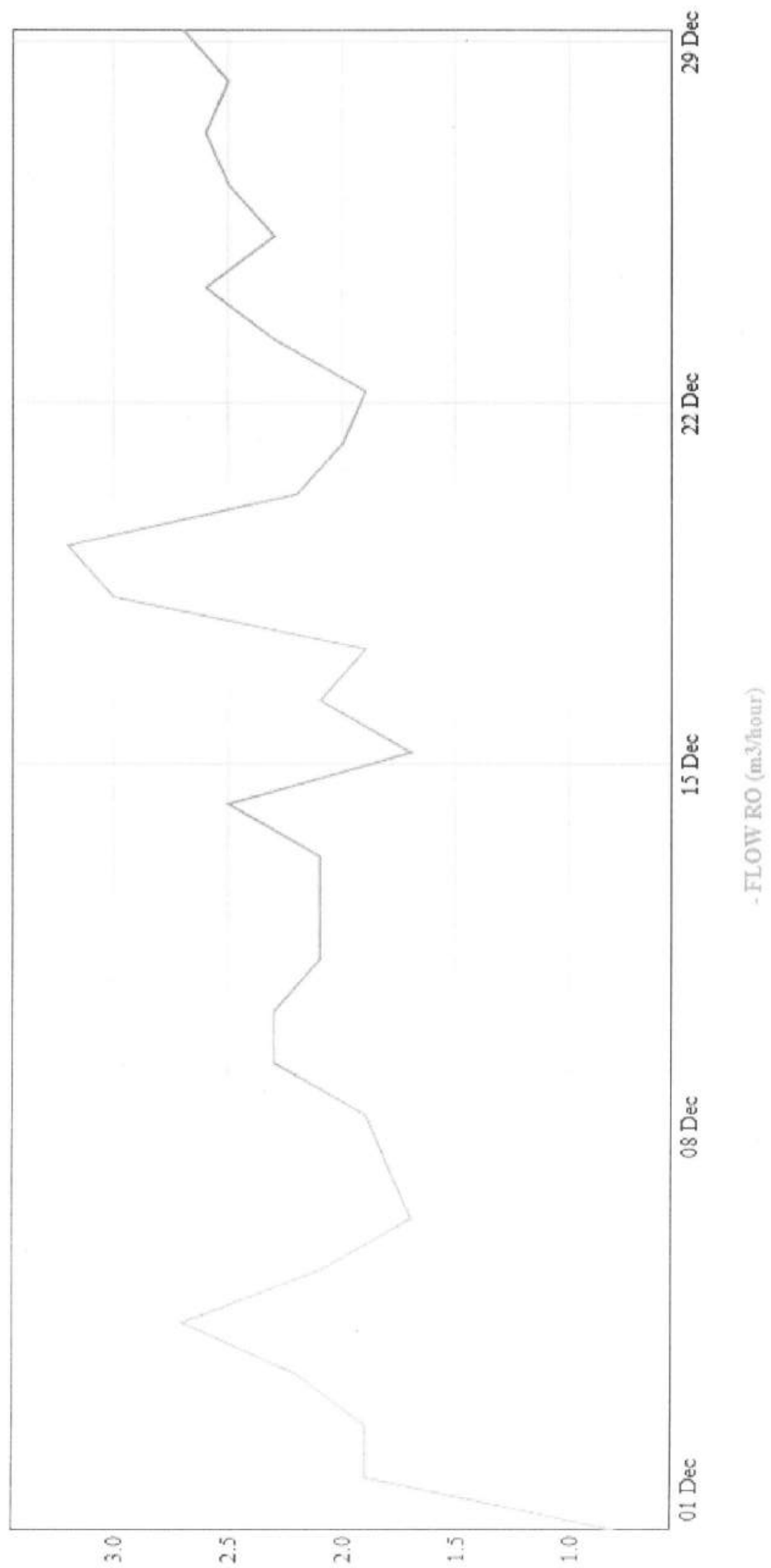


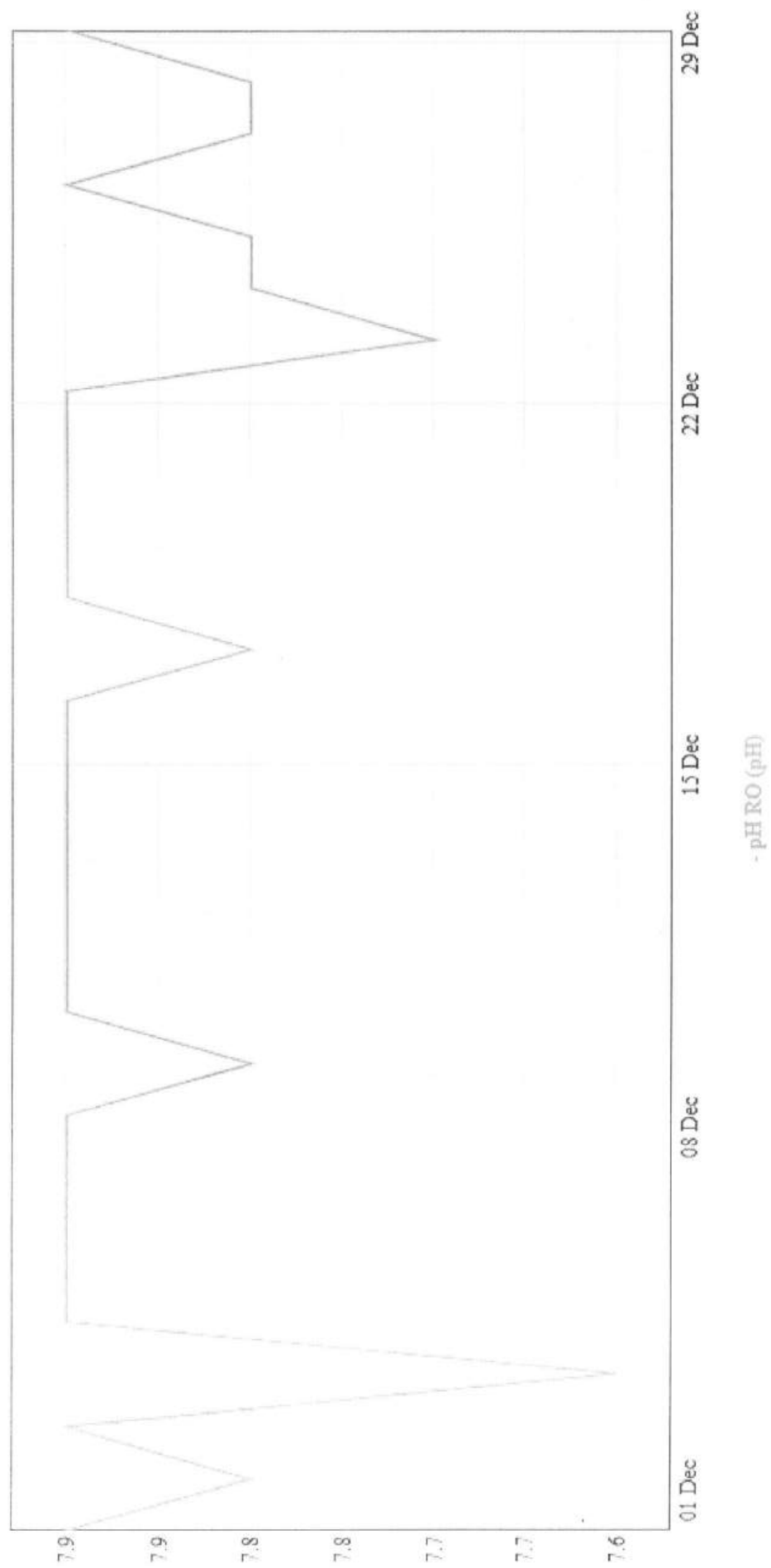
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 GMT 06:55:13 AM Tuesday, 25.02.2025

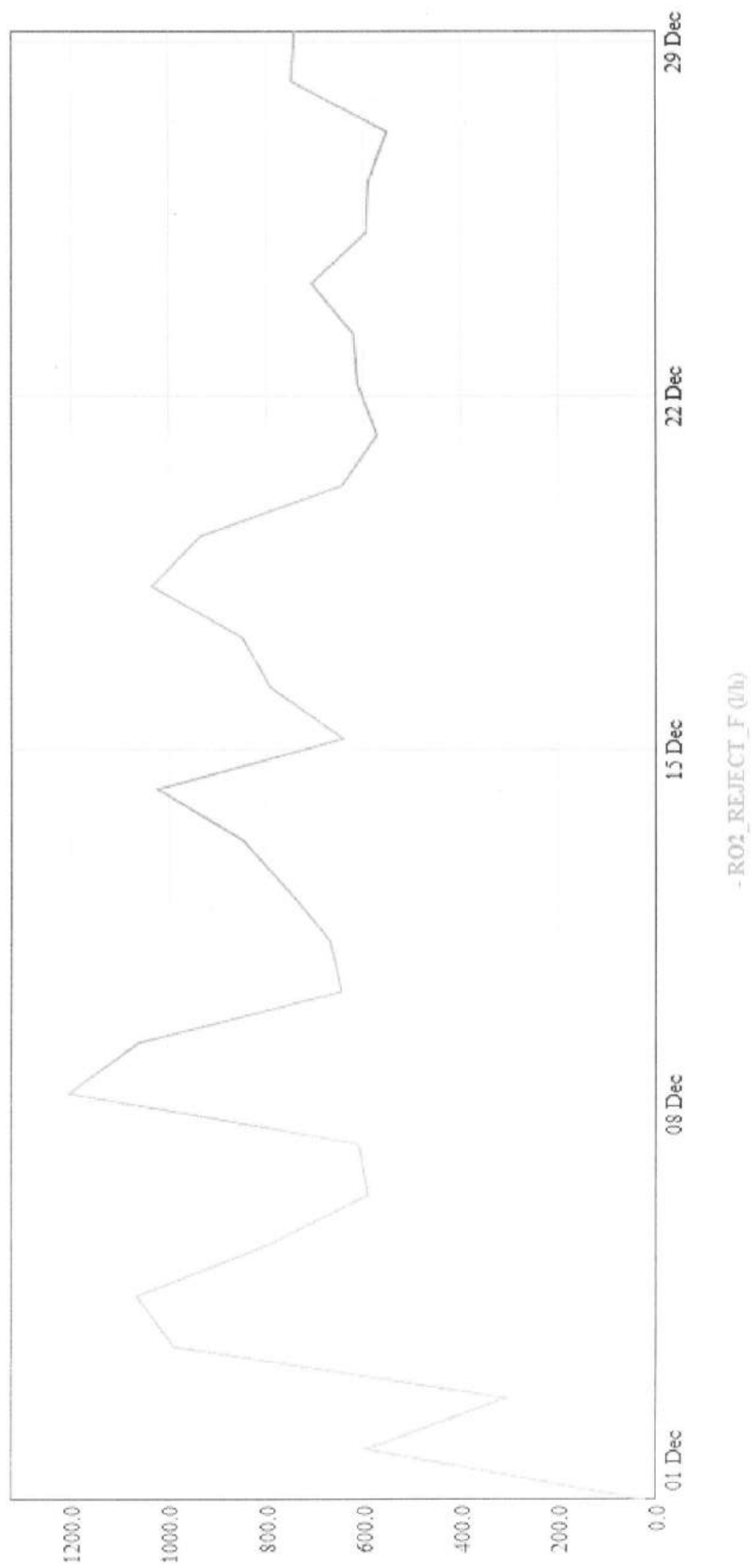
Effluent Flow Monitoring

Annexure 28
EMFM COMPUTER RECORDING DATA









Annexure 29
PCB WATER SAMPLE ANALYSIS
REPORT



→ Sakthivel

TAMILNADU POLLUTION CONTROL BOARD

From

Er. G. Gajalakshmi, M.Tech, M.B.A.,
District Environmental Engineer,
Tamil Nadu Pollution Control Board,
Plot No A3, SIPCOT Industrial Complex,
Kudikadu,
Cuddalore - 607 005.

To

The Factory Manager
M/s. ASIAN PAINTS LTD, PENTA DIVISION,
SF.No 126,127,128,129,130,137 & 165,
Kudikadu Village , Cuddalore Taluk ,
Cuddalore District.

Letter No. DEE/TNPCB/CUD/ F.0005/ RL/AE/2024 dated 25.11.2024

Sir,

Sub : TNPC Board – O/o. DEE, Cuddalore – Analysis of water/effluent samples
– Report of Analysis furnished – Reg.

Ref : Effluent samples collected from your unit.

I am to furnish the Report of Analysis of the effluent samples collected from your unit.

Sl. No.	Date of collection	Parameters in excess of the standards
1	26.07.2024	----

DETAILS OF SAMPLES COLLECTED

Sl.No.	Code No.	Date of sample collection	Whether Treated/ Untreated	Point of collection	Analytical charges to be paid (Rs)
1	DEECUD240337	26.07.2024	----	ETP Inlet	30810
	DEECUD240338			RO Feed	
	DEECUD240339			RO Permeate	
	DEECUD240340			RO Reject	
	DEECUD240341			STP Outlet	
				Total	
Vide this bill amount				30810	
Old balance available in this office				16120	
Balance amount to be remitted				14690	
Advance amount for the year (2024-2025)				100000	
Total amount to be remitted				1,14,690	

The above amount of Rs.1,14,690/- (Rupees One Lakh Fourteen thousand Six hundred and Ninety only) may be remitted to this office through a Demand Draft drawn in favor of "District Environmental Engineer, Tamil Nadu Pollution Control Board" payable at Cuddalore within 10 days from the date of receipt of this letter.

The receipt of this letter may be acknowledged.

R. Nallu
25/11/24
for District Environmental Engineer
Tamilnadu Pollution Control Board
Cuddalore

Encl: Report of Analysis.

25/11/24



TAMIL NADU POLLUTION CONTROL BOARD
ADVANCED ENVIRONMENTAL LABORATORY, CUDDALORE
REPORT OF ANALYSIS

ROA NO: 07/786, 07/787, Dt : 23/08/2024

Name & Address of the sender	District Environmental Engineer, Tamilnadu Pollution Control Board, Cuddalore	Date of Analysis	26.07.2024
Nature & Number of samples.	2 number of Effluent sample	Sample Quantity	Sealed and Fastened in 2.5 L polythene container
Date & Time of sample collection	26.07.2024 at 16:20Hrs	Date & Time of sample receipt at the lab	26.07.2024 at 18:00 Hrs
Point of Collection	1. ETP inlet 2. RO feed		Page No 1 of 1

Sl. No.	DEE Code No.	Unit	DEECUD 240337	DEECUD 240338	Test Method
	Lab Code No.		786	787	
	Parameters				
1.	pH @ 25°C	Number	2.23	6.41	APHA 23rd Edn 2017, 4500 H+ B
2.	Total Suspended solids @ 105°C	mg/L	20	12	APHA 23rd Edn 2017, 2540 D
3.	Total Dissolved Solids @ 180°C	mg/L	35800	2880	APHA 23rd Edn 2017, 2540-C
4.	BOD (3 days @ 270C)	mg/L	*	08	IS 3025 (Part – 44) :1993, Reaff: 2009
5.	COD	mg/L	*	96	IS 3025 (Part – 58), Reaff 2006
6.	Chloride as Cl	mg/L	17350	1200	APHA 23rd Edn 2017, 4500-Cl B
7.	Sulphate as SO ₄	mg/L	4500	510	APHA 23rd Edn 2017 4500-SO ₄ ²⁻ - E
8.	Hexavalent Chromium	mg/L	<0.05	<0.05	APHA 23rd Edn 2017-3500-Cr - B
9.	Lead	mg/L	<0.07	<0.07	APHA 23rd Edn 2017-3111 - B
10.	Cyanide	mg/L	<0.05	<0.05	APHA 23rd Edn 2017, 4500 - CN-E
11.	Phenolic Compounds	mg/L	<0.1	<0.1	APHA 23 rd Edi 2017 – 5530 - C
12.	Sulphide	mg/L	<2	<2	APHA 23rd Edn 2017-4500-NH ₃ C
13.	Total Phosphates	mg/L	<0.5	<0.5	APHA 23rd Edn 2017-4500-P-E

Note: <MDL indicates Less than minimum detectable limit.

Statement to the effect that the results relate only to the items tested.

*- Acidic pH – BOD & COD could not be ascertained.



TAMIL NADU POLLUTION CONTROL BOARD
ADVANCED ENVIRONMENTAL LABORATORY, CUDDALORE
REPORT OF ANALYSIS

ROA NO: 07/788, 07/789, Dt : 23/08/2024

Name & Address of the sender	District Environmental Engineer, Tamilnadu Pollution Control Board, Cuddalore		Date of Analysis	26.07.2024
Nature & Number of samples.	2 number of Effluent sample	Sample Quantity	Sealed and Fastened in 2.5 L polythene container	
Date & Time of sample collection	26.07.2024 at 16:20Hrs	Date & Time of sample receipt at the lab	26.07.2024 at 18:00 Hrs	
Point of Collection	1. RO Permeate 2. RO Reject		Page No 1 of 1	

Sl. No.	DEE Code No.	Unit	DEECUD 240339	DEECUD 240340	Test Method
	Lab Code No.		788	789	
	Parameters				
1.	pH @ 25°C	Number	6.81	7.40	APHA 23rd Edn 2017, 4500 H+ B
2.	Total Suspended solids @ 105°C	mg/L	06	20	APHA 23rd Edn 2017, 2540 D
3.	Total Dissolved Solids @ 180°C	mg/L	96	14500	APHA 23rd Edn 2017, 2540-C
4.	BOD (3 days @ 270C)	mg/L	<2	24	IS 3025 (Part – 44) :1993, Reaff. 2009
5.	COD	mg/L	08	136	IS 3025 (Part – 58), Reaff 2006
6.	Chloride as Cl	mg/L	30	6650	APHA 23rd Edn 2017, 4500-Cl B
7.	Sulphate as SO ₄	mg/L	25	2110	APHA 23rd Edn 2017 4500-SO ₄ ²⁻ - E
8.	Hexavalent Chromium	mg/L	<0.05	<0.05	APHA 23rd Edn 2017-3500-Cr - B
9.	Lead	mg/L	<0.07	<0.07	APHA 23rd Edn 2017-3111 - B
10.	Cyanide	mg/L	<0.05	<0.05	APHA 23rd Edn 2017, 4500 - CN-E
11.	Phenolic Compounds	mg/L	<0.1	<0.1	APHA 23 rd Edi 2017 – 5530 - C
12.	Sulphide	mg/L	<2	<2	APHA 23rd Edn 2017-4500-NH ₃ C
13.	Total Phosphates	mg/L	<0.5	<0.5	APHA 23rd Edn 2017-4500-P-E

Note: <MDL indicates Less than minimum detectable limit.

Statement to the effect that the results relate only to the items tested.

*- Acidic pH – BOD & COD could not be ascertained.



TAMIL NADU POLLUTION CONTROL BOARD
ADVANCED ENVIRONMENTAL LABORATORY, CUDDALORE
REPORT OF ANALYSIS

ROA NO: 07/790, Dt : 23/08/2024

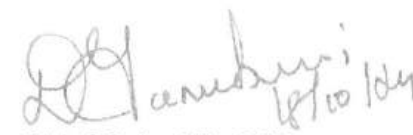
Name & Address of the sender	District Environmental Engineer, Tamilnadu Pollution Control Board, Cuddalore.	Date of Analysis	27.07.2024
Nature & Number of samples.	1 Number of Sewage samples	Sample Quantity	Sealed and Fastened in 2.5 L polythene container
Date & Time of sample collection	26.07.2024 at 16.20 Hrs	Date & Time of sample receipt at the lab	26.07.2024 at 18:00 Hrs
Point of Collection	1. Outlet of STP		Page No 1 of 1

Sl. No.	DEE Code No.	Unit	DEECUD 240341	Test Method
	Lab Code No.		790	
	Parameters			
1.	pH @ 25 ⁰ C	—	6.87	APHA 23rd Edn 2017, 4500 H+ B
2.	Total Suspended solids @ 105 ⁰ C	mg/L	12	APHA 23rd Edn 2017, 2540 D
3.	BOD (3 days @ 27 ⁰ C)	mg/L	08	IS 3025 (Part – 44) :1993, Reaff: 2009
4.	COD	mg/L	48	IS 3025 (Part – 58), Reaff 2006
5.	Ammonical Nitrogen	mg/L	<2	APHA 23rd Edn 2017, 4500-NH3
6.	Total Kjeldahl Nitrogen	mg/L	<2	APHA 23rd Edn 2017-4500-N-B

Note: <MDL indicates Less than minimum detectable limit.

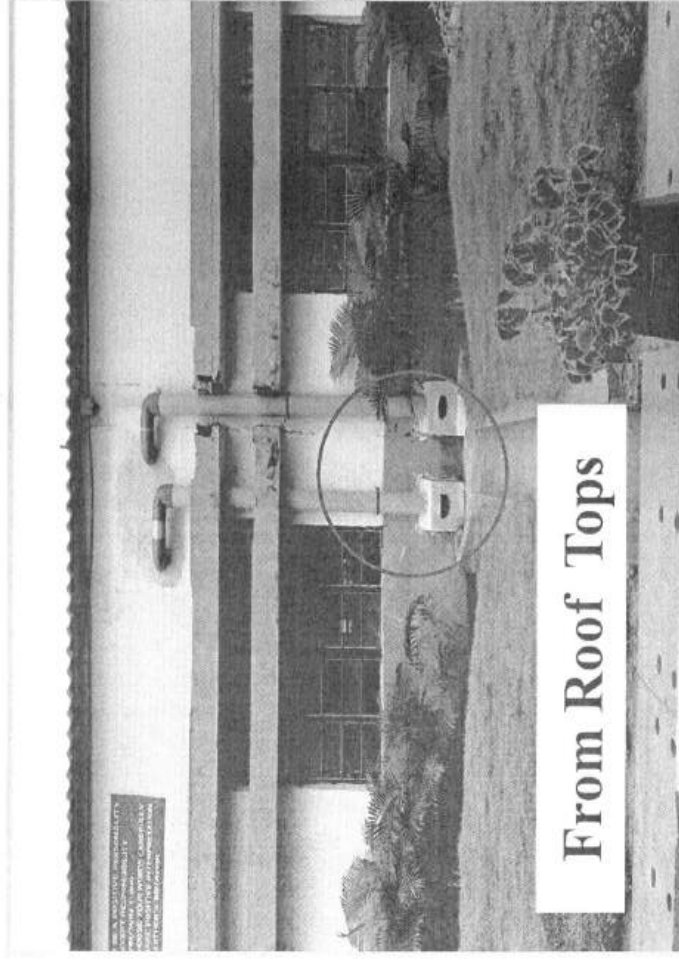
Statement to the effect that the results relate only to the items tested.


ES

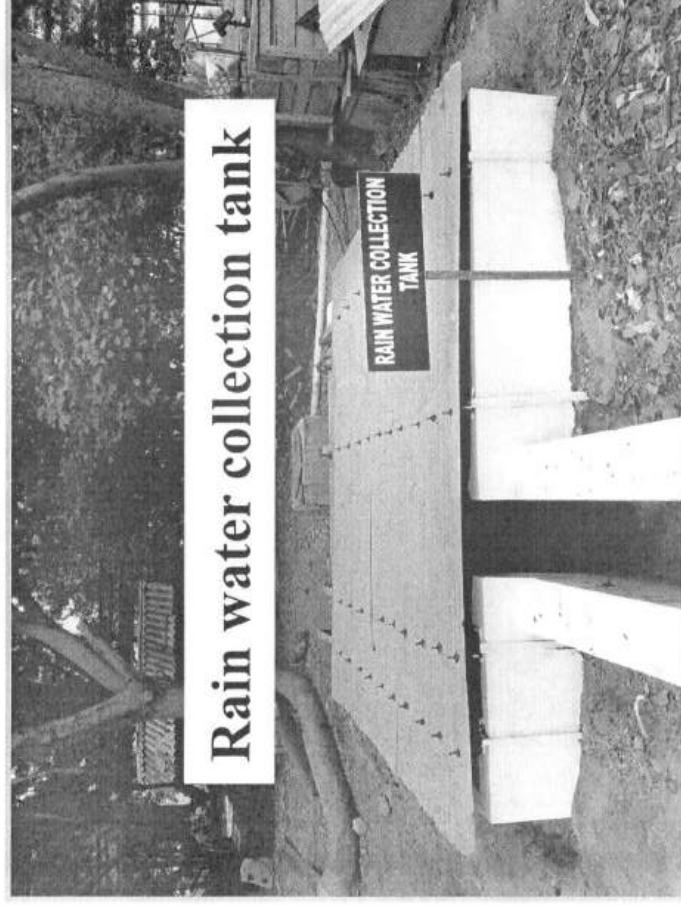
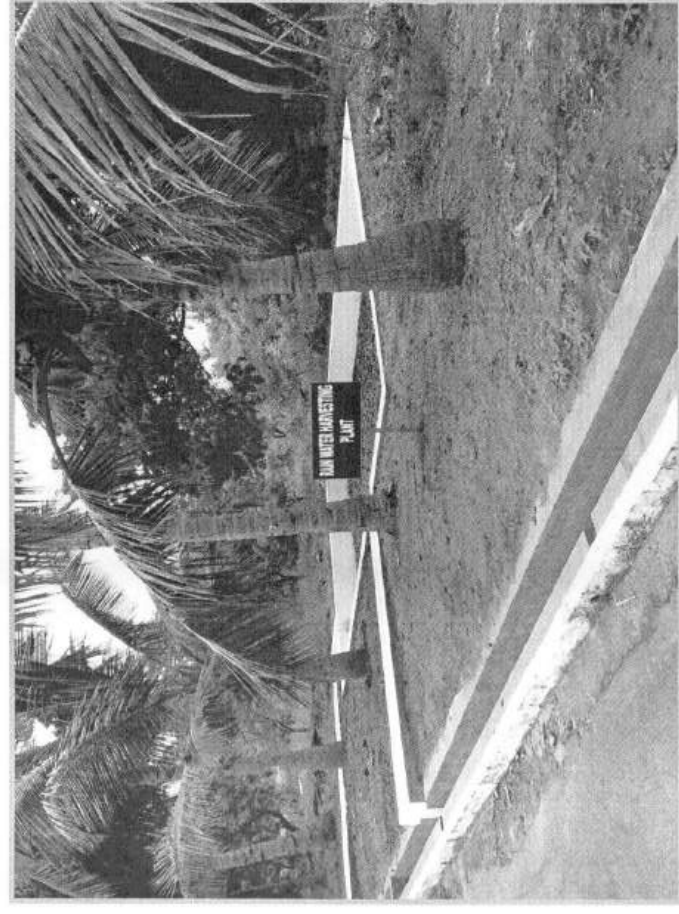

Chief Scientific Officer,
TNPB/AEL/CUDDALORE

Annexure 30
RAIN WATER HARVESTING SYSTEM

RAIN WATER HARVESTING AT PENTA PLANT SITE

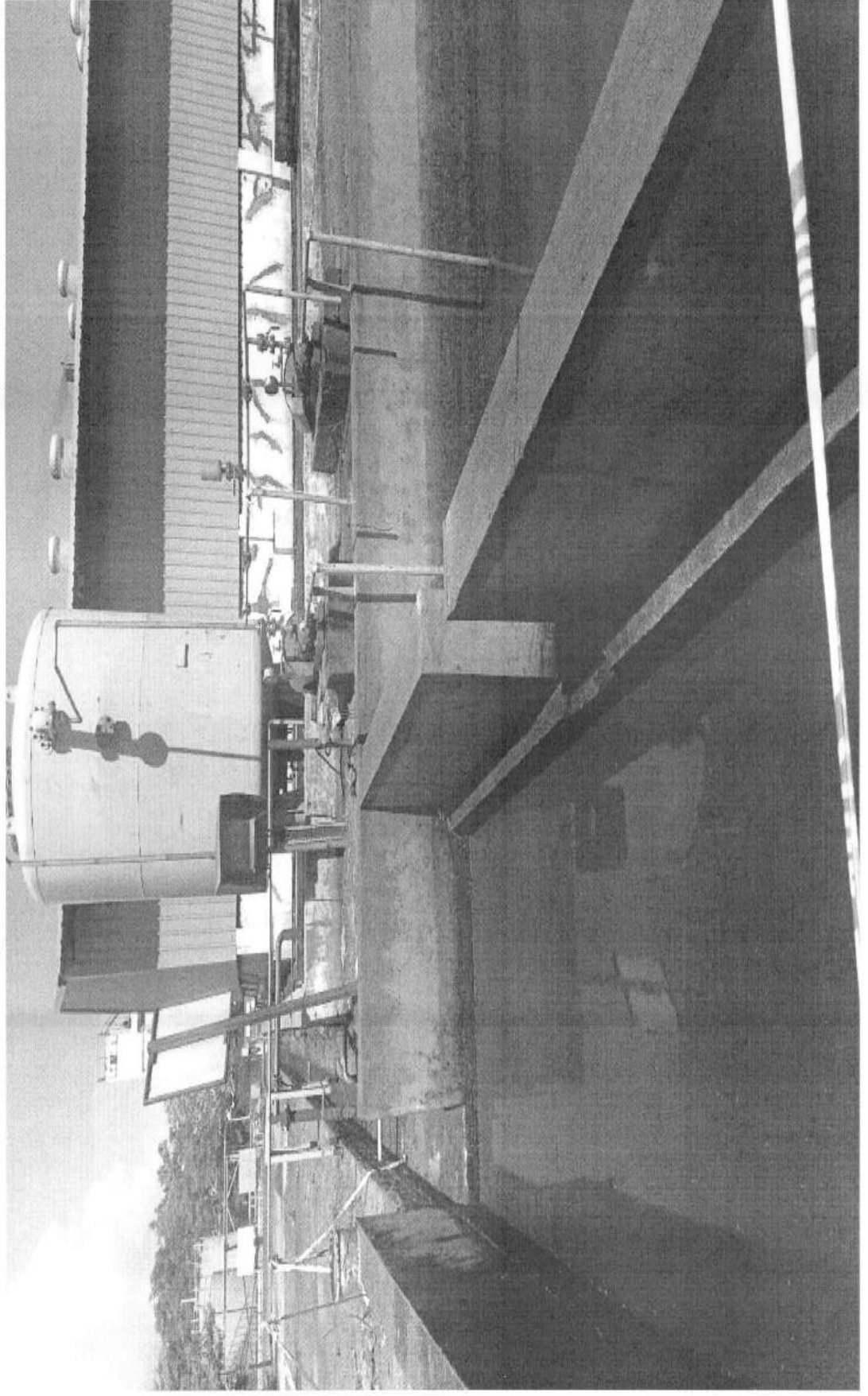


From Roof Tops



Rain water collection tank

RAIN WATER HARVESTING AT BOILER PLANT SITE



Annexure 31
CALIBRATION CERTIFICATE OF ETP
METERS



asianpaints

Asian Paints Limited
Penta Division, Cuddalore.

INSTRUMENTATION

FORMAT

Flowmeter Calibration/PM Checklist

DOC. No.: IN-S004-F02-00

Instrument Under Test:

Instrument Name: Electromagnetic flowmeter Least Count: 1 m³/hr
 Instrument Code: INST-FM-01 Acceptable Limit: ± 1 to 2 %
 Range: 0 - 400 m³/hr Frequency: 12 months
 Make: E E H Instrument Calibrated/PM on: 23.11.24
 Location: UP INLET FLO - RO-1 Next Calibration/PM due on: 22.11.25

Reference Standard Used:


Reference Standard: Electronic flow meter E E H
 Ref Standard Calibrated on: 25.04.24 Ref Standard Due on: 24.04.25

Performance Data for Calibration:

Master Instrument				Test Instrument			
Flow rate in m ³ /hr	Initial reading in m ³ /hr	Final reading in m ³ /hr	Total in m ³ /hr	Initial reading in m ³ /hr	Final reading in m ³ /hr	Total in m ³ /hr	Error in m ³ /hr
10	0	10	10	0	10	10	0
50	0	50	50	0	51	51	1

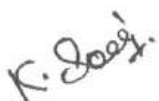
Performance Data for PM:

Sr. No	CHECK POINTS	STATUS	REMARKS
1	Cable tightness in transmitter	Good	OK
2	Sensor condition	Good	OK
3	Leakage	no leak	OK
4	Flange/Bolts condition	Good	OK.

 asianpaints Asian Paints Limited Penta Division, Cuddalore.	INSTRUMENTATION	FORMAT
		Flowmeter Calibration/PM Checklist
DOC. No.: IN-S004-F02-00		

5	Condition of the pipe	normal	OK
6	Display condition	normal	OK
7	HP and LP line Dechocking (For DPT flowmeter)	NA	-
8	Orifice plate condition (For DPT flowmeter)	NA	-
9	Earthing condition (for Magnetic Flowmeter Only)	Good.	OK.
10	Others	Flow meter outside cleaned and covered by polythene sheet.	

Conclusion: As the error are within the limit. Hence the test instrument is fit for use.


 Carried out by & Date:


 Approved by & Date:



asianpaints

Asian Paints Limited
Penta Division, Cuddalore.

INSTRUMENTATION

FORMAT

Flowmeter Calibration/PM Checklist

DOC. No.: IN-S004-F02-00

Instrument Under Test:

Instrument Name: Electro magnetic flowmeter Least Count: 1 LPH
Instrument Code: INST - FM - 03 Acceptable Limit: ± 1 to 2 %
Range: 0 - 3000 LPH Frequency: 12 months
Make: ROSEMOUNT Instrument Calibrated/PM on: 23. 11. 24
Location: MEE FEED (R0-2 Reject) Next Calibration/PM due on: 22. 11. 25

Reference Standard Used:


Reference Standard: Electronic flowmeter E & H
Ref Standard Calibrated on: 25. 04. 24 Ref Standard Due on: 24. 04. 25

Performance Data for Calibration:

Master Instrument				Test Instrument			
Flow rate	Initial reading	Final reading	Total	Initial reading	Final reading	Total	Error
in LPH	in LPH	in LPH	in LPH	in LPH	in LPH	in LPH	in LPH
1000	0	1000	1000	0	1002	1002	2
2000	0	2000	2000	0	2002	2002	2

Performance Data for PM:

Sr. No	CHECK POINTS	STATUS	REMARKS
1	Cable tightness in transmitter	Tightened	OK
2	Sensor condition	Good	OK
3	Leakage	no leak	OK
4	Flange/Bolts condition	Bolt changed	one corroded Bolt changed

 asianpaints Asian Paints Limited Penta Division, Cuddalore.	INSTRUMENTATION	FORMAT
		Flowmeter Calibration/PM Checklist
DOC. No.: IN-S004-F02-00		

5	Condition of the pipe	Good	OK
6	Display condition	Good	OK
7	HP and LP line Dechocking (For DPT flowmeter)	NA	-
8	Orifice plate condition (For DPT flowmeter)	NA	-
9	Earthing condition (for Magnetic Flowmeter Only)	Good	OK.
10	Others	meter cleaning done.	

Conclusion: As the error are within the limit. Hence the test instrument is fit for use.

K. S. Sankar

Carried out by & Date:

TP

Approved by & Date:



asianpaints

Asian Paints Limited
Penta Division, Cuddalore.

INSTRUMENTATION

FORMAT

Flowmeter Calibration/PM Checklist

DOC. No.: IN-S004-F02-00

Instrument Under Test:

Instrument Name: Electromagnetic flowmeter Least Count: 1 Lpm
 Instrument Code: INST-FM-02 Acceptable Limit: ± 1 to 2 %
 Range: 0 - 400 Lpm Frequency: 12 months
 Make: E & H Instrument Calibrated/PM on: 23.11.24
 Location: INLET FLOW - ETP Next Calibration/PM due on: 22.11.25

Reference Standard Used:


Reference Standard: Electronic flowmeter E & H
 Ref Standard Calibrated on: 25.04.24 Ref Standard Due on: 24.04.25

Performance Data for Calibration:

Master Instrument				Test Instrument			
Flow rate	Initial reading	Final reading	Total	Initial reading	Final reading	Total	Error
in Lpm	in Lpm	in Lpm	in Lpm	in Lpm	in Lpm	in Lpm	in Lpm
100	0	100	100	0	101	101	1
300	0	300	300	0	302	302	2

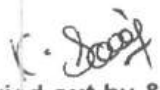
Performance Data for PM:

Sr. No	CHECK POINTS	STATUS	REMARKS
1	Cable tightness in transmitter	Good	OK
2	Sensor condition	Good	OK
3	Leakage	no leak	OK
4	Flange/Bolts condition	Good	OK

 asianpaints Asian Paints Limited Penta Division, Cuddalore.	INSTRUMENTATION	FORMAT
		Flowmeter Calibration/PM Checklist
DOC. No.: IN-S004-F02-00		

5	Condition of the pipe	Good	OK
6	Display condition	Good	OK
7	HP and LP line Dechocking (For DPT flowmeter)	NA	-
8	Orifice plate condition (For DPT flowmeter)	NA	-
9	Earthing condition (for Magnetic Flowmeter Only)	Good	Tightness checked OK.
10	Others	meter covered by polythene sheet.	

Conclusion: As the error are within in the limit. Hence the test instrument is fit for use.


Carried out by & Date:


Approved by & Date:



asianpaints

Asian Paints Limited
Penta Division, Cuddalore.

INSTRUMENTATION

FORMAT

pH Sensor Calibration/PM Checklist

DOC. No.: IN-S007-F02-00

Instrument Under Test:

Instrument Name: PH Sensor / Transmitter Least Count: $\pm 0.01 \text{ pH}$
 Instrument Code: INST - PH - 02 Acceptable Limit: $\pm 0.1 \text{ to } 0.2 \text{ pH}$
 Range: 0 - 14 PH Frequency: once in a year
 Make: ABB Instrument Calibrated/PM on: 23/11/2024
 Location: Ro Perumal PH Next Calibration/PM due on: 23/11/2025

Reference Standard Used:

Reference Standard: Standard bufferRef Standard Calibrated on: - Ref Standard Due on: -

Performance Data for Calibration:

Standard Instrument Reading in PH	Test Instrument Reading in PH		Error PH	
	Before Calibration	After Calibration	Before Calibration	After Calibration
4.00	4.03	4.00	0.03	0.00
7.00	7.04	7.00	0.04	0.00
9.20	9.20	9.20	0.00	0.00

Performance Data for PM:

S. No	Check Points	Status	Remarks
1	Connectors condition	Good	OK
2	Cable tightness in transmitter side	Good	OK
3	Level of the regenerative fluid	Good	OK
4	Electrolyte	Good	OK
5	Housing condition	Good	OK
6	Glass case condition	Good	OK
7	Others	Sensor cleaned OK	

Conclusion:

Carried out by & Date: K. Senthil 23/11/2024Approved by & Date: [Signature] 23/11/2024

Annexure 32
CARE AIR CALIBRATION
CERTIFICATE

Amar Hill, Saki Vihar Road,
Powai, Mumbai – 400 072
Tel : 2857 5089 / 67151200
Fax : 00-91-22-2857 1913
E-mail : chemtrols@chemtrols.com
Website: www.chemtrols.com

INDUSTRIES PVT. LTD.

CALIBRATION REPORT

DATE: 18.03.2025
CUSTOMER : M/s Asian Paints Limited.
LOCATION : Penta Division, Kudikadu, Cuddalore, AAQMS.

MANUAL SPAN CHECK REPORT

Analyzer - Model	Serial number	ABS(Span) value of Reference Membrane ($\mu\text{g}/\text{cm}^2$)	Count (IO)	Count (I)	Value shown by Analyzer For Membrane ($\mu\text{g}/\text{cm}^2$)
PM10-BAM 1020	R10380	793	320959	251133	801 $\mu\text{g}/\text{cm}^2$
PM2.5-BAM 1020	R10381	806	389185	302388	810 $\mu\text{g}/\text{cm}^2$

The value shown by the analyzer for reference membrane is within $\pm 5\%$ of ABS (Span) value of the reference membrane during manual span check. Hence the analyzer is working properly.

Analyser	Serial Number	Status	Zero				SPAN				
			Analyzer Reading		Offset		SPAN CONC	ANALYZER READING		SLOPE	
			Before	After	Before	After		Before	After	Before	After
SO ₂	1046	GOOD	12.54	0	0.17	0.67	400ugm	394.84	400	0.93	0.44
NO	1204	GOOD	10.32	0	0.27	1.09	400ugm	396.27	400	0.27	0.91
NO _x	1204	GOOD	15.76	0	0.35	1.52	400ugm	392.65	400	0.16	0.57

Next Due Date: 18.06.2025
For Chemtrols Ind Pvt Ltd.


K.PraveenRaj
Assistant Manager(Service)

Annexure 33
SAFETY AUDIT REPORT BY REPUTATED
AGENCY



SAFETY AUDIT REPORT

March-- 2024

ASIAN PAINTS LTD

Document Ref : ESA-2024/AP/GGSS-123



Audit Agency

Address

43/7B,
Senthil Nagar ,
ChinnaKodungaiy
ur,
Chennai-51,India
Ph : off :
044-35515926
Cell :91-
9952043904
91-9444968960

Penta Divsion,

B5 - B10, Sipcot Industrial Complex,
Kudikadu, Cuddalore- 607005, Tamil
Nadu, India

Safety Audit Performed by

Meganathanmurugappan.ME.,MIE.,DIS.,Ph.D
Scholar

Accredited Safety Auditor by Government of
Tamilnadu&Kerala ,Chartered Engineer & PHA
Specialists of

M/s. Green Global Safety Systems

Email:info@greenglobalsafetysystems.com
www.greenglobalsafetysystems.com

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PART - A**Preface**

M/s. ASIAN PAINTS LTD, Penta Division, B5 - B10, SIPCOT Industrial Complex, Kudikadu, Cuddalore- 607005, Tamil Nadu, India. offered an opportunity to M/s. Green Global Safety Systems, Chennai-51 to Perform the safety Audit to evaluate the effectiveness of the Occupational Safety and Health Systems in their Pentaerythritol manufacturing facility.

Upon the requirement in the organization, Occupational Health & Safety (OH & S) audit was conducted and the final report is submitted.

Disclaimer

We have Performed as Per MSIHC Rule 2000 and the Occupational Health & Safety Audit as per the IS 14489: 1998 requirements and the report submitted is not deemed to be any undertaking, warranty or certificate.

Place: Chennai

Date : 24-04-2024

M.MEGANATHAN.,ME.,MIE.,DIS.,Ph.D.,

Scholar Safety,

Accredited Safety Auditor by Govt of

Tamilnadu& Kerala

Chartered Engineer and International PHA

Specialists

I. Introduction

As part of good business practice to initiate and carryout systems of Inspections and checks to ensure that the operations are performed in the efficient and profitable way, Safety audit is used as an effective tool for identifying falling standards, areas of risk or vulnerability Hazards and Causes for potential accidents associated to the Pentaerythritol Manufacturing Industrial activity in the Competitive business world.

M/s. ASIAN PAINTS LTD, Penta Divsion, B5 - B10, SIPCOT Industrial Complex, Kudikadu, Cuddalore- 607005, Tamil Nadu, India. have organized for the external safety audit and conducted by our team of M/s.Green Global Safety Systems, Chennai.

The detailed report of Safety audit is presented in this booklet for M/s. ASIAN PAINTS (INDIA) LTD, Penta Division, Cuddalore, Tamilnadu.

Audit Team Profile

Lead Auditor

Name and Designation

1. M.MEGANATHAN. ME.,MIE.,AMIE.,DCT.,DIS.,BOC.,.

Lead Safety auditor – Chemical Process Industries

2. RELEVANT QUALIFICATIONS:

- ME-Master Of Environmental Engineering
- AMIE in Chemical Engineering
Diploma in chemical Technology Diploma in Industrial safety
- Accredited safety auditor – Govt of India and Tamilnadu
- Competent person of Boilers – A CLASS
- Trained HAZOP Leader - Certified by China risk management
- Chartered Engineer by Institution Engineers India

3. WORK EXPERIENCE:

- Total Year of Industrial Experience:19 years of Industrial Exposure in Various disciplines.

M/S. Madras Petrochemicals Ltd, Chennai.

M/S. Southern petrochemical industries Ltd, Manali

M/S. Tamilnadupetroproducts Ltd, TIDCO,Manali.

M/S. Dalmia Cement Bharat Ltd, Trichy

M/S. GE – Momentive performance materials India Pvt Ltd (MNC)

M/S. Piramal Pharmaceuticals,Ennore,Chennai -68.

4. RESPONSIBILITIES INCLUDED:-

Conducted Safety audits, Risk assessments,Training on Safe Handling Chlorine system,Construction safety system. Behavior Based Safety system a modern approach etc.

As Process safety Specialist I conducted PHA (Process Hazard Analysis) for two project- Plant erected and commissioned and running with full rated capacity.

4.1 PLANT SAFETY:

- Having Experience in water quality Analysis, Air quality, Confined Vessel Entry , Explosive atmosphere, Ventilation in Lab Hoods analytical equipments and techniques

- Experienced in Hydraulic testing of Chlorine cylinders and conducting physical and internal inspection of the cylinders and clearance for filling / Rejection.
- Hydraulic testing of Pipelines after erection and report preparation.
- Experienced in operation and maintenance of Belt conveyors, Screw convey, Bucket elevators ,Pipe conveyors and Pneumatic conveyors
- Working experience in Thernic fluid Heaters of make Thermax Ltd
- Experienced in Hydrogen fired Boiler of make Thermax Ltd.
- Having experience in Solvent separation unit in pharmaceuticals and specialty chemical plants
- Working Experience Operation and maintenance of Centrifugal machines

4.2 ENVIRONMENT SAFETY:

- ➔ Activities towards Compliance to the Environmental Statutory Requirements like
 1. Consent Order for Existing / Expansion Projects
 2. Environmental Clearance from MOEF, CPCB, TNPCB.
 3. Environmental Impact Assessment (EIA),
 - 3.1 It Involves Prefeasibility study
 - 3.2 Quantitative Environmental Risk Assessment
 - 3.3 Environmental report
 - 3.4 Socio Economic conditions
 - 3.5 Air & water quality modeling
 - 3.5.1 Gaussian Model
 - 3.5.2 Noise Level reports and mapping
 - 3.6 Climatic
 - 3.7 Human Interface study
 - 3.8 Evaluation of Env Impacts
 - 3.9 setting an Environment Management Plan
 4. Public Hearing
 5. Participation in MOEF meeting.
 6. Hazardous and Non Hazardous Chemicals Management,
 7. Transportation of hazardous petrochemical substances
 8. Waste management of Solid, liquid and gaseous materials.
 - 8.1 Disposal methods of Haz waste and procedures
 - 8.2 Compliance requirements

6. SPECIFIC STANDARDS USED:

IS 14489, Fact act -1948, Tamilnadu Factories rules 11950 MOEF, CPCB, TNPCB, OSHAs, EPA, RCRA , CERCLA, BIS. National Building Code, Tariff Advisory committee Etc.,

7. PROCESS SAFETY MANAGEMENT RESPONSIBILITIES

In charge of HSE Dept / Process Commissioning for Chlor alkali Plant, LPG, Benzene, octane, heptane, Methanol, Diesel, and Furnace oil loading and unloading areas, Effluent Treatment Plant, Occupational Health & Training center HSE Achievements. Erection and Commissioning of Automatic Sprinkler system to 100 MT Storage of LPG Bullet (2 Nos.) and Fire Hydrant System to petrochemical and chlor alkali plant at given time schedule on Jan 2002. Basic HSE Induction Training to 2000 Manpower.

8. HSE ACHIEVEMENTS.

- Number accident free man days maintained up to 12 years continuously
- 5 star awards
- national safety awards
- consecutive national safety council awards
- British safety council awards
- ISO-9001 certificate
- Iso-14001 certificate – Lead Auditor
- Working with ISO 18001
- No of Internal safety audit conducted is approx 20.

→ HSE CERTIFICATES

- Ist Class Boiler Safety – Insp. Of Boilers-India
- HAZOP Leader – China – RISK MANAGEMENT SOLUTIONS
- DGFASLI – Govt of India Trained Safety auditor
- IRCA accredited LEAD AUDITOR FOR ISO 14001 -2004
- Certified Internal Auditor for ISO 9001
- First aid – St John Ambulance – Cent Govt. of India

10. EHS SOFTWARE KNOWLEDGE:

1. Process Hazard Analysis: HAZOP, FMEA, FTA, SOP-Leader Software (ABS USA)
2. Environmental Risk Assessments – 3MRA Software – EPA (USA)
3. Noise mapping – Custics software –Spain
4. Quantitative Risk estimation – ALOHA Software (EPA –USA)

5. Piping – Pipe flow Expert Software –UK

11.OTHER CERTIFICATES:

- Safety Training Programme –By Insp. ofFactories-Tamilnadu-India
- First Aider – St John Ambulance –India
- Ms-Office- 2000 – NIIT – India

12. PROFESSIONAL MEMBERSHIPS

1. National Safety Council- Member-India
2. Safety Engineers Association – Member-Tamilnadu
3. Indian institute of Engineers (India)– Associate – Calcutta
4. Safety Auditors Association of India -SAAI – Moderator
5. Indian safety Engineers(ISE) – Member
6. Chartered Engineer – In progress with IEI-India
7. Industrial Waste management Association – Member -2010

Mr.T.Sundaramurthy - 40 Years of chemical Process Industries

II .Executive Summary

- ✓ As part of Occupational Safety and Health management system, M/s. ASIAN PAINTS (INDIA) LTD, Cuddalore, Tamilnadu, have the commitment, attitude, Systems and procedures to manage the Health and Safety requirements to their factory.
- ✓ Safety Awareness posters, warning boards, pictures and mirror image in the time office are in appreciable manner.
- ✓ Well established Training center is available and Periodical training for the employees and contract employees are in appreciable manner.
- ✓ Basic Engineering design and Overall Process safety management system is well planned, constructed and maintained in the factory premises.
- ✓ At any point of time one reactor remains Empty to take care of any Emergency arises in the running reactor.
- ✓ Periodical Inspection by the Executives and Internal audits by the team is appreciable.
- ✓ Color coding and Gasket safety management system practiced in the Product / Process lines are in the appreciable manner.
- ✓ Standard Operating Procedures are evaluated, displayed in Tamil (Local Languages) at various Locations.
- ✓ Emergency preparedness plan and response system has been established, practiced regularly.
- ✓ Process safety management system have both remote Controlled operation and Local system to mitigate the emergency situations.
- ✓ Plant have conducted Process safety audit and compliances as per the recommendations are under implementation status is appreciable.

III. Goals and Objective of the Safety Audit

Safety Audit Goals

Audits are normally designed to achieve one or more of the following goals

- ❖ To provide the audit with an opportunity to assess its own OS & H system against standards and identify areas for improvement.
- ❖ To determine the conformity of the implemented OS & H systems with specified requirements and identify areas for improvement.
- ❖ To meet applicable local regulatory requirements.

Audit Objectives

Occupational Safety and Health (OS & H) audits are conducted

- ❖ To carry out a systematic critical appraisal of all potential hazards involving personnel, plant, services and operational methods.
- ❖ To ensure that OS & H system fully satisfy the legal requirements and those of company's written safety policies, objectives and progress.

IV .Scope of the Audit

- To conduct the Safety audit in the M/s. ASIAN PAINTS LTD, Penta Division, B5 - B10, SIPCOT Industrial Complex, Kudikadu, Cuddalore- 607005, Tamil Nadu, and the general List of areas in the factory premises are as follows

- Penta ErithrolStorage Area
- Methanol storage facility
- Batch Reactor area
- Formaldehyde
- Acetaldehyde
- Caustic soda
- Supluric Acid
- Formic Acid
- Sodium formate
- Stripping Area
- Storage Silo
- Packing and Warehouse area
- Product Dispatch area

Utilities

- Desalination plant
- Penta plant
- DipentPlant
- Water treatment plant
- Effluent treatment plant

- Coal yard
- Chilled water systems
- Boiler

Other areas

- Main office Buildings
- Occupational Health Centre
- Canteen
- Switch yard
- Substation
- Logistic Inside roads
- Engineering offices and Workshops.

V. Methodology

Safety audit was conducted as per the Guidelines Standard for Occupational Health and Safety Audit "IS 14489: 1998 reaffirmed as 2002".

Audit Methodology

- ❖ Appraisal of Audit procedures to the concerned executives.
- ❖ Familiarization visit to various sections of the unit.
- ❖ Visit to various sections for in depth study of hazard potential.
- ❖ Study of the maintenance system of process vessels, machines, pipes, equipment, buildings etc.,
- ❖ Interaction with various levels of employees.
- ❖ Perusal of documents relating to OS & H.
- ❖ Appraisal of major observations to the functional heads who are decision makers to improve SHE system.

Documents Perused

The following records are pursued during the audit.

1. OS & H policy
2. Safety Department's organization chart
3. Safety Budget
4. Safety promotional & motivational measures
5. Training records on safety, fire and first-aid
6. Record of plant safety inspections
7. Accident investigation reports
8. Accidents and dangerous occurrences – statistics and analysis.
9. Record of tests and examinations of equipment and structures as per statutes
10. Safe operating procedures for various operations
11. Record of work permits
12. Record of monitoring of toxic, flammable and explosives substances at work place

13. Maintenance and testing records of the detection and firefighting equipment
14. Occupational Health Centre/First Aid Details
15. Medical records of employees
16. Records of industrial hygiene surveys (noise, ventilation and illumination levels, airborne and toxic substances, explosive gases)
17. Material safety data sheets
18. On-site emergency plan and record of Mock Drills
19. Communication Systems adopted in the unit
20. Records of Hazardous waste disposal
21. Housekeeping inspection records
22. Minutes of safety committee meetings
23. Approval of layouts; and other approval from statutory authorities
24. Records of any modifications carried out in plant or process
25. Maintenance procedure records
26. Calibration and testing records
27. Shut down and maintenance procedures
28. In service inspection manuals
29. Records including that of material handling
30. Inspection books and other statutory records
31. Records of previous audits
32. HAZOP Study Reports
33. Safety in transportation of hazardous substances
34. Personal Protective Equipment
35. Pressure Vessels, Pipes and Fittings
36. Lifting Machines and Tackles
37. Mobile Equipment and Vehicular Traffic
38. Tank Storage Area Vessel-Details

Areas covered under audit

- | | |
|---|---|
| 1. Safety policy | 16. Material handling equipment |
| 2. Organization Setup | |
| 3. Safety Education and Training | 17. Electrical and personal safe guarding |
| 4. Employees participation in OS & H | 18. Ventilation, illumination and noise |
| 5. Safety Manual & Rules | 19. Work environment monitoring system |
| 6. Compliance with Statutory Requirements | 20. Occupational Health |
| 7. New equipment review / inspection | 21. Safe operating procedures |
| 8. Accidents reporting, investigation and analysis | 22. Work permit system |
| 9. Risk assessment including hazard identification | 23. Fire prevention, protection and fighting system |
| 10. Plant safety inspections | 24. Emergency preparedness plan |
| 11. Health and safety improvements plans / targets | 25. Process / plant modification procedures |
| 12. First aid facilities – Occupational Health Centre | 26. Transportation |
| 13. Personal protective equipment | 27. Hazardous waste storage area |
| 14. House keeping | 28. Safety in storage and warehousing |
| 15. Machine and general area guarding | 29. Contractor safety system |
| | 30. Buildings and Structures |
| | 31. Hand tools |
| 32. Boilers, Pressure Vessels and Utilities | |
| Library and up gradation of knowledge | |

VI. Standards

- Specific Standard for Occupational Health and Safety standard used is "IS **14489: 1998 reaffirmed as 2002**" is applicable to the scope of the safety audit.

3.0 PROFILE OF THE COMPANY

Asian Paints is India's largest and Asia's third largest paint company since its foundation in 1942, with a turnover of Rs.141.83 billion. Asian Paints, through international operations, operates in 19 countries and has 26 paint manufacturing facilities in the world servicing consumers in over 65 countries

Asian Paints Limited has two chemicals manufacturing facilities, one at Ankleshwar, Gujarat, which manufactures Phthalic Anhydride, and the second at Cuddalore in the state of Tamilnadu, which manufactures Pentaerythritol. These units were set up as backward integration initiatives in the late eighties, primarily to cater to the in-house demand for these chemicals.

Asian Paints Limited, Penta Division was set up in 1984 as a joint venture between TIDCO & APL. The plant is located in Cuddalore SIPCOT Industrial Complex, 250 Km away from Chennai, it is a coastal town on the shore of Bay of Bengal & well connected with Chennai by Rail & Road. The facility is accredited with ISO 9001, 14001 AND ISO45001 certification and is a "Zero Liquid Effluent Discharge Unit".

Our facility has won many awards at the state level & national level for implementation of energy saving, yield improvement schemes, outstanding export performances and is the first in the state of Tamil Nadu to have successfully operated a "Zero Liquid Effluent Discharge" facility.

The technology for the manufacture of Pentaerythritol was licensed from Hercules Inc of USA. We have developed good capabilities in the manufacturing process and have established processes that help us control impurities like formals. We manufacture Pentaerythritol in 2 primary grades of Penta with purities varying from 98-99% in Mono Penta and 83- 85% Di Penta in Di Pentaerythritol. Impurities like Tri-Penta, Cyclic & linear formals, though present in our product also, are in much lower quantities.

Esters made using our product Di-Pentaerythritol are used in US and Europe in aviation industry. Granular grade of Di Penta produced by us is quite popular due to advantages in safe handling at user end.

We are the leaders in India in Penta markets like Alkyd Resin, high energy material (detonator fuses) and are regular exporter to manufacturers of specialty lubricant additives and synthetic lubricants. We have developed specific grades for application in the polyester industry for improving the speed and tenacity of the fiber. Efforts are underway to develop powder and micronized grades of Penta for PVC stabilizer industry in view of the increasing demand in the country and also to support introduction of lead free stabilizers.

Penta division is engaged in the manufacture of Formaldehyde. Formaldehyde is manufactured from Methanol and is a key input Raw Material used for the manufacture of Pentaerythritol. It is used mainly for captive consumption.

IX .Audit Team Selection

Our audit team is selected in such way that the competency level in hands on expertise in Identifying potential Hazards, causes for accidents in Pentaerythritol Manufacturing plants and presenting suitable recommendations .

Our team comprises of

- M.Meganathan - Lead Auditor – Process safety
- Sundaramurthy.T - Sr.Audit Member – Electrical and Maintenance
- K.Ayyappan- Audit Team Member – Instrument and other Department

Lead auditor and other member Auditor are experienced more than 30 years in Various Kinds of Industries in Operation, Safety and Health Departments.

Our Team have conducted Safety audits more than 250 Safety Audits.

We are recognized safety auditors Trained by the DGFASLI, Central Government body of India and notified accredited Safety Auditors by the Directorate Industrial Safety and Health –Tamilnadu, Kerala state.

PART – B

X. Site Visit

To conduct the Safety audit in the M/s. ASIAN PAINTS LTD, Penta Division, Pentaerythritol manufacturing Unit, and Observation made in the general List of areas in the factory premises are as follows

- Penta Erithtrol Storage Area
- Methanol storage facility
- Batch Reactor area
- Formaldehyde
- Acitaldehyde
- Caustic soda
- Supluric Acid
- Formic Acid
- Sodium formate
- Stripping Area
- Storage Silo
- Packing and Warehouse area
- Product Dispatch area

Utilities

- Desalination plant
- Penta plant

- Dipent Plant
- Water treatment plant
- Effluent treatment plant
- Coal yard
- Chilled water systems
- Boiler

Other areas

- Main office Buildings
- Occupational Health Centre
- Canteen
- Switch yard
- Substation
- Logistic Inside roads
- Engineering offices and workshop.

PART B 1 IS 14489 Elements summary			Recommendations
S.No	Name of the Subject	Observations	
1	Occupational safety & health policy (OS &H)	<p>✓ Occupational safety & health policy is available. Communicated, Reviewed Periodically, Displayed in the conspicuous places in English and Local languages.</p> <p><u>Sample Audit</u></p> <ol style="list-style-type: none"> 1. Quality Policy. 2. Health and safety policy and 3. Environmental policy. <p>Policies are signed by MD-Mr. Amit Syngle –MD.</p>	
2	Occupational Safety and Health (OS&H)organizational set-up	<p>✓ Factory has OS & H organizational set up as follows</p> <pre> Factory Manager ↓ Manager ↓ safety officer </pre> <p>Sample Audit : Safety officer approval Solicited to DISH via R-DIS (H1)/1329/2018.</p>	

3	<p>Education and training</p> <ul style="list-style-type: none"> ✓ Factory have Annual training plan and it has been communicated. ✓ Training documents are maintained. ✓ New Employees undergo safety communication and training. ✓ Visitors and Customers undergo Safety hazard communication. ✓ Training hall is available. <p>Latest training – Safe Act and Unsafe Act (SUSA) Conversation</p> <p>No of participants and date – 28 Employees and 27.03.2024</p> <ul style="list-style-type: none"> ✓ Effectiveness verified – Yes 	
4	<p>Employees participation in OS&H Management</p> <ul style="list-style-type: none"> ✓ Safety committee is formed, periodical meeting conducted. Minutes are recorded and reviewed. ✓ Safety committee meeting is conducted periodically. ✓ Proper follow up of the Safety committee minutes of meeting is, recorded and progressive action have been ensured for the agreed concerns. ✓ Corporate Social Responsibility activities are also discussed. <p>Date and no of points- 16.03.2024 and 20</p> <p>How many points complied in the last three month- 08</p> <p>Whether chairman is attending the meeting / attendance proof is required – Yes</p>	

5	<p>Motivational and promotional measures for OS&H</p>	<p>✓ The following practice also in action to ensure the Employee participation and Safety promotional measures.</p> <ul style="list-style-type: none"> • Plant safety inspection • Safety Incentive scheme is implemented and practiced. <p>✓ June 5 - environment day celebration is conducted.</p> <p>✓ March 4 - safety week celebration is conducted</p> <p>✓ April 14 – National fire day celebration is conducted</p> <p>✓ Good Number of Employee participation is observed.</p> <p>✓ Near-Miss reporting scheme, best price is given in every month.</p> <p>✓ Celebration of Annual day.</p> <p>✓ On the spot safety award.</p> <p>✓ Best employee award</p> <p>✓ Best contractor award.</p> <p>✓ Best suggestion award. Award given by TN govt.</p> <p>✓ Display of Safety posters etc...</p>	
6	<p>Safety manual and rules</p>	<p>✓ General Plant safety manual is available</p> <p>✓ Safety manual contain all the hazards pertaining to whole business activity is evaluated ,written, communicated to the all stake holders and reviewed</p> <p>✓ Factory Safety Rules are available, Communicated to the stake</p>	

		holders. <ul style="list-style-type: none"> ✓ Control over the violation of the safety rule is monitored effectively. ✓ General safety manual is available ✓ Process Safety management (PSM) guidance manual are available, Issued to all employee. ✓ EHS safety manual is available and it is displayed. 	
7	Compliance with statutory requirements	<ul style="list-style-type: none"> ✓ Factory has the system of identifying the applicable legal requirements, complying and reviewing including this External Safety audit. ✓ Factory is getting informed with periodical amendments of the legal requirements by the external sources. ✓ Periodical Testing and Examinations of the tools and tackles are carried out. ✓ Gas Cylinders Rules, 1981 (under Indian Explosives Act,1884) ✓ Static and mobile pressure vessels Rules (Unfired) ✓ The Motor Vehicles Act - 1988. Transporters have proper Driving license and insurance. ✓ Management of Import, Handling storage of Hazardous chemicals 	

		<p>Rules 2008 and</p> <p><u>i.Environmental Regulations :</u></p> <ul style="list-style-type: none"> ✓ Water (Prevention & Control of Pollution) Act, 1974. ✓ Air (Prevention & Control of Pollution) Act- 1981 <ul style="list-style-type: none"> • Air and Water Consent order is available <p>Effluent and sewage treatment plants are available</p> <ul style="list-style-type: none"> ✓ The Hazardous waste (Management , Handling and Transboundary movement rule 2008) • Hazardous waste Authorization certificate is available • Valid upto : 25-12-2026 	
8	<p>New equipment review/inspection</p>	<ul style="list-style-type: none"> ✓ Safety aspects about the new equipment inspection is being carried out by the concerned end user department head thro Material Inspection system in the stores. ✓ Standard operating procedure is available for managing changes in the men, material, method and management safety systems. 	

9	Accident reporting analysis investigation and implementation of recommendations	<ul style="list-style-type: none"> ✓ Incident management systems like First aid cases, Near miss, Reportable incidents registers are maintained. ✓ Effective implementation in the Near miss reporting, recognition, evaluation, Remedial and preventive actions are appreciable. ✓ Incident Reporting Forms available to all the employees and reviewed for corrective, preventive action ✓ Accident reporting System is available. ✓ Investigation team is formed <p><u>Sample Audit</u></p>	
10	Risk assessment	<ul style="list-style-type: none"> ✓ Plan is available for Risk associated with each hazard is 	

	including hazard identification	identification, evaluation, priorities and remedial, preventive actions. Sample Audit QRA (quantitative risk analysis) – Yes. Done by Cholamandalam, Jan-2022. HAZOP – Done in 2010 by GLIS, Chennai. Internal team do Hazop for any new /Change in Process	
11	Safety inspections	<ul style="list-style-type: none"> ✓ Scheduled plant wise Safety Inspection is carried out by team (All cross functional) ✓ Observations are recorded, reviewed, corrective and preventive actions have been taken. ✓ Regular fire team inspection is carried out ✓ Emergency plan should be carried out ✓ External Safety audit is conducted <p>Sample Audit</p> <ol style="list-style-type: none"> 1. Monthly, Weekly and daily checklist available to inspect fire hydrant, fire extinguishers and work place inspections. 2. Hazard identification card is available for informing the Hazards in work place. 	

12	<p>Health and safety improvement plan/targets</p>	<p>✓ Factory has the target of "NO REPORTABLE INCIDENTS"</p> <p>Sample Audit</p> <p>To Maintain Recordable Frequency rate < 3.33 and Total Frequency Rate <200.</p> <p>For achieving this training is given to employees. The unsafe conditions on travel also are taken for analysis and improvement.</p> <p>Training on Defensive driving is given for all Two wheeler and four wheeler driving. Travel policy is being developed to maintain safety during travel.</p>	
13	<p>First aid facilities - occupational health centre(OHC)</p>	<p>✓ First aid boxes are provided.</p> <p>✓ New OHC building construction is under progress.</p> <ul style="list-style-type: none"> • Medical oxygen cylinder is available. • Bed is available. • First-Aid box is available. • First-Aid box inspection register is available. • Health record is available. <p>✓ Factory Medical officer having MBBS doctor with proper qualification.</p>	

		<ul style="list-style-type: none"> ✓ First aid equipments are available to take care of emergency situations ✓ Employees Health records are available in the form of Test reports and Examination details ✓ Ambulance is available in the OHC. <p>Sample Audit</p> <p>Doctor NAME- Dr.Anbu Nurse name – Mr.Deva, Mr.Vijaybalan, Mr.Arulpraksam, Mr.Dinkaran Available hours – 24 Hrs Size of OHC – 20 Sq ft.</p> <p>What are the records verified:</p> <ol style="list-style-type: none"> 1. Medicine stock and disposal records. 2. Waste disposal records. 3. Doctor's plant visit record. 4. First aid box position and stock records. 5. Medical record s and its summary. 	
14	Personal protective equipment (PPEs)	<ul style="list-style-type: none"> ✓ PPEs like Face shield, goggles, helmets, shoe, Aprons, respirators and gloves are issued, recorded and maintained. ✓ Emergency Escape air breathing apparatus and online air breathing apparatus are provided. ✓ Minimum Inventory of PPEs are maintained in the stores. 	

		<ul style="list-style-type: none"> ✓ Self contained breathing apparatus is available in the plants. ✓ Fire Extinguishers are available in the plants. 	
15	Good housekeeping	<ul style="list-style-type: none"> ✓ Housekeeping in the plant and administration building are good. 	
16	Machine and general area guarding	<ul style="list-style-type: none"> ✓ General machine guarding system is appreciable. ✓ Emergency stop buttons are provided for the conveyors under construction. ✓ LOTO facilitated Electric panels is provided for the heavy machineries. 	
17	Material handling equipment	<ul style="list-style-type: none"> ✓ Belt conveyors are under installation in the salt handling plant. <p>Sample Audit</p> <ol style="list-style-type: none"> 1. Fork lift of various sizes. Drivers are qualified. Regular maintenance done for forklifts and the forklifts are inspected and certified for use by M/S Sriram agency. 2. EOT cranes and chain pulley blocks are used for handling material and these are inspected and accepted for use by Sriram agencies 3. One scissor lift is available for Lading in Containers. This is periodically inspected and serviced. 	
18	Electrical and personal	<ul style="list-style-type: none"> ✓ Two number of transformer is available. ✓ Transformer Capacity : 1500KVA 	

	safeguarding	<ul style="list-style-type: none"> ✓ Qualified electrician is available. ✓ B – license Holder : 4 ✓ C – license Holder : 4 ✓ Diesel Generator (DG) is available. ✓ Earth pits are numbered, tested periodically. ✓ Zones were properly written and communicated. ✓ Flame proof fittings were installed in Cell house and hydrogen bottling plant. ✓ Lightening arrestors are installed and earthed. ✓ Testing instruments are calibrated periodically. ✓ Electrical personal protective equipment like rubber gloves, half face mask, Rubber mats, and Fire extinguishers are provided. ✓ First aid box is provided. ✓ Rubber mats are provided in the MCC room panels. ✓ Electrical Clearance system for undertaking any maintenance job is in practice in the safety work permit system. ✓ Preventive maintenance schedule is available. 	
19	Ventilation,	<ul style="list-style-type: none"> ✓ General Ventilation, Illumination is good ✓ High noise areas are marked and necessary PPEs warning boards are 	

	illumination and noise	displayed. ✓ Preventive maintenance vibration levels are checked for the abnormal vibrations in the equipments.	
20	Work environment monitoring system	<p>✓ No abnormality in High Humidity, High Temperature environment is observed in the plant premises.</p> <p>Sample Audit</p> <p>Air, water and Noise Monitoring done regularly by TNPCB once in six month.</p> <p>Water sampled and reported</p> <p>Air sampled for (Ambient, Boiler Stack and DG stack, Plant stack etc.).</p> <p>✓</p>	
21	Prevention of occupational diseases including periodic medical examination	<p>✓ Premedical and Periodical checkups have been conducted for the Employees.</p> <p>✓ Canteen workers have undergone medical examinations. Certificates are available.</p> <p>Sample Audit</p> <p>Premedical examination done by OHC Doctor and if required testing done by outside lab as per doctor's recommendation.</p>	

		<p>Periodical Medical examination done once in Six month for all employees and canteen employees.</p> <p>Steps for COVID19 : 97 % employees are vaccinated. Contract employees are also ensured about vaccination. Visitors are also verified for Vaccination and then only allowed to enter the factory premises. Temperature verification done at entry point. Wearing mask is ensured.</p>	
22	<p>Safe operating procedures (SOP)</p>	<p>✓ Operating procedures, Process control parameter safe limits, Work instructions, Pipe line Color coding systems Gasket compatibility matrix systems are available.</p> <p>✓ Master calibration certificate is available</p> <p>Warning boards: Available. But to display on both gates of Peso tanks. Need more display on Packing section and filtration area.</p> <p>SOP: displayed at very few places.</p> <p>Signage: Available.</p> <p>Safety posters: Available.</p> <p>Speed Limit: Displayed. 20 Km per hour.</p>	

23	Work permit systems	<ul style="list-style-type: none"> ✓ Factory has system for Safety permit to work. ✓ Work permit systems are used. ✓ Work permit is requested by the owner, Approved by the Shift in charge, Reviewed by the Executive safety and received by the concerned maintenance in charge. ✓ Lock out / Tag out System have been introduced and practiced. <p>Types of PTW available as per OISD (Cold work, Height Work, Hot Work, Hazardous Work, Confined Space Entry, Excavation work and Electrical Work) ✓</p>	
24	Fire prevention, protection and fighting systems	<ul style="list-style-type: none"> ✓ Fire Protection systems like –Fire Hydrant systems, Fire Hydrant systems, Smoke detectors, Sprinklers, Fire Extinguishers, Fire hose reels are available. ✓ Basic fire engineering like Passive fire protection metallic / asbestos roof and structure system is already built and maintained. ✓ Once in three month fire extinguishers are inspected and maintained in AMC through third party. ✓ Dedicated fire hydrant pumps are available. ✓ Fire fighting training and First aid Training is conducted. 	

	<ul style="list-style-type: none"> ✓ Hose reels are provided. ✓ Proper Loading and Unloading procedure is prepared in the flammable material handling area. ✓ Fire hydrant fitting and smoke detector under annual maintenance is periodically ✓ Walkie –Talkie check once in a month ✓ Eye wash shower is available. ✓ MIMC panel available. <p><u>Fire Water Pump House</u></p> <ul style="list-style-type: none"> ✓ Jockey pump, main motor pump, DG Pump is available. <p><u>Good Safety Practice</u></p> <ul style="list-style-type: none"> ✓ Fire Protection system flow chart is available ✓ Emergency escape route layout is available. <p><u>Sample Audit</u></p> <p>1400 KL fire water concrete tank storage with two Jockey pumps, EB power driven FW pump 273 KL/Hr, DG driven FW pump 171 KL /Hr capacity are available</p> <p>Manual call points, Fire alarms, Gas sensors in field for Aa are provided</p> <p>Gas sensor is tested with sensing value for alarm in Penta plant</p>	
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		Operator and staff readiness for emergency is observed. Fire water emergency starts of all pumps at set pressures have been tested. Pump details – 2 Electric Main Pump, capacity = 4550 LPM and 2850 LPM 2 Jockey Pump, Capacity = 500 LPM and 171.66 LPM 1 Diesel Pump, Capacity = 4550 LPM	
25	Emergency preparedness plans (on-site/offsite)	<ul style="list-style-type: none"> ✓ On-site emergency preparedness plan approval is available ✓ ON-Site Emergency plan is available. ✓ Assembly Point is available in the company. ✓ Plant layout available and displayed. ✓ Emergency preparedness plans are displayed. 	
26	Process/plant modification procedure	<ul style="list-style-type: none"> ✓ Procedure is available and practiced. ✓ HAZOP study have been Conducted for any kind of change in the Process / plant / method / material / Batch Changes. 	
27	Transportation of hazardous substances	<ul style="list-style-type: none"> ✓ Hazardous substances like Sulphuric acid, Caustic soda ✓ MSDS are available. ✓ The company has identified the hazards associated with transportation within factory premises and has adopted safety measures like warning signs, speed limits, two-way main roads, 	

		<p>specific parking bays.</p> <ul style="list-style-type: none"> ✓ Alcohol inhalation check carried out for the drivers who carry hazardous material before entering to the factory ✓ Pre Entry and post entry inspections for the hazardous vehicle are in place. ✓ Proper Safety Instructions have been given to the drivers. ✓ HAZCHEM codes are available in the Haz material carrying vehicle, ✓ Spark arrestors are used for the vehicles entering to the factory premises. <p>TREM card / MSDS – TREM Card available for Methanol, Acetaldehyde, Formaldehyde, HCl and Caustic lye</p>	
28	<p>Hazardous waste treatment and disposal</p>	<ul style="list-style-type: none"> ✓ Site has Effluent treatment plant with Zero waste management system and the plant comprises neutralization, clarification, settling pits to remove pollutants. ✓ The treated effluent is mostly re-used for chemicals preparation, process use. Part of treated effluent is let out to marine out fall ✓ Hazardous waste is stored in secured place and being sent to authorize recyclers. 	

		<ul style="list-style-type: none"> ✓ Stack monitoring system is installed and commissioned. ✓ Ambient air quality monitoring system is available to monitor the environment condition. <p>STP – 45 KLD</p> <p>ETP – 250 KLD</p> <p>Stack Emission – Due on 25.09.2024</p> <p>Ambient Air Quality – Due on 25.09.2024 ✓</p>	
29	Safety in storage and warehousing	<ul style="list-style-type: none"> ✓ Factory have stored <ul style="list-style-type: none"> ✓ methanol Bullet storage 200KL x4 =800KL ✓ Above ground ✓ Acetaldehyde 75M³ x2 ✓ Formaldehyde 200KL x2 ✓ Caustic Soda 200 KL x1 ✓ Dykes and containments are provided to control spillages. ✓ Proper color coding and signage have been provided. ✓ Proper fire protection system is provided ✓ Periodical inspections are carried out. ✓ Storages are monitored by the instrumentation as well as by the 	

		<p>operators.</p> <ul style="list-style-type: none"> ✓ Emergency leak control PPEs are available ✓ Proper Ventilation, Illumination system is available for the storages. ✓ Confined vessel entry system is followed during maintenance of the storages. ✓ Emergency kit available with 20 m hose line with on-line respiratory system. 	
30	<p>Contractor systems</p> <p>safety</p>	<ul style="list-style-type: none"> ➤ Induction training is given by Security staff ➤ Contractor entry is controlled by Securities by frisking. ➤ Regular Contract workers attendance register is maintained in security office ➤ Communication between new worker entry and to the safety department is in practice. ✓ Separate training programmes are conducted for contract workers. ✓ One hour is spent for the contractors on safety training. ➤ Contractor safety meeting is carried out. ✓ Proper access to height for the painters provided. ➤ All contract workers are trained, advised to observe safety at 	

		<p>workplace. Their work behavior is monitored.</p> <p>➤ Lorry drivers shed is provided.</p> <p>Sample audit</p> <p>Medical fitness: Verified before joining. Periodical done once in Six month.</p> <p>Insurance: ESI ensured.</p> <p>Equipment inspection and permission at site: Before Haz.Work or Height work, Employee is tested by OHC and then permitted to work.</p> <p>Welfare facilities to the contract workers: canteen facility provided. PPE's are provided.</p>	
31	Safety for customers (including material safety data sheets)	<p>✓ Safety precautionary instructions are available in the Caustic Lye, Sodium hypo, Liquid chlorine, Hydrogen and HCL acid trucks.</p> <p>✓ MSDS and TREM Card is issued along with Products and communicated for any change in the property of the chemicals.</p> <p>✓ Hazard identification label also available.</p>	
		<p>✓ Budgeted amount: 1.25 Cr. (including Capex)</p>	

32	Safety Budget	<ul style="list-style-type: none"> ✓ Utilized so far : 70 % ✓ Balance : Planned for utilizing the balance 30 % for planned work in this year itself (by March -24) 	
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PART – B2

Audit observations and recommendations – Area wise

S.No	OBSERVATION	RECOMMENDATION
<u>Methanol Storage:-</u>		
1	<ul style="list-style-type: none"> ✓ Methanol storage capacity is 250KL x 4 ✓ Sprinkler system is available in the unloading ✓ Methanol unloading is automated with earthing. ✓ Cloth is used to higher the loading point form tanker coupling. ✓ Interlock earthing systems is available for the Methanol unloading pump. ✓ Fire water medium velocity spray for tanks with deluge system is provided, it is periodically tested. ✓ Floating Level measurement is available. ✓ Level transmitter is available. ✓ PVRV is available. ✓ Foam pourer is used. ✓ Dyke wall is available with rain water drain line. ✓ Wind sock is available. 	<ol style="list-style-type: none"> 1. Methanol storage dyke wall inside vegetation need removal. 2. Methanol storage tank bottom vegetation need removal. 3. 55 KL Methanol tank dyke inside pumps noticed need removal from the dyke wall inside. 4. Plastic buckets are not to be allowed inside the licensed area for secondary containment during unloading and aluminium buckets are to be used 5. Fire sprinkler system is provided in the unloading area but for cooling the tanker tyers sprinklers are to be provided

<u>Reactor:-</u>	
3	<p>✓ Reactor is exothermic and outside water jacket is available.</p> <p>✓ Reactor steam line has two valves SRV.</p> <p>✓ TT and FT is available.</p> <p>✓ Scrubber is available.</p> <p>✓ Distillation column interlocked with 250° C with steam out.</p> <p>✓ All the vents of the formaldehyde storage tank is connected to air blower suction.</p> <p>Formaldehyde Reactor</p>
	<ol style="list-style-type: none"> 1. Formaldehyde plant concrete structures crack noticed need repair work. 2. Formaldehyde plant sump top cover plate highly corroded, need action for concrete slabs and warning sign. 3. Formaldehyde plant staircase highly corroded and week need action for renewal with grating. 4. Formaldehyde plant control room inside cable dressing needed. 5. Formaldehyde plant first floor structured packing's need removal. 6. Formaldehyde plant hanging unwanted steel supports need removal. 7. Formaldehyde Penta plant reactor area floor openings need grating.
<u>Canteen:-</u>	
4	<p>✓ Premedical and periodical examination is conducted for the canteen workers.</p>

Penta Erythritol Plant

5	<p>Penta :</p> <p>Formaldehyde and cau.lye is the main reactant and Acetaldehyde is the limiting reactant.</p> <p>Entire reaction Process operations are controlled by DCS.</p> <p>Raw Material ratios are monitored by flow meters and controlled by control Valves and interlocks available for pump to maintain the ratios.</p> <p>If the quantity in the vessel (11.97 MT is the batch size) is more than the batch size, the input will stop.</p> <p>If the quantity reaches 11.97 MT, the bottom outlet valve opens and product transferred to FG tank.</p> <p>Interlocks provided to maintain the feed, Maintain process temperature, chilling cut off based on temperature and time etc...</p> <p>Enunciator system is available in control room for all deviations.</p> <p>4 operators in field and 8 operators in Control room per shift.</p>	<ol style="list-style-type: none"> 1. Penta Erithitrol plant Leaf filter area JB/Starter points un used need removal. 2. Penta Erithitrol plant top damaged roof sheets need renewal. 3. Penta Erithitrol plant multiple effect evaporator area roof sheets need renewal. 4. Penta Erithitrol plant Control room top cable dressing needed. 5. Crystallizer area approach platform need grating with handrails. 6. Penta Erithitrol plant stripper area floor opening need grating. 7. CBF exhaust blower area no platform for maintenance work , need action. 8. PVC vessel safety valve blinded condition noticed and SV not working. Need action. 9. New CVC bottom need grating
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	<p>DCS system is operated with user codes to avoid any sabotage. User tracking is available.</p> <p>VOC sensors provided near reactors for sensing leak of RM.</p> <p>The product is filtered in drum filters using vacuum and the product is collected through conveyor and send for drying. All automation.</p> <p>✓</p>	<p>10.CBF filter area floor opening need grating.</p> <p>11.Penta Erithitrol plant equipment's vessels, pipelines, rotary equipment's no adequate space for movement need detailed plant layout study and make arrangements for safe movement and maintenance.</p> <p>12.Equipment's, vessels insulation sheets hanging need action.</p> <p>13.Penta Erithitrol plant roof ventilators needed.</p> <p>14.Penta Erithitrol plant control room UPS area need cable dressing. False ceiling need repair work.</p> <p>15.Penta Erithitrol plant vacuum pump aquestic hood need repair work.</p> <p>16.Fludised bed dryer section dust generation need control.</p> <p>17.Sueco feed tank top need platform.</p> <p>18.Sulfuric acid,Formic Acid Pumps inside dyke wall need action.</p> <p>19.Mono feed tank T303,T302,T112 tank top need platform.</p>
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	<p>20. Bag filter area water logging noticed, need action.</p> <p>21. Cooling tower not in use need removal.</p> <p>22. Mono penta blower area need housekeeping, water logging noticed with slurry.</p> <p>23. Tank 212 manhole opened condition for OFF spec material bag charging. Need hopper with strainer arrangement.</p> <p>24. Sodium formate dryer area slurry noticed, need cleaning.</p> <p>25. Floor wash collection sump need protection arrangement.</p> <p>26. Mono, Di section need floor liquid accumulation noticed need cleaning.</p> <p>27. Carbon column insulation sheet hanging, need action.</p>
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Sulphuric Acid:

6	<ul style="list-style-type: none"> ✓ Formic acid is in same dyke. ✓ Eye wash shower is available. ✓ E103, shell & tube heat exchanger drain line is
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	kept over the head.	
<u>Dipentaplant:-</u>		
7	<ul style="list-style-type: none"> ✓ Tech Erythritol product is filled in jumbo monoblock with suspended weighing machine lifting pendecitis permanent. 	
<u>Electrical Department:-</u>		
8	<p><u>Transformer:-</u></p> <ul style="list-style-type: none"> ✓ Two number of transformer is available. ✓ Transformer Capacity : 1500KVA ✓ Qualified electrician is available. ✓ B – license Holder : 4 ✓ C – license Holder : 4 ✓ Diesel Generator (DG) is available. <p><u>MCC I&II:-</u></p> <ul style="list-style-type: none"> ✓ Mock drill demo has been conducted by green global safety systems auditor ✓ Transformer oil – 22-06-2024 ✓ Thermal scan study done on 2018 ✓ Portable electrical equipments inspection for the 	<ul style="list-style-type: none"> ➤ Penta Plant MCC 2A/2B Ventilation have to be improved ➤ Thermal scan can be conducted every year

	<p>contractor is available</p> <ul style="list-style-type: none"> ✓ FLP inspection check list is available ✓ Loto system is available ✓ Earth pit done on 03-11-2023 ✓ Totally 121 pits are available 	
<u>Mechanical:-</u>		
9	<ul style="list-style-type: none"> ✓ Preventive maintenance checklist is available. ✓ Vibration meter is available. ✓ Pump seal leakage checked every day. ✓ Safety belt is checked. 	<ul style="list-style-type: none"> ➤ Vibration analysis report shall contain stipulated limit value ➤ Online Air breathing apparatus is recommended at the hazardous chemical Bulk storage areas ➤ Color coding of pipeline system display is to be maintained ➤ Gasket compatibility matrix is to be displayed at the mechanical workshop and shopfloors ➤ Used gaskets , washers are to be dropped in a conical mouthed tin so that it cant be misused again .
<u>Instrumentation Department</u>		
	<ul style="list-style-type: none"> ✓ Yearly 'PM' schedule is available ✓ Instrument interlock bypass register is available ✓ Interlock lift can be viewed by the engineer ✓ Master instrument calibration certificate is available 	<p>Process Interlock Hard copy is to be available at the control room and communicate to the concerned people.</p> <p>Flame proof Instrument Junction box and other related equipments are to checked atleast once in three months</p>

	<ul style="list-style-type: none"> ✓ Yearly 'PM' schedule fall on air regulation cleaning on November 2023 is verified ✓ Master instrument of PT by nagman fall on 19-02-2023 ✓ SRV test lift is available and tested once in a month 25-11-2023-acetaldehyde – 1A safety valve 	
10	Acetaldehyde:-	
	✓ Acetaldehyde storage	1. Acetaldehyde storage 75 + 75+ 100 Mt storage PV details/Labeling/Test date, Due date display missing in the bullets.
	✓ Capacity : 75KL x 2	2. Acetaldehyde storage 75 + 75 MT old storage dyke wall inside flooring work missing. Need action with drain valve.
	✓ Acetaldehyde storage tank SRV isolation valve kept open and locked.	3. Acetaldehyde storage Bullet 1 Level gauge not working.
		4. Acetaldehyde storage 75 + 75+ 100 Mt storage Safety valve vent pipes need without bends and arrangements for no hold up in the vent line.
		5. Acetaldehyde storage 75 + 75 MT storage top roof broken

	<p>sheets need renewal.</p> <p>6. Acetaldehyde storage 75 + 75+ 100 Mt storage pump area eye wash/shower water flow is low.</p> <p>7. Acetaldehyde storage Bullet 1 & Bullet 2 need thickness survey and painting.</p> <p>8. Acetaldehyde scale tank PV details/Labelling/Test date, Due date display missing in the bullets.</p> <p>9. MSDS Board display need TLV, LEL, UEL details. Need updation in the board.</p> <p>10. Unwanted material noticed in the Acetaldehyde storage Bullet dyke wall area need housekeeping.</p> <p>11. Nitrogen cylinder used for Acetaldehyde storage bullet blanketing, nitrogen header safety valve is not having vent pipe, need action for safe vent pipe.</p> <p>12. Acetaldehyde storage Bullet 1 & Bullet 2 in between monkey ladder top plat form entry area nitrogen line crossing need rerouting to safely.</p> <p>13. Acetaldehyde storage 75 + 75 MT storage interconnection to platform corroded checker plates noticed need renewal with GI gratings.</p>
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		<p>14. Caustic pump dyke inside open bucket caustic noticed, old collected carboys also noticed need action for removal.</p> <p>15. Pumps need minimum gap in between pumps more closely erected no free space for safe maintenances.</p>
FORMALDYHYDE		<ol style="list-style-type: none"> 1. Formaldehyde SS tank body leak noticed, need action for repair work. 2. Formaldehyde tank 101A/B top toe guard missing, need action. 3. Formaldehyde tank 101A/B monkey ladder not as per requirement it is below top roof height, need action for required height ladder. 4. Formaldehyde SS tank top inter connecting platform need grating. 5. Sodium formate (By product) storage carboys filling area no space for movement no evidence for first cum first dispatch. Need housekeeping segregation, lot control, free movement for movement.
FA plant:-		
11	✓ Critical instrument interlock register is available.	✓ Batteries are kept near electrical panel.

	✓ CRN testing and examination is carried out.	
Fire pump house:-		
12	<ul style="list-style-type: none"> ✓ Jockey pump, main motor pump, DG Pump is available. ✓ Jockey and main motor for the hydrant systems ✓ DG pump for the sprinkler systems 	<ol style="list-style-type: none"> 1. Fire hydrant sump fully covered with coal dust, algae, water color is not good, need cleaning, if possible start physical cleaning or cover the sump with sheet or need filter to circulate the water thru sand filter to get clean water. 2. FH pumps with foot valve no provision for cleaning. 3. FH pump new suction is from middle of the sump no possibilities for foot valve cleaning without reservoir level reduction less than 50 %.So need corrective action for this arrangement. 4. Diesel driven FH pump diesel tank need relocation to safe in the adjacent area. Diesel tank capacity display missing. Diesel FH pump diesel consumption per hour no display, no additional adequate diesel stock for immediate makeup. Need action. 5. Main Diesel storage tank area near by fence more vegetation, dry plants, grass noticed. 6. Main Diesel tank entry gate area FH point needed for emergency hose connection.

<p>Water Treatment Plant:-</p> <p>13</p> <ul style="list-style-type: none"> ✓ Power plant capacity is 1.5MW ✓ All fire extinguishers are maintained well they meet IS 15683. 		<ol style="list-style-type: none"> 1. WTP Acid /caustic tank area Eyewash /shower area n0 water flow, water line disconnected condition. 2. Unwanted equipment's, vessels, pipe lines , pumps need identification and take action for disposal to safe guard the assets to the company. 3. WTP cooling tower Fans running with abnormal sound with vibration ,need immediate action 4. WTP cooling tower top emergency switch stop switch placed unsafely need shifting to exit staircase area. 5. Mono/DI storage, filling area more cans, drums spillages, leaks noticed, need immediate action for housekeeping and safe operation. 6. ETP old CRT platform corroded top platform plate need renewal. 7. RO plant RO1 EB panel front water choked mate noticed, UF1 backwash water line leak noticed. Need action 8. Boiler control room Electrical panel front side electrical mat missing. 9. Hazardous waste storage shed inside as per labelling

		material not stored.
<u>Effluent Treatment plant:-</u>		
14	<ul style="list-style-type: none"> ✓ Collection tank aeration tank is available. ✓ Clarifier 1 – setting tank 1 ✓ Clarifier 2 – setting tank 2 ✓ Multigrade filter is available. ✓ RO water plant is available. ✓ Cooling water is available. 	
<u>Coal Power plant</u>		
15	<p>Boiler: 2 boilers are in operation and are inspected by Boiler inspectors per statutory requirements. SRVs and PRVs are regularly inspected. Certified boiler operators are running the boilers. Coal yard: Sprinklers are provided with temperature sensors. Water monitors provided all around.</p>	<ol style="list-style-type: none"> 1. Old boiler inside unwanted material dumped need removal. 2. Turbine room Electrical panel area unwanted material dumped need housekeeping. 3. No Fire extinguisher in the Turbine room Electrical panel area/Running turbine area. 4. No fire extinguisher in the canteen cooking area LPG stoves/flame area. 5. No fire extinguisher in the LPG room outside for

	<p>emergency use,</p> <p>6. Coal crusher area more dust generation noticed need control action.</p> <p>7. FH sprinkler provided in the coal storage yard is need change. Now it is provided with Automatic sprinkler bulb under this height it will not work effectively. Need corrective action.</p> <p>8. Dust monitoring and control needed in the Penta plant and Coal handling area.</p> <p>9. All conveyors list shall be available and mechanical guarding system is to be implemented and periodical inspection is to be conducted atleast once in 15 days</p> <p>10. Coal Yard – concrete columns are severely damaged by the bull dozers and it has to be protected by installing metal barriers</p> <p>11. Coal yard fire hydrant and sprinkler systems are to be maintaeind in good manner and checked periodically and maintain records</p> <p>12. To prevent conveyor fire continuity , Zero load tripping system is to be installed</p>
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		13. Power plant – boiler MCC room dust cleaning is to be done regularly or the door is to be locked
Power plant: 2 power plants of 1.5 MW and 400 KW is in operation. The generated power is used for Captive consumption.	<ol style="list-style-type: none"> 1. Turbine running area near by turbine three numbers pedestal fan noticed with unsafe wiring for cooling and air movement. Need turbine room top exhaust fans needed with free air movement by keeping open arrangement in the wall top. 2. Coal ash stored area need water spray arrangement. 3. Coal storage area need adequate sprinkler system. Need mobile monitors for emergency use. 4. Coal storage/handling area need flooring to avoid slippery 5. Coal dust/powder noticed more in the storage, need collection arrangement. 6. Sueco feed tank top plat form missing. 	

		7. Online air mask needed in the critical and strategic location.
	<u>Quality control</u>	
		<ol style="list-style-type: none"> 1. Lab inside HOT plate room area two electrical points in the washbasin very nearby need relocation. 2. Lab GC room Old Box AC need removal. 3. Lab Methanol sample collection and disposal need control by proper collection and reuse arrangement with control to avoid misuse.

PART C

XII. Acknowledgments

We thank M/s. ASIAN PAINTS LTD, Penta Division, B5 - B10, SIPCOT Industrial Complex, Kudikadu, Cuddalore- 607005, Tamil Nadu. India. for offering an opportunity to carry out safety audit at their facility. We extend our sincere thanks to Managing Director, Head –Operations, Head –Maintenance, Head –HR & Admin, Manager – Safety, Manager –Environment, all Section Heads, all Employees and all Contract employees who contributed their Support to complete the safety audit effectively.

The courtesy and cordiality extended to the audit team of Green Global Safety Systems is highly appreciated.

XIII. References

- The factories act 1948 amended in 1987 and 2001
- The Tamilnadu Factories rules 1950.
- The Tamilnadu control of Major accident Hazards rule 2004.
- Dangerous machine regulation act – 1983 , Rules 2007
- **IS standards** IS 14489: 1998 and other applicable as in the table
- The Indian Electricity Rules 1956 and Act 2003.
- Manufacture, Storage & Import of Hazardous chemical Rule 1989 (2000)
- Petroleum Act 1934 ,Rules 2002
- Gas Cylinders Rule 2004 and SMPV 1981
- The Environment Protection Rules 1986
- The central Motor Vehicles Rules 1989 (2006)

Green Global safety systems		Safety Audit LEGAL REGISTER		Date: 23.04.2024
SL NO	SUBJECT	Document Ref	M.MEGANATHAN - Lead auditor validity	Remarks
1	Factory License	License -	Valid upto 31.12.2024	
		Registration	CDR00674	
	Form 2 – Under Fact Act	No Of Employees	108	
		Power	5259 HP	
		Occupier Name	Mr.Amit Single	
		Address	NO: 6A, Shantinagar, Santacruz (E) – Mumbai - 400055	

	Factory Manager	Mr.Rajendrababu	
	Address	No: 55, Thangasalai, Anna Nagar, Cuddalore – 607001.	
	Number of Pressure vessels	30	
	Emergency plan approval	Onsite Emergency Plan acknowledged on 11.03.2022	
	Site appraisal approval		
	Safety officer approval		
	Factory medical officer approval		
2	Contract Labour Registration	Register number	CLA/R/CDR00674

		Number of contractor	27	
		No of contractor more than 20 workers	05	
		Contractor License whose employees have Max number of Employees in the factory- One sample is ok	Sample attached.	
3	Plan approval Mention Latest Approval number	Latest changes if any Plan approval number		
4	Building stability Validity once in three years	Valid for 3 years		
5	Pollution control board Consent to operate	Air act	31.03.2024	
		Water act	31.03.2024	
		Hazardous waste authorization	31.03.2024	
		Public liability Insurance	31.03.2025	

		Effluent water treatment capacity	250 KLD	
		Sewage treatment capacity	45KLD	
		Ambient air quality	25.09.2024	
		Stack emissions test	25.09.2024	
		Noise test	25.09.2024	
6	Weights and measures		Valid Upto 18.12.2025	
7	Packaging commodities rules			
8	Handling of Methanol Applicable to depots	Local panchayat approval		
9	Handling of Pesticides			
1	Fire Licenses		Valid Up to 13.02.2025	
1	Chief controller of Explosives	License to store		

	Class A CLASS b Class c Unclassified License to store in Buls (SMPV) License to fill (SMPV) Licene to store in cylinders (Gas cylind rules)	Class A – 31.12.2027 Class B – 31.12.2027 Class C – 31.12.2027 Nil Nil Nil	
1 Boilers	Licenses Boiler Operators Competency	16 TPH – 19.07.2024 14 TPH – 13.03.2025 1 st Class & 2 nd Class Operators	
1 Thermic fluid Heaters	Testing and Examination Oil Coil		
1 Electrical	License CEIG Inspection compliance status Calibration of Electrical testing instruments	R45 – 08.02.2025 R30 – 17.01.2025 03.04.2024	

		Electrical competency of Employees	Class B and C license holders	
		Testing of Earthing "Testing of Transformer oil	27.03.2025	
		"Testing of Relays"	27.03.2025	
		Testing of Harmonics	Nil	
		Testing of Thermal scanning (optional)	New Gloves	
		Testing of PPES – Rubber gloves	27.03.2025	
		Testing Cable insulation resistance	01.11.2024	
		Transformer Oil test		
		Earth Resistance test		
1	Social Security	Provident Fund Number	CBTRY0027120000	
		ESI Ref	51000041850000301	
		Insurances		

		Others		
1	Walky talky	Approval from Ministry of communications	30/09/2024	License No. FP-2297
1	Lifting tools and tackles inspection	Safety belt – once in six months	Next Due on 19.06.2024	
		Chains and ropes – once in an year	Next Due on 19.01.2025	
		Locomotives – once in year		
		Pressure vessel UT	Next Due on 18.06.2024	
		High mast tower rope inspection		
		Motor vibration tests		
		Fork lift / Bull Dozers / Cranes / Battery operated stackers		
		Operator License		
		Operation Eye examination		
		Vehicle insurance if any		
		Third party Testing and examination		

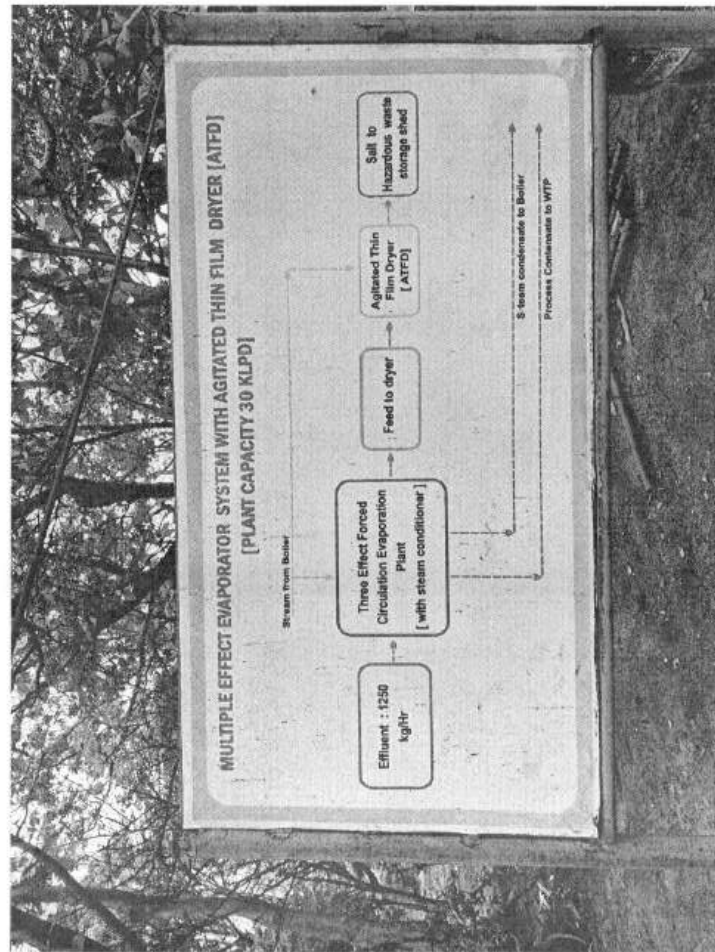
		Conveyors – Once in an year	Next Due on 19.01.2025	
1	Mechanical integrity of Pipelines	Pipeline test	Nil	
		Storage tank wall thickness test	Next Due on 18.07.2024	
		Safety valve test	Next Due on 19.010.2024	
		Thermal Relief valve test		
		Loading /Unloading hose/arm Test Storage tank immediate outlet valve tested details		

Annexure 34
MONSOON PREPARDNESS PLAN

MONSOON CHECKLIST

- ✓ Ensure asbestos Sheet/ roof Sheets/ PHE plates should tie up with rope and place in closed room.
- ✓ Ensure chemical stored carbouys should be clubbed and tie up with rope
- ✓ All chemical drums/cans should be covered
- ✓ Ensure Lightening arrestor working and properly connected to the ground
- ✓ Glass doors/windows shall be closed or hook up.
- ✓ Ensure all storage tanks/ vessel manholes are closed
- ✓ Ensure rain water gutter closed and free flow of water
- ✓ Ensure rain water collecting lines free from hindrance from building/structures.
- ✓ Ensure electrical fittings/equipment's/agitator wiring are safe guarded and earthed
- ✓ Avoid rain water seepage/entry in Electrical room/Electrical panel rooms.
- ✓ Ensure spillage of materials in staircase
- ✓ Ensure floor opening/ potholes are closed
- ✓ Ensure glowing condition of emergency lighting/ arrange emergency lightings
- ✓ Don't place any easily breakable materials outside
- ✓ Ensure alternate public announcement system/ Emergency siren in place
- ✓ Ensure all emergency kit is in place to attend immediate leaks.
- ✓ Ensure tarpaulin sheets in place
- ✓ Ensure BSR/ warehouse safeguarded from rainwater

Annexure 35
ETP FLOW CHART AT ENTERANCE



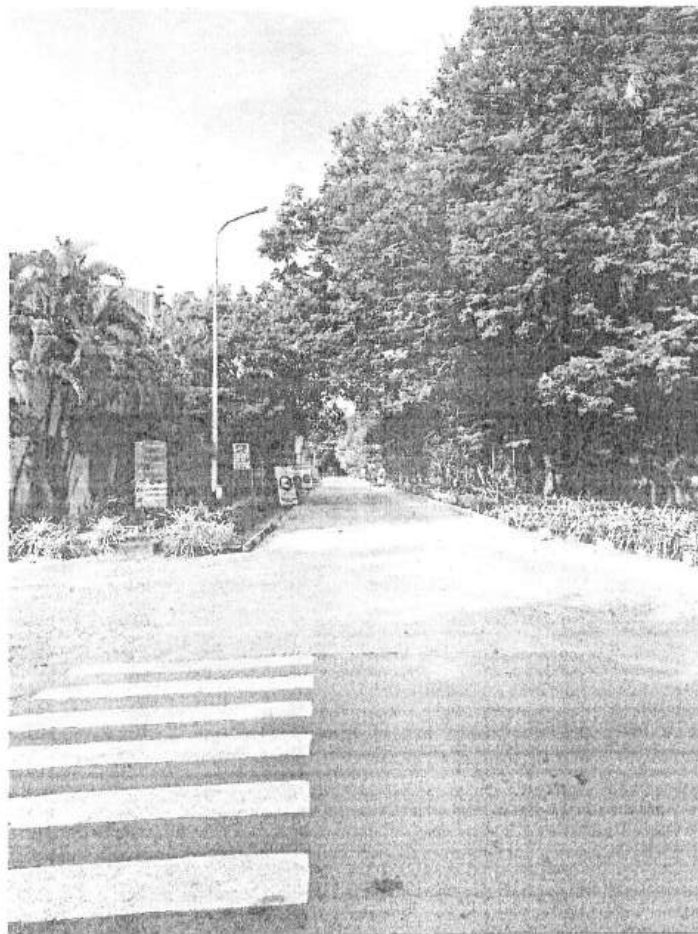
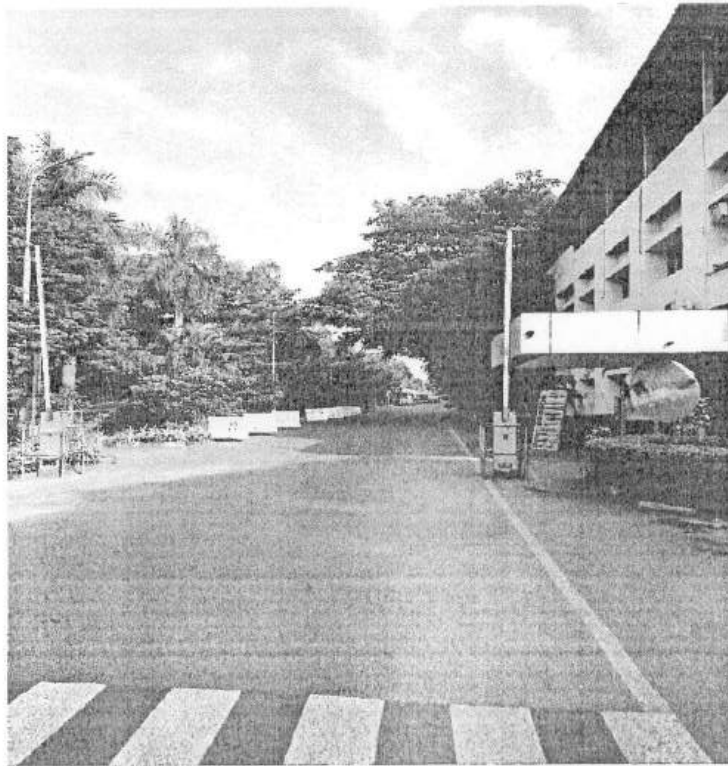
Annexure 36
VERMI COMPOST PIT



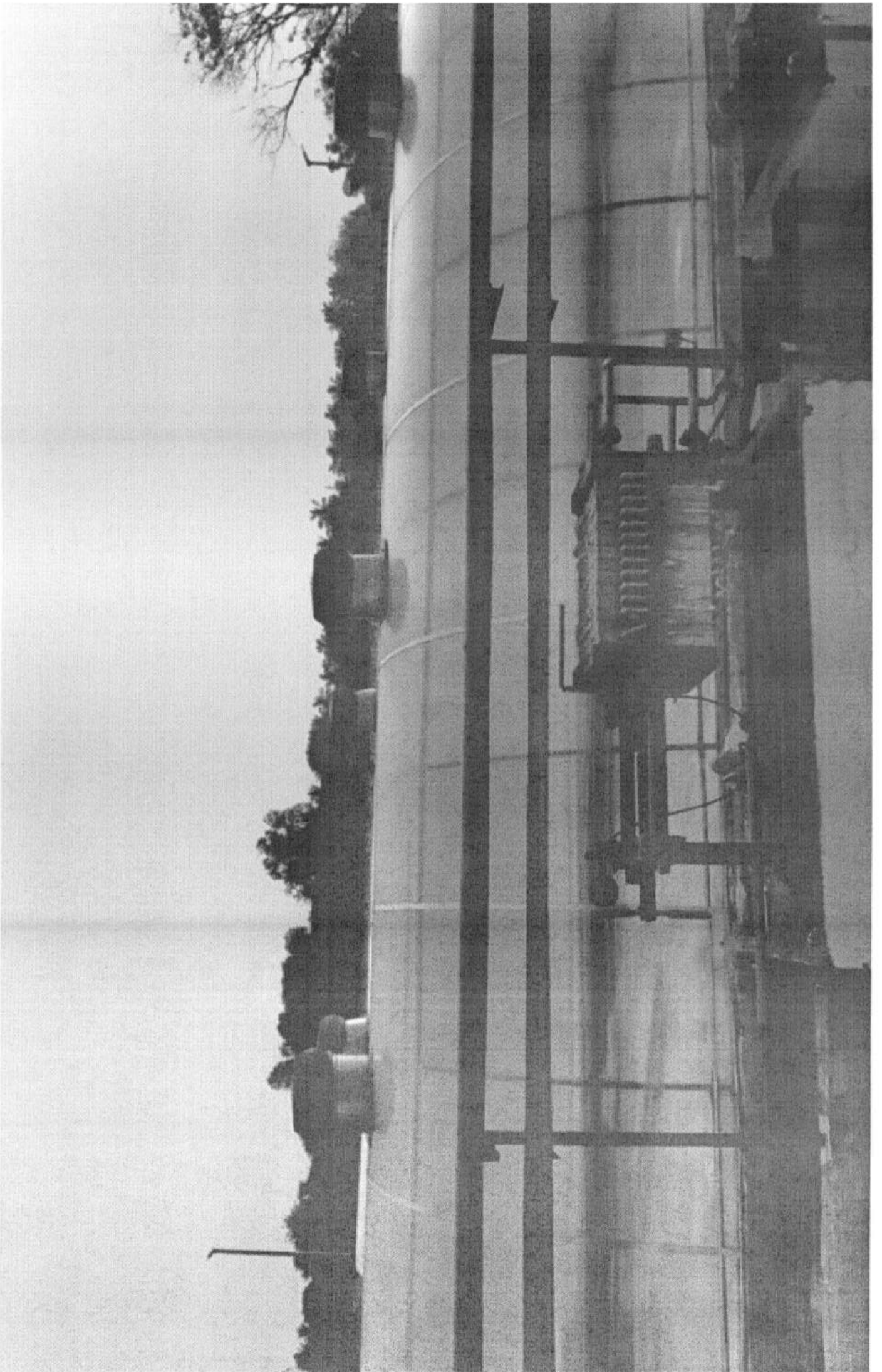
Annexure 37
GOOD HOUSE KEEPING PHOTOS

Housekeeping inside Factory





Annexure 38
SOLAR PAN



Annexure 39
FLY ASH PORTAL MARCH END
CLOSING STOCK



Monthly -

Yearly -

Reports -

Prospective Buyers

san Patis Limited

Penta Division Cuddalore CPP 1.5 MW

March

2025

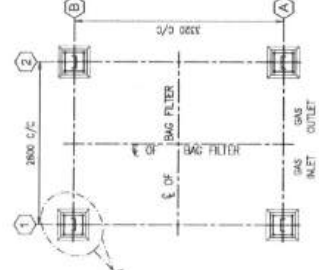
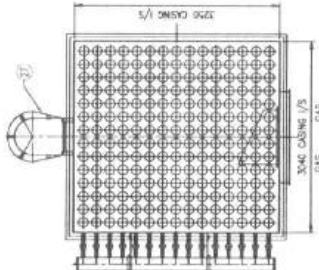
Get Data

/view Ash Generation and Utilization

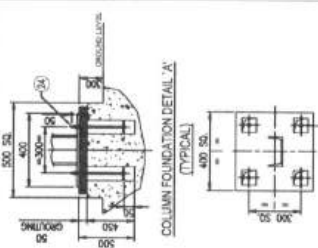
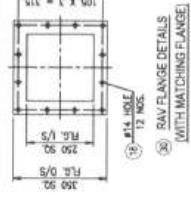
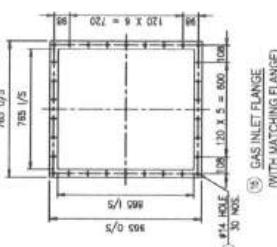
Export Data

S/No.	Company Name	Plant Name	Initial Total Ash Stock (Lakh Metric Tonnes)	Fly Ash Generation (Lakh Metric Tonnes)	Bottom Ash Generation (Lakh Metric Tonnes)	Total Ash Generation (Lakh Metric Tonnes)	Fly Ash Utilization (LMT)	Bottom Ash Utilization (LMT)	Pond Ash Utilization (LMT)	Total Ash Utilization (LMT)	Fly Ash Stock (LMT)	Bottom Ash Stock (LMT)	Pond Ash Stock (LMT)	Total Ash Stock (LMT)	Target (%)	Target Vs Actual	Updated Date	Amount Received	Expenditure Borne
<input checked="" type="checkbox"/>	Asian Paints Limited	Penta Division Cuddalore CPP 1.5 MW	0.0004028	0.0019431	0	0.0019431	0.0019431	0.0004028	0.0004028	0.0023459	0	0	0	0	0		04/04/2025 1:18 PM	12195	
	Total		0.0004028	0.0019431	0	0.0019431	0.0019431	0	0.0004028	0.0023459	0	0	0	0	0			12195	

Annexure 40
DUST COLLECTOR, FLY ASH SILO WITH PNEUMATIC
CONVEYORS

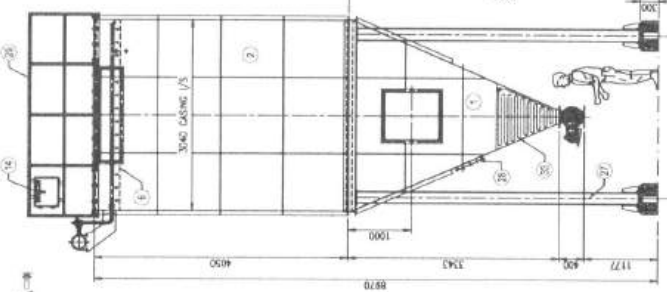


FOUNDATION PLAN



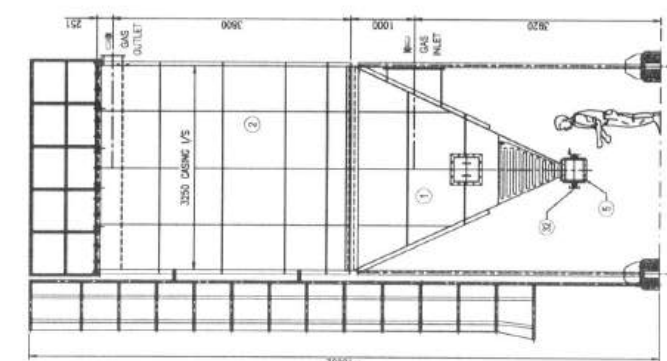
ELEVATION

VIEW FROM 'A-A'



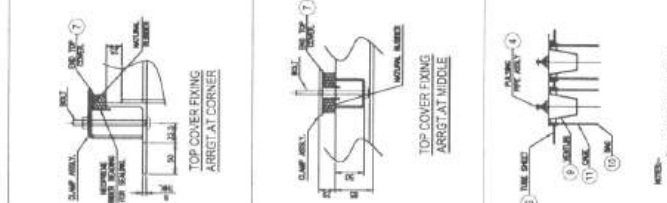
ELEVATION

VIEW FROM 'A-A'



ELEVATION

VIEW FROM 'A-A'



ELEVATION

VIEW FROM 'A-A'



ELEVATION

VIEW FROM 'A-A'



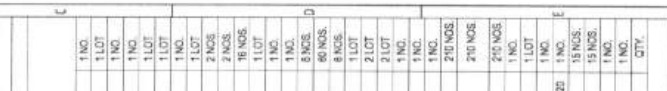
ELEVATION

VIEW FROM 'A-A'



ELEVATION

VIEW FROM 'A-A'



ELEVATION

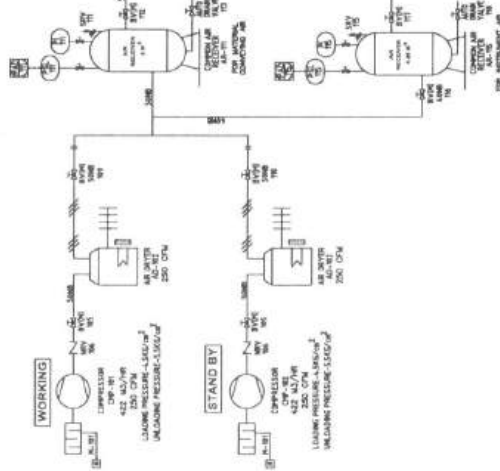
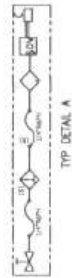
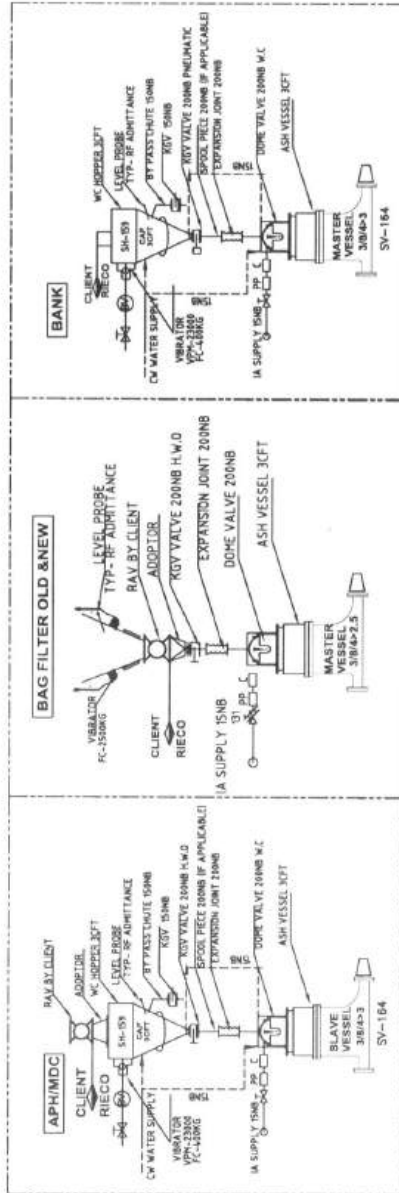
VIEW FROM 'A-A'

A) LOAD DATA:		6000
TOTAL UNIT WEIGHT (KG) ...		11000
UNIT WEIGHT WITH DUST HOPPER FILLED TILL NET TOP (KG) ...		2700
B) DESIGN DATA:		
- DEAD LOAD ON EACH COLUMN (KG) ...		2600
- GAS VOLUME (M ³ /H) ...		4000
- DESIGN TEMPERATURE IN DEGREE CENTIGRADE ...		4000
- MAXIMUM DESIGN TEMPERATURE IN DEGREE CENTIGRADE ...		4000
- DUST DENSITY FOR DISCHARGE (KG/M ³) ...		4000
- DUST DENSITY FOR POWER (KG/M ³) ...		4000
- AIR TO CLOTH RATIO (M ³ /M ²) ...		4000
- INLET DUST LOAD (M ³ /M ²) ...		4000
- OUTLET EMISSION (M ³ /M ²) ...		4000
- PRESSURE DROP ACROSS BAG FILTER (FLANGE TO FLANGE) (MM WG) ...		4000
- PARTICLE SIZE (MICRONS) ...		4000
- FILTRATION AREA (M ²) ...		4000
C) PRODUCT DATA:		
- FOUNDATION DEPTH TO BE DECIDED BY CUSTOMER'S CIVIL ENGINE CONSIDERING WIND LOAD AND SUCH OTHER LOADS.		4000
- ALL FOUNDATION SOIL TO BE BROUGHT AFTER ERECTING THE EQUIPMENT IN POSITION		4000
D) UTILITIES:		
- # ELECTRICAL		4000
- POWER (415V, 50 Hz, 3 PH, AC)		4000
- CONTROL: 220V/110V, 50 Hz, 1 PH, AC		4000
- RAY DRIVE: GEARED MOTOR 1.0 HP, 20 RPM, 415 V, 3 PH, AC		4000
- # COMPRESSED AIR REQUIREMENT AT 54 kg/cm ²		4000
- # NORMAL 37.7 M ³ /H (COMPRESSED AIR QUALITY: OIL CONTENT < 50 PPAL)		4000
- # VENTURE CONTENT: PRESSURE DEW POINT TEMP: 10° WHICH CORRESPONDS 7 (M ³ /H)		4000
E) PAINTING DETAILS FOR BAG FILTER:		
- SURFACE PREPARATION: MANUAL CLEANING		4000
- INSIDE: TWO COATS OF PR ALUMINIUM PAINT		4000
- OUTSIDE: TWO COATS OF PR ALUMINIUM PAINT		4000
- FINISH PAINT SHADE: SILVER SHADE		4000

BILL OF MATERIAL		
SERIAL NO.	DESCRIPTION	QTY.
1	INLET / ORIENT. SWITCH	1 NO.
2	HOOPER HEATER PAD	1 LOT
3	ZERO SPEED SWITCH FOR RAY	1 NO.
4	D.P. SWITCH	1 NO.
5	RAY FLANGE	1 LOT
6	RAY FLANGE	1 LOT
7	RAY FLANGE	1 LOT
8	ACCESS WINDOW	1 NO.
9	SUPPORT STRUCTURE WITH LADDER	1 LOT
10	CONNECTOR 1" BSP	2 NOS.
11	CONNECTOR 1 1/4" BSP	2 NOS.
12	FOUNDATION BOLTS	16 NOS.
13	PU TUBE 26mm	1 LOT
14	1/2" BSP SOCKET WITH PLUG	1 NO.
15	1/4" PU CONNECTOR	1 NO.
16	INLET & OUTLET FLANGE HARDWARE	8 NOS.
17	POWDER DISCHARGE FLANGE HARDWARE	8 NOS.
18	MOBILE VALVE WITH 1/4" CONNECTOR	1 LOT
19	OUTLET & COUNTER FLANGES	2 LOT
20	INLET & COUNTER FLANGES	2 LOT
21	SCQUENTIAL TIMER	1 NO.
22	PRESSURE GAUGE 3/8" BOTTOM ENTRY	1 NO.
23	MANOMETER ASSEMBLY	1 NO.
24	CAGE 8143 X 3445 MM LONG	210 NOS.
25	BAG - 8145 X 3445 MM LONG	210 NOS.
26	VENTURI	1 NO.
27	AIR MANIFOLD PRE-HEADER	1 NO.
28	TOP COVER	1 LOT
29	TUBE SHEET	1 NO.
30	ROTARY AIR LOCK VALVE (C.I.)	1 NO.
31	PULSING PIPE ASSEMBLY	15 NOS.
32	PULSE & SOLENOID VALVE	15 NOS.
33	HOUSING	1 NO.
34	HOPPER	1 NO.
35	SCOPE	1 NO.
36	MAKE	1 NO.
37	SCOPE	1 NO.
38	MAKE	1 NO.
39	SCOPE	1 NO.
40	MAKE	1 NO.
41	SCOPE	1 NO.
42	MAKE	1 NO.
43	SCOPE	1 NO.
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95	SCOPE	1 NO.
96	MAKE	1 NO.
97	SCOPE	1 NO.
98	MAKE	1 NO.
99	SCOPE	1 NO.
100	MAKE	1 NO.

TITLE: GA OF BAG FILTER PU-12-210 FOR 16 TPH BOILER EXHAUST		
CLIENT: M/s. ASIAN PAINTS LIMITED.		
CONSULTANT:		
PROJECT No.:		1718
ENVIRONMENTAL ENGINEERING CONSULTANT		
SARITA VAIBHAV, SINHGAD ROAD,		
PUNE - 411030.		
DRWN:	PJP 25.10.17	SCALE
CHECKED:	SAGAR 25.10.17	NTS
APPROVED:	ASD 25.10.17	
DRG.NO:	1718-G-01-001	
REV.	0	

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SYSTEM - II
ASH HANDLING SYSTEM FOR BAG FILTER

DESCRIPTION	UNIT	VALUE
ASH COLLECTION (kg/hr)	1	175 kg/hr
CONVERTING CAPACITY (kg/hr)	1	175 kg/hr
AIR TEMP. (deg C)	1	180°C
MATERIAL HANDLED	1	FLY ASH
BULK DENSITY (kg/m³)	1	800-1000 kg/m³

SYSTEM - I
ASH HANDLING SYSTEM FOR BANK TUBE, AIR HEATER, MDC

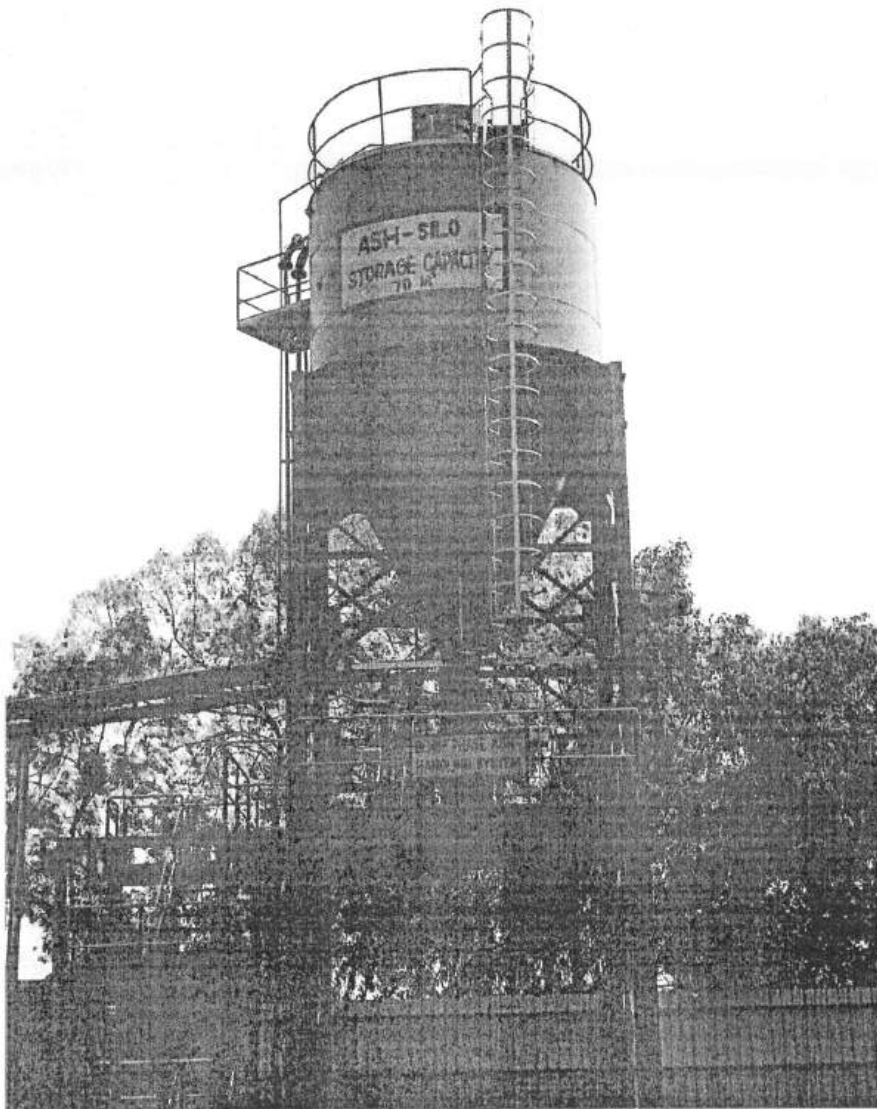
DESCRIPTION	UNIT	VALUE
ASH COLLECTION (kg/hr)	1	175 kg/hr
CONVERTING CAPACITY (kg/hr)	1	175 kg/hr
AIR TEMP. (deg C)	1	180°C
MATERIAL HANDLED	1	FLY ASH
BULK DENSITY (kg/m³)	1	800-1000 kg/m³

LEGEND	DESCRIPTION
PS	PRESSURE SWITCH
PL	PRESSURE LIMIT SWITCH
PI	PRESSURE INDICATOR
PT	TEMPERATURE INDICATOR
RT	RELAY
ST	STOP
SV	VALVE
TS	TEMPERATURE SWITCH
VS	VIBRATOR
W	WATER
Y	SOLENOID VALVE
Z	ZONE

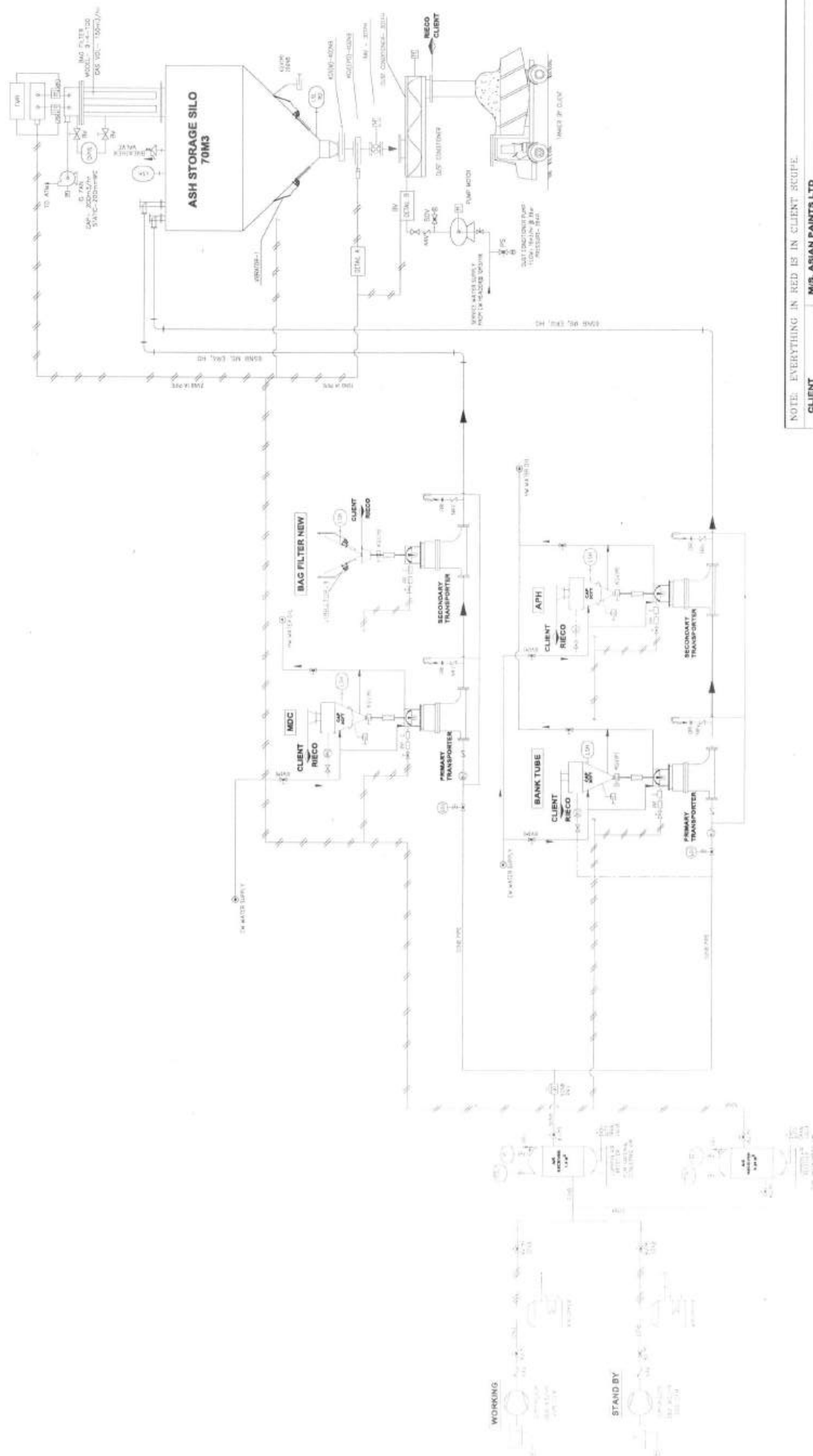
CLIENT	ASIAN PAINTS LTD.
CONSULTANT	---
PROJECT NO.	27308
DATE	14/12/87
DRAWN BY	---
CHECKED BY	---
APPROVED BY	---

SCALE	1:1
DATE	14/12/87
DRAWN BY	---
CHECKED BY	---
APPROVED BY	---

Fly Ash Handling SILO

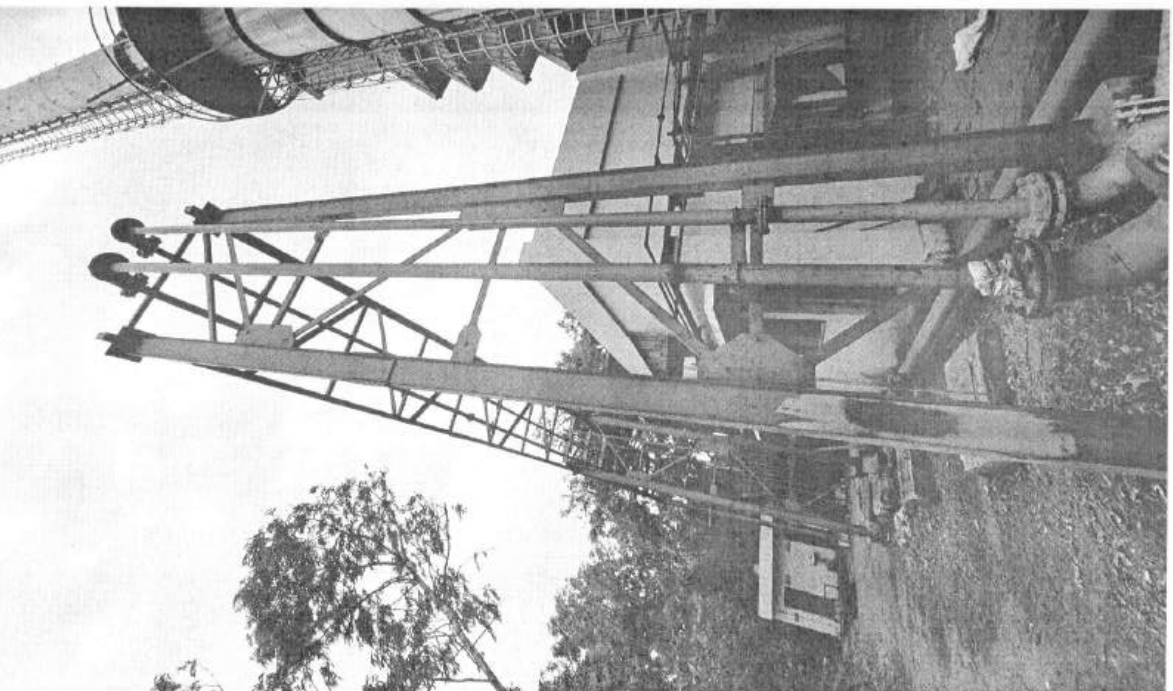
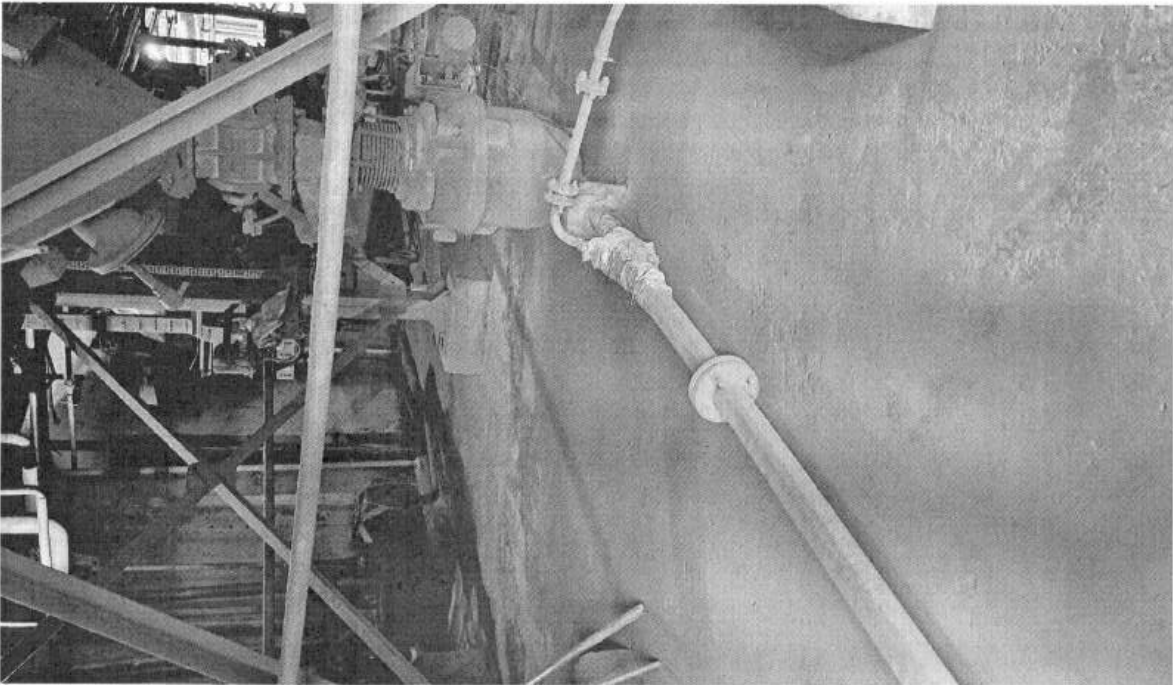


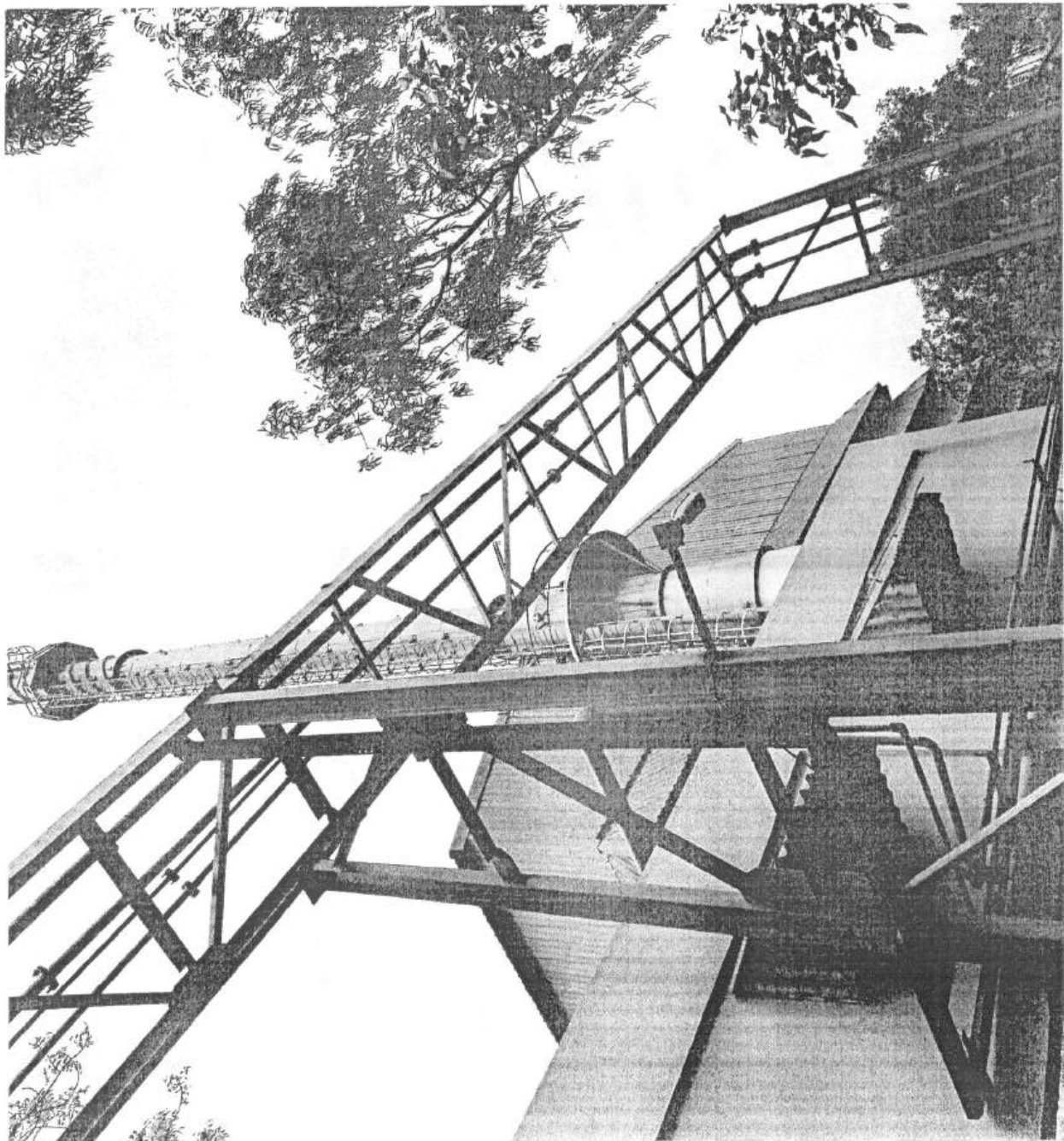
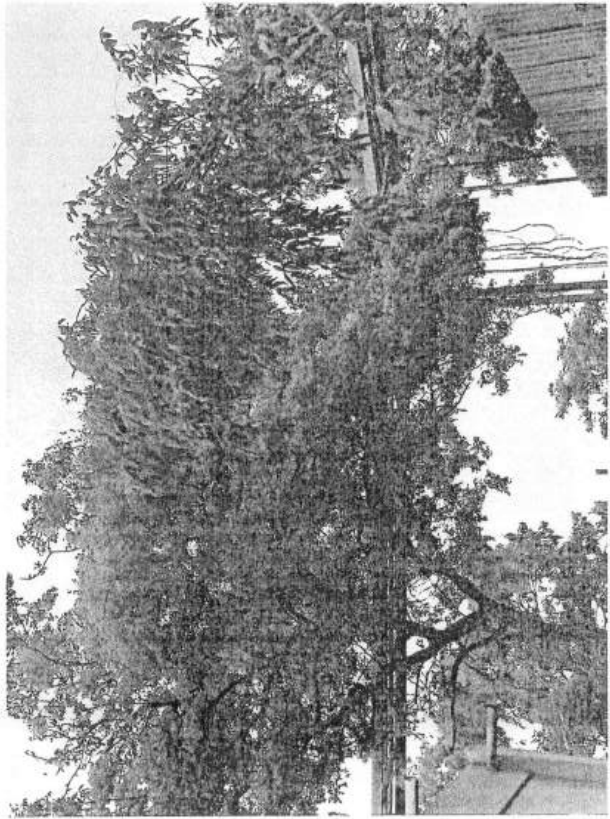
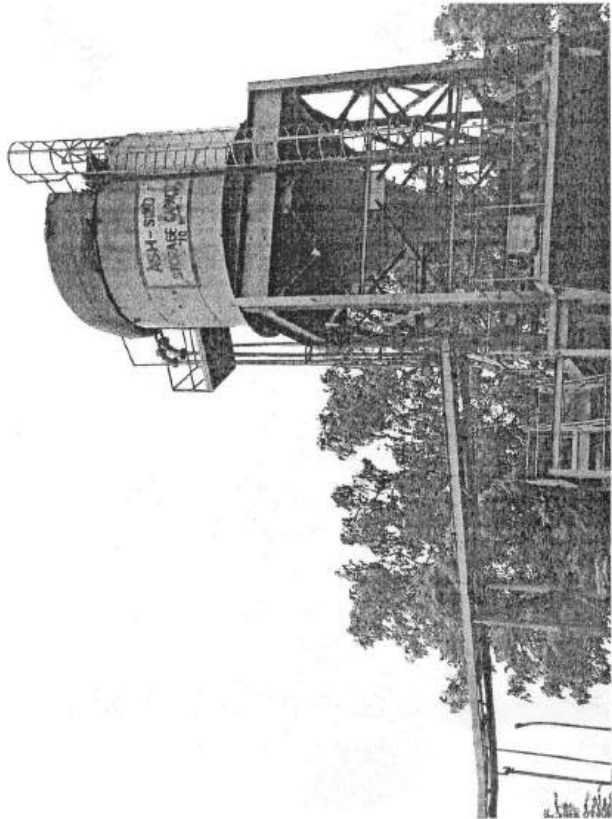
DENSE PHASE PNEUMATIC CONVEYING SYSTEM



NOTE: EVERYTHING IN RED IS IN CLIENT SCOPE

CLIENT	M/S. ASIAN PAINTS LTD - - - -
RICO'S OFFER No.	9350_R0
CLIENT'S P.O.No.	
RICO INDUSTRIES LTD. 186/72, ROAD 4, LANGKAT BRIDGE, CHENNAI - 605 012 INDIA (INDIA)	
TITLE FLOWSCHHEME FOR DENSE PHASE PNEUMATIC CONVEYING SYSTEM FOR FLY ASH HANDLING	
REFERENCE NO.	SCALE
DRAWN BY	N/S
CHECKED BY	
DATE	
PROJECT	
SHEET NO.	
TOTAL SHEETS	
DATE	
BY	
FOR	
APPROVED BY	
DATE	





Annexure 41
STP ROA REPORT



TAMIL NADU POLLUTION CONTROL BOARD
ADVANCED ENVIRONMENTAL LABORATORY, CUDDALORE
REPORT OF ANALYSIS

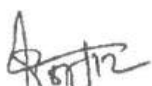
ROA NO: 08/1180, Dt : 07/12/2024

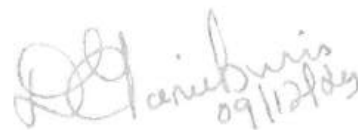
Name & Address of the sender	District Environmental Engineer, Tamilnadu Pollution Control Board, Cuddalore	Date of Analysis	27.09.2024
Nature & Number of samples.	1 number of sewage sample	Sample Quantity	Sealed and Fastened in 2.5 L polythene container
Date & Time of sample collection	26.09.2024 at 14:50 Hrs	Date & Time of sample receipt at the lab	26.09.2024 at 17:00 Hrs
Point of Collection	1. STP Outlet (Treated)	Page No 1 of 1	

Sl. No.	DEE Code No.	Unit	DEECUD 240502	Test Method
	Lab Code No.		1180	
	Parameters			
1.	pH @ 25°C	Number	7.27	APHA 23rd Edn 2017, 4500 H+ B
2.	Total Suspended solids @ 105°C	mg/L	72	APHA 23rd Edn 2017, 2540 D
3.	BOD (3 days @ 270C)	mg/L	25	IS 3025 (Part – 44) :1993, Reaff: 2009
4.	COD	mg/L	152	IS 3025 (Part – 58), Reaff 2006

Note: <MDL indicates Less than minimum detectable limit.

Statement to the effect that the results relate only to the items tested.


ES


09/12/24
Chief Scientific Officer
TNPCCB/AEL/CUDDALORE

Annexure 42
OHC, DOCTOR CERTIFICATE AND HEALTH RECORD OF
EMPLOYEES



GOVERNMENT OF INDIA
MINISTRY OF LABOUR & EMPLOYMENT
DIRECTORATE GENERAL FACTORY, ADVICE SERVICE & LABOUR INSTITUTES
SION, MUMBAI 400022



CERTIFICATE OF REGISTRATION

REGISTRATION NUMBER: 03151

DATE: 01.09.2022

NAME	ADDRESS FOR CORRESPONDENCE	QUALIFICATION WITH DURATION OF THE COURSE
DR. K. ANBU KASINATHAN	11, MARIAMMAN KOIL STREET, PONDICHERRY 2021071	ASSOCIATE FELLOW OF INDUSTRIAL HEALTH (Post-Graduate Certificate Course in Industrial Health of three months duration) From 01.11.2021 to 31.01.2022

Certified that the entries made above are extracts from the REGISTER of successful candidates of AFIH Examination maintained by this Department. It is further certified that the qualification meets the requirement as specified in Model Rules framed under Factories (Amendment) Act, 1987.

Member Secretary **Dr. S. BASKARAN**, M.B.B.S.
Academic Council of AFIH MEDICAL OFFICER, Regd No. 25982,
URBAN PRIMARY HEALTH CENTRE
CUDDALORE O.T. - 607003.



Chairman
Academic Council of AFIH



2018-5-8 12:25



OCCUCARE INDIA
Complete Occupational Health Care



REG No : 73

MEDICAL EXAMINATION

NAME : R. Vengatesh

DATE : 29.05.2024

AGE : 35.6 Years

DEPT : EXECUTIVE I - QA

GENDER : MALE

UNIT : ASIAN PAINTS, CUDDALORE

EMP ID : 114568

General examinations

Height : 176 In CMS
Weight : 90 In Kgs
Blood Pressure : 121/72 mmHg
Pulse Rate : 80 / min
General Appearance : GOOD
SKIN : NORMAL

Systemic examination

CVS : S1S2+
RS : NVBS+
CNS : NFND FOUND
Abdomen : SOFT
BMI : 29.1

Test Details

BLOOD : REPORTS ATTACHED
URINE : REPORTS ATTACHED
PFT : REPORTS ATTACHED
AUDIOMETRY : REPORTS ATTACHED


Dr. P. MURALITHARAN
M.B.B.S., A.F.I.H.
Reg.No : 66776

Signature of Medical Officer

Registered office :

709 A, 5th North Street, Thiyagaraja Nagar,
Tirunelveli - 627 011.
web : www.occucareindia.com

Branch office :

S2, Aravind apartments, 28/20 Alagiri nagar,
VI th cross street, Vadapalani ,
chennai - 600026.



OCCUCARE INDIA
Complete Occupational Health Care



REG NO : 73

BLOOD TEST REPORT

NAME : R. Vengatesh
AGE : 35.57260274 Years
GENDER: M

EMPLOYEE ID : 114568
TEST DONE ON : 29.05.2024
REPORTED ON : 30.05.2024

<u>INVESTIGATION</u>	<u>OBSERVED VALUE & UNITS</u>	<u>REFERENCE RANGES</u>
<u>COMPLETE BLOOD COUNT</u>		
Total W B C s count	: 7.67 *10 ³ cells/cumm	4 - 11 *10 ³ cells/cumm
Neutrophils	: 55.6 %	50 - 70 %
Lymphocytes	: 37.6 %	25 - 50 %
Eosinophils	: 2 %	1 - 6 %
Monocytes	: 4.3 %	1 - 10 %
Basophils	: 0.5 %	0-1 %
Hemoglobin	: 14.1 gm/dl	10.0 -15.0 gm/dl
PCV Count	: 42.4 %	34 - 48 %
Red Blood Cells	: 4.76 milli/cumm	4.0 - 6.0 milli/cumm
MCV	: 89.1 fl	80 - 100 fl
MCH	: 29.7 pg	28 - 34 pg
MCHC	: 33.3 %	32 - 36 %
Platelets Count	: 290 *10 ³ /cumm	150-400 *10 ³ /cumm
Random blood sugar	: 106.2 mg/dl	80 - 140 mg/dl
BLOOD GROUPING	: "O POSITIVE"	
ESR	: 9 mm/Hr	< 30 mm/Hr

Dr.G.KARTHICK.,MBBS.,MD (Pathology)
Reg. No. 127667

Registered office :

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chennai - 600026.



OCCUCARE INDIA
Complete Occupational Health Care



REG NO : 73

BLOOD TEST REPORT

NAME : R. Vengatesh

EMP ID NO : 114568

AGE : 35.57260274 YEARS

TEST DONE ON : 29.05.2024

GENDER : M

REPORTED ON : 30.05.2024

INVESTIGATION	OBSERVED VALUE & UNITS	REFERENCE RANGES
---------------	------------------------	------------------

RENAL FUNCTION TEST

BLOOD UREA	: 17.4 mg/dL	18.0 – 55.0 mg/dL
SERUM CREATININE	: 0.92 mg/dL	0.70 – 1.30 mg/dL
SERUM URIC ACID	: 6.2 mg/dL	3.5 – 7.2 mg/dL

LIPID PROFILE

TOTAL CHOLESTEROL	: 164 mg/dL	< 200 mg/dl
TRIGLYCERIDES	: 158.9 mg/dL	40 – 160 mg/dl
HDL	: 28.9 mg/dL	35.3 – 79.5 mg/dl
LDL	: 103.32 mg/dL	< 100 mg/dl
VLDL	: 31.78 mg/dL	< 30 mg/dl

Dr.G.KARTHICK.,MBBS.,MD (Pathology)
Reg. No. 127667

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chennai - 600026.



OCCUCARE INDIA
Complete Occupational Health Care



REG No : 73

BLOOD TEST REPORT

Name : R. Vengatesh

Emp ID No : 114568

Age : 35.57260274 Years

Sample Taken On : 29.05.2024

Gender : M

Reported On : 30.05.2024

INVESTIGATION	OBSERVED VALUE & UNITS	REFERENCE RANGES
<u>LIVER PROFILE (L.F.T)</u>		
Total Bilirubin	: 0.78 mg/dl	0.3 – 1.2 mg/dl
Direct Bilirubin	: 0.62 mg/dl	0.1 – 0.3 mg/dl
InDirect Bilirubin	: 0.16 mg/dl	0.1 – 1.0mg/dl
S.G.O.T	: 21.8 U/L	0 – 40 U/L
S.G.P.T	: 12.5 U/L	0 – 40 U/L
Alkaline Phosphatase	: 104 U/L	40– 130 U/L
GAMMA GT (GGT)	: 22.5 U/L	8.0 – 71 U/L
Total PROTEINS, serum	: 7.05 mg/dl	6.0 – 8.0mg/dl

Dr.G.KARTHICK.,MBBS.,MD (Pathology)
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web : www.occucareindia.com

Branch office :

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VI th cross street, Vadapalani ,
chennai - 600026.



OCCUCARE INDIA
Complete Occupational Health Care



REG NO : 73

URINE ROUTINE TEST REPORT

NAME : R. Vengatesh

EMPLOYEE ID : 114568

AGE : 35.57260274 Years

TEST DONE ON : 29.05.2024

GENDER : M

REPORTED ON : 30.05.2024

INVESTIGATION	OBSERVED VALUE & UNITS	REFERENCE RANGES
---------------	------------------------	------------------

GENERAL EXAMINATION

COLOUR : PALE YELLOW
APPEARANCE : CLEAR

CHEMICAL EXAMINATION

SP. GRAVITY	: 1.025	1.005-1.025
pH	: 5.0	4.5-8
PROTEINS	: 6.2	NIL
SUGAR (R)	: NIL	NIL
ACETONE	: NIL	NIL
BILE SALT	: ABSENT	ABSENT
BILE PIGMENTS	: NEGATIVE	NEGATIVE
UROBILINOGEN	: NIL	NIL

MICROSCOPY EXAMINATION

RED BLOOD CELLS	: NIL	NIL
PUS CELLS	: 1-3 /Cells/hpf	≤2-5 WBCs/hpf
EPITHELIAL CELLS	: 1-2 /Cells/hpf	≤15-20 cells/hpf
BACTERIA	: NIL	NIL
OTHERS	: NIL	NIL

Dr.G.KARTHICK.,MBBS.,MD (Pathology)
Reg. No. 127667

Registered office :

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web : www.occucareindia.com

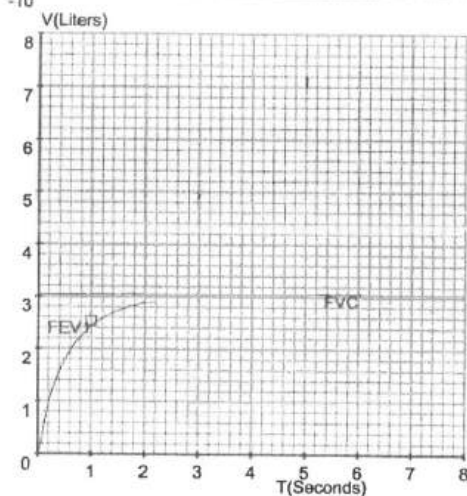
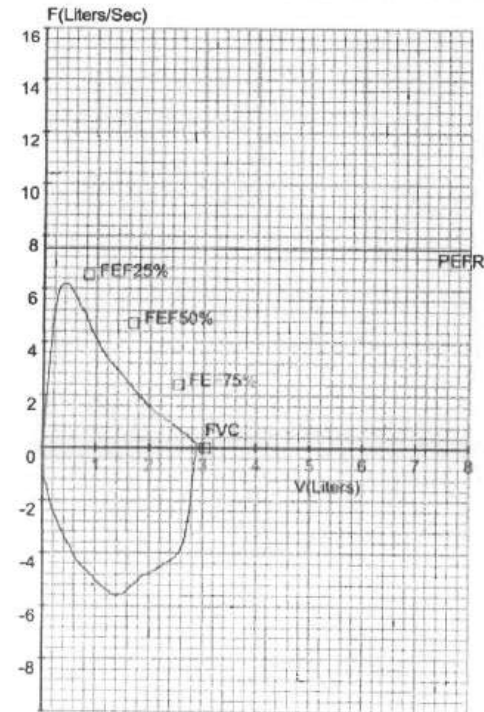
Branch office :

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VI th cross street, Vadapalani ,
chennai - 600026.

EMP 73 - VENGATESH R
36 Years / Male / Ht 176 Cms / 90 Kgs / Non-Smoker

FVC TEST
Date: 29-05-2024 (T1)

Pred Eqn : CLARITY Eth.Corr : 80 Temp : 0°C
Ref By : NONE



Parameter	Pred	Pre	Pre%	Post	Post%	Imp%
FVC	[L] 3.04	2.89	95	--	--	--
FEV1	[L] 2.52	2.46	97	--	--	--
FEV.5	[L] --	1.84	--	--	--	--
FEV3	[L] 2.95	--	--	--	--	--
FEV6	[L] --	--	--	--	--	--
PEFR	[L/s] 7.53	6.21	82	--	--	--
FEF25-75	[L/s] 3.39	2.98	88	--	--	--
FEF75-85	[L/s] --	1.11	--	--	--	--
FEF.2-1.2	[L/s] 5.97	4.87	82	--	--	--
FEF25%	[L/s] 6.54	5.86	90	--	--	--
FEF50%	[L/s] 4.72	3.04	65	--	--	--
FEF75%	[L/s] 2.37	1.30	55	--	--	--
FEV.5/FVC	[%] --	63.76	--	--	--	--
FEV1/FVC	[%] 82.87	84.91	102	--	--	--
FEV3/FVC	[%] 97.00	--	--	--	--	--
FEV6/FVC	[%] --	--	--	--	--	--
FEV1/FEV6	[%] --	--	--	--	--	--
FET	[S] --	2.03	--	--	--	--
ExpTime	[S] --	0.08	--	--	--	--
LungAge	[Y] 36.00	37.00	103	--	--	--
FIVC	[L] --	2.86	--	--	--	--
PIFR	[L/s] --	5.58	--	--	--	--
FIF25%	[L/s] --	6.18	--	--	--	--
FIF50%	[L/s] --	3.30	--	--	--	--
FIF75%	[L/s] --	1.61	--	--	--	--
FIV.5	[L] --	1.66	--	--	--	--
FIV1	[L] --	--	--	--	--	--
FIV3	[L] --	--	--	--	--	--
FIV.5/FIVC	[%] --	57.83	--	--	--	--
FIV1/FIVC	[%] --	--	--	--	--	--
FIV3/FIVC	[%] --	--	--	--	--	--

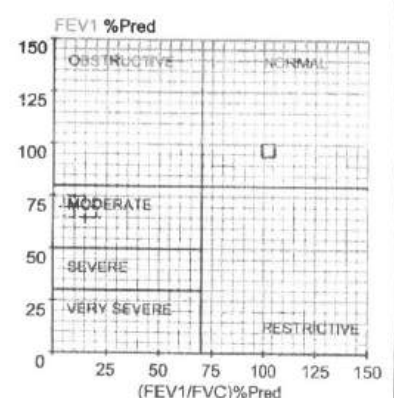
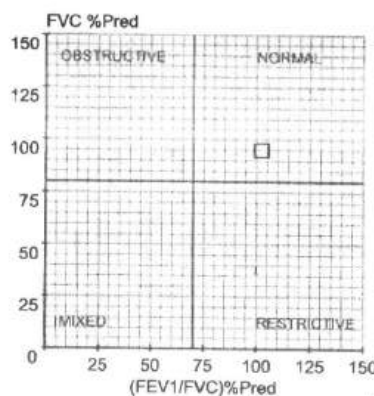
- Pre Medication Report :

Spirometry within Normal range as FVC% >= 80 And FEV1/FVC% > 70

- Pre COPD Severity Report:

COPD Severity within Normal range

- Doctor's Comments :



Dr.P.MURALITHARAN
M.B.B.S.,A.F.I.H.
Reg.No : 66776



OCCUCARE INDIA
Complete Occupational Health Care



NAME : R. Vengatesh

REG NO : 73

AGE: 35.6 Years

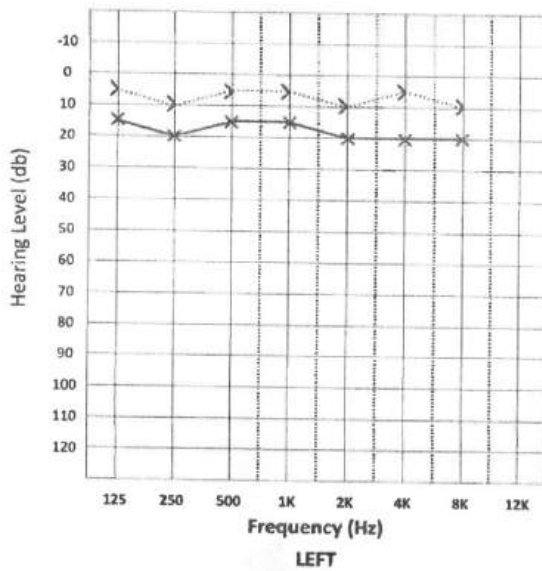
EMP ID : 114568

GENDER: MALE

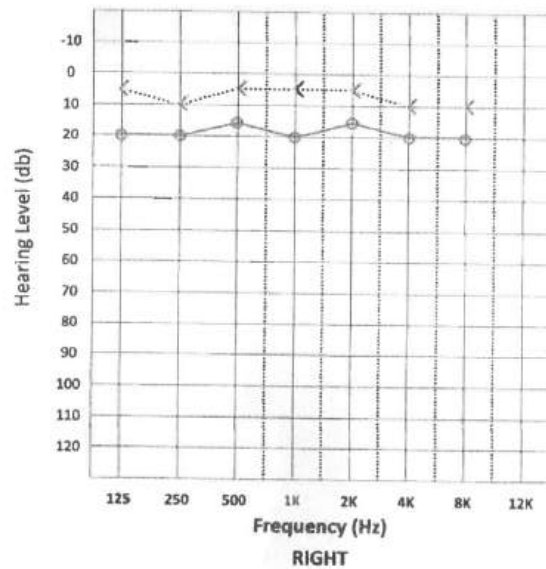
DATE: 29.05.2024

PURE TONE AUDIOMETRY

ACOACMΔBCMCBC<



ACXACM□BCMOBC>



Mode/ Ear	Air Conduction		Bone Conduction		Colour Code
	Masked	Unmasked	Masked	Unmasked	
LEFT	□	X	○	>	Blue
RIGHT	Δ	O	C	<	Red
NO RESPONSE : Add ↓ below the respective symbols					

Threshold in dB	RIGHT	LEFT
AIR CONDUCTION		
BONE CONDUCTION		
SPEECH		

IMPRESSION : NORMAL HEARING IN BOTH EARS

Dr. JERIC ASHWIN
M.B.B.S., M.S. (Oto-Rhino-Laryngology)
Reg. No: 123693

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chennai - 600026.



OCCUCARE INDIA
Complete Occupational Health Care



REG No : 78

MEDICAL EXAMINATION

NAME : MC Abinesh

DATE : 27.05.2024

AGE : 24.9 Years

DEPT : EXECUTIVE I - PRODUCTION

GENDER : MALE

UNIT : ASIAN PAINTS, CUDDALORE

EMP ID : 120688

General examinations

Height : 172 In CMS
Weight : 70 In Kgs
Blood Pressure : 114/83 mmHg
Pulse Rate : 77 / min
General Appearance : GOOD
SKIN : NORMAL

Systemic examination

CVS : S1S2+
RS : NVBS+
CNS : NFND FOUND
Abdomen : SOFT
BMI : 23.7

Test Details

BLOOD : REPORTS ATTACHED
URINE : REPORTS ATTACHED
PFT : REPORTS ATTACHED
AUDIOMETRY : REPORTS ATTACHED


Dr. P. MURALITHARAN
M.B.B.S., A.F.I.H.
Reg.No : 66776

Signature of Medical Officer

Registered office :

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Branch office :

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VI th cross street, Vadapalani ,
chennai - 600026.



OCCUCARE INDIA
Complete Occupational Health Care



REG NO : 78

BLOOD TEST REPORT

NAME : MC Abinesh

EMPLOYEE ID : 120688

AGE : 24.923287671 Years

TEST DONE ON : 27.05.2024

GENDER: M

REPORTED ON : 28.05.2024

INVESTIGATION

OBSERVED VALUE & UNITS

REFERENCE RANGES

COMPLETE BLOOD COUNT

Total W B C s count	:	9.5 *10 ³ cells/cumm	4 - 11 *10 ³ cells/cumm
Neutrophils	:	58.5 %	50 - 70 %
Lymphocytes	:	31.7 %	25 - 50 %
Eosinophils	:	2.9 %	1 - 6 %
Monocytes	:	6.2 %	1 - 10 %
Basophils	:	0.7 %	0-1 %
Hemoglobin	:	15.2 gm/dl	10.0 -15.0 gm/dl
PCV Count	:	43.5 %	34 - 48 %
Red Blood Cells	:	4.63 milli/cumm	4.0 - 6.0 milli/cumm
MCV	:	94 fl	80 - 100 fl
MCH	:	32.9 pg	28 - 34 pg
MCHC	:	35 %	32 - 36 %
Platelets Count	:	295 *10 ³ /cumm	150-400 *10 ³ /cumm
Random blood sugar	:	81.7 mg/dl	80 - 140 mg/dl
BLOOD GROUPING	:	"O POSITIVE"	
ESR	:	10 mm/Hr	< 30 mm/Hr

Dr.G.KARTHICK.,MBBS.,MD (Pathology)
Reg. No. 127667

Registered office :

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Branch office :

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VI th cross street, Vadapalani ,
chennai - 600026.



OCCUCARE INDIA
Complete Occupational Health Care



REG NO : 78

BLOOD TEST REPORT

NAME : MC Abinеш

EMP ID NO : 120688

AGE : 24.923287671 YEARS

TEST DONE ON : 27.05.2024

GENDER : M

REPORTED ON : 28.05.2024

INVESTIGATION	OBSERVED VALUE & UNITS	REFERENCE RANGES
---------------	------------------------	------------------

RENAL FUNCTION TEST

BLOOD UREA	: 22 mg/dL	18.0 – 55.0 mg/dL
SERUM CREATININE	: 0.65 mg/dL	0.70 – 1.30 mg/dL
SERUM URIC ACID	: 6 mg/dL	3.5 – 7.2 mg/dL

LIPID PROFILE

TOTAL CHOLESTEROL	: 140 mg/dL	< 200 mg/dl
TRIGLYCERIDES	: 115.3 mg/dL	40 – 160 mg/dl
HDL	: 38 mg/dL	35.3 – 79.5 mg/dl
LDL	: 78.94 mg/dL	< 100 mg/dl
VLDL	: 23.06 mg/dL	< 30 mg/dl

Dr.G.KARTHICK.,MBBS.,MD (Pathology)
Reg. No. 127667

Registered office :

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chennai - 600026.



OCCUCARE INDIA
Complete Occupational Health Care



REG No : 78

BLOOD TEST REPORT

Name : MC Abinesh
Age : 24.923287671 Years
Gender : M

Emp ID No : 120688
Sample Taken On : 27.05.2024
Reported On : 28.05.2024

INVESTIGATION	OBSERVED VALUE & UNITS	REFERENCE RANGES
<u>LIVER PROFILE (L.F.T)</u>		
Total Bilirubin	: 1.09 mg/dl	0.3 – 1.2 mg/dl
Direct Bilirubin	: 0.55 mg/dl	0.1 – 0.3 mg/dl
InDirect Bilirubin	: 0.54 mg/dl	0.1 – 1.0mg/dl
S.G.O.T	: 13.1 U/L	0 – 40 U/L
S.G.P.T	: 9.5 U/L	0 – 40 U/L
Alkaline Phosphatase	: 78 U/L	40– 130 U/L
GAMMA GT (GGT)	: 15.3 U/L	8.0 – 71 U/L
Total PROTEINS, serum	: 6.93 mg/dl	6.0 – 8.0mg/dl

Dr.G.KARTHICK.,MBBS.,MD (Pathology)
Reg. No. 127667

Registered office :

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web : www.occucareindia.com

Branch office :

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VI th cross street, Vadapalani ,
chennai - 600026.



OCCUCARE INDIA
Complete Occupational Health Care



REG NO : 78

URINE ROUTINE TEST REPORT

NAME : MC Abinesh

EMPLOYEE ID : 120688

AGE : 24.923287671 Years

TEST DONE ON : 27.05.2024

GENDER : M

REPORTED ON : 28.05.2024

INVESTIGATION	OBSERVED VALUE & UNITS	REFERENCE RANGES
---------------	------------------------	------------------

GENERAL EXAMINATION

COLOUR : STRAW YELLOW
APPEARANCE : CLEAR

CHEMICAL EXAMINATION

SP. GRAVITY	: 1.030	1.005-1.025
pH	: 6.0	4.5-8
PROTEINS	: 6	NIL
SUGAR (R)	: NIL	NIL
ACETONE	: NIL	NIL
BILE SALT	: ABSENT	ABSENT
BILE PIGMENTS	: NEGATIVE	NEGATIVE
UROBILINOGEN	: NIL	NIL

MICROSCOPY EXAMINATION

RED BLOOD CELLS	: NIL	NIL
PUS CELLS	: 2-3 /Cells/hpf	≤2-5 WBCs/hpf
EPITHELIAL CELLS	: 2-3 /Cells/hpf	≤15-20 cells/hpf
BACTERIA	: NIL	NIL
OTHERS	: NIL	NIL

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EMP 78 - ABINESH MC

25 Years / Male / Ht 172 Cms / 70 Kgs / Non-Smoker

FVC TEST

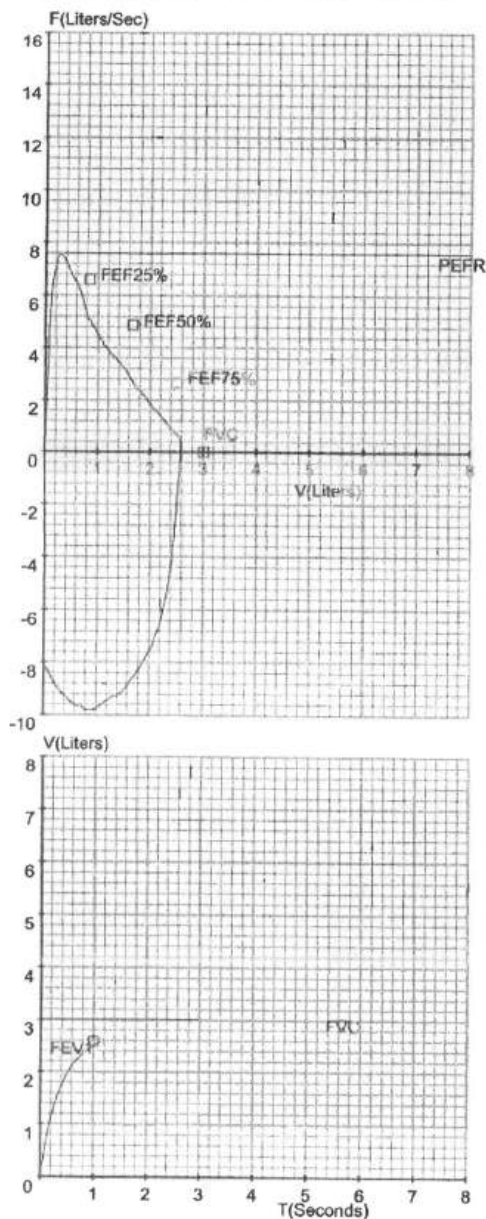
Date: 27-05-2024 (T1)

Pred Eqn : CLARITY

Eth.Corr : 80

Temp : 0°C

Ref By : NONE



Parameter	Pred	Pre	Pre%	Post	Post%	Imp%
FVC	[L]	3.01	2.57	86	--	--
FEV1	[L]	2.58	2.51	97	--	--
FEV.5	[L]	--	1.98	--	--	--
FEV3	[L]	2.92	--	--	--	--
FEV6	[L]	--	--	--	--	--
PEFR	[L/s]	7.61	7.53	99	--	--
FEF25-75	[L/s]	3.72	3.81	102	--	--
FEF75-85	[L/s]	--	1.75	--	--	--
FEF.2-1.2	[L/s]	6.41	5.51	86	--	--
FEF25%	[L/s]	6.60	6.94	105	--	--
FEF50%	[L/s]	4.90	4.08	83	--	--
FEF75%	[L/s]	2.69	2.04	76	--	--
FEV.5/FVC	[%]	--	76.75	--	--	--
FEV1/FVC	[%]	85.77	97.58	114	--	--
FEV3/FVC	[%]	97.00	--	--	--	--
FEV6/FVC	[%]	--	--	--	--	--
FEV1/FEV6	[%]	--	--	--	--	--
FET	[S]	--	1.10	--	--	--
ExpiTime	[S]	--	0.04	--	--	--
LungAge	[Y]	25.00	26.00	104	--	--
FIVC	[L]	--	3.51	--	--	--
PIFR	[L/s]	--	9.82	--	--	--
FIF25%	[L/s]	--	5.73	--	--	--
FIF50%	[L/s]	--	3.08	--	--	--
FIF75%	[L/s]	--	0.80	--	--	--
FIV.5	[L]	--	3.27	--	--	--
FIV1	[L]	--	--	--	--	--
FIV3	[L]	--	--	--	--	--
FIV.5/FIVC	[%]	--	93.31	--	--	--
FIV1/FIVC	[%]	--	--	--	--	--
FIV3/FIVC	[%]	--	--	--	--	--

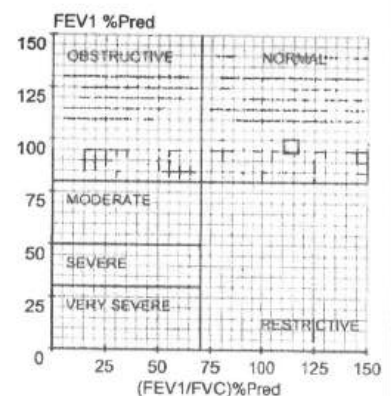
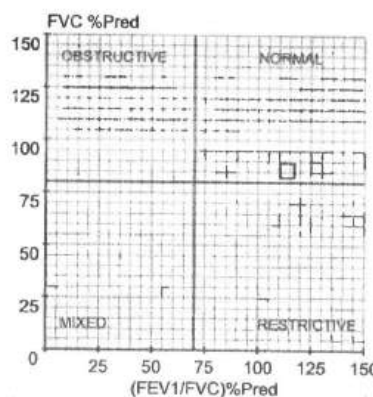
- Pre Medication Report :

Spirometry within Normal range as FVC% \geq 80 And FEV1/FVC% $>$ 70

- Pre COPD Severity Report:

COPD Severity within Normal range

- Doctor's Comments :



Dr.P.MURALITHARAN
M.B.B.S., A.F.I.H.
Reg.No : 66776



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NAME : MC Abinesh

REG NO : 78

AGE: 24.9 Years

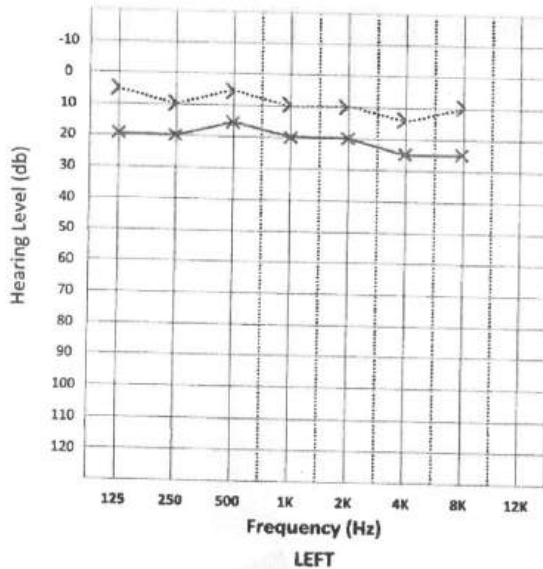
EMP ID : 120688

GENDER: MALE

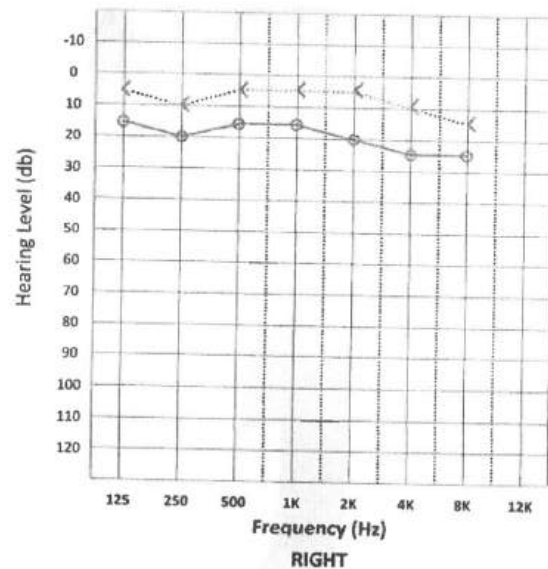
DATE: 27.05.2024

PURE TONE AUDIOMETRY

ACOACMΔBCMBCB<



ACXACM□BCM○BC>



Mode/ Ear	Air Conduction		Bone Conduction		Colour Code
	Masked	Unmasked	Masked	Unmasked	
LEFT	□	X	○	>	Blue
RIGHT	Δ	O	C	<	Red

NO RESPONSE : Add ↓ below the respective symbols

Threshold in dB	RIGHT	LEFT
AIR CONDUCTION		
BONE CONDUCTION		
SPEECH		

IMPRESSION : NORMAL HEARING IN BOTH EARS

Dr. JERIC ASHWIN
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REG No : 49

MEDICAL EXAMINATION

NAME : R Hariharan

DATE : 28.05.2024

AGE : 33.4 Years

DEPT : Process Operator

GENDER : MALE

UNIT : ASIAN PAINTS, CUDDALORE

EMP ID : 402426

General examinations

Height : 165 In CMS
Weight : 72 In Kgs
Blood Pressure : 112/66 mmHg
Pulse Rate : 72 / min
General Appearance : GOOD
SKIN : NORMAL

Systemic examination

CVS : S1S2+
RS : NVBS+
CNS : NFND FOUND
Abdomen : SOFT
BMI : 26.4

Test Details

BLOOD : REPORTS ATTACHED
URINE : REPORTS ATTACHED
PFT : REPORTS ATTACHED
AUDIOMETRY ; REPORTS ATTACHED


Dr. P. MURALITHARAN
M.B.B.S., A.F.I.H.
Reg.No : 66776

Signature of Medical Officer

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REG NO : 49

BLOOD TEST REPORT

NAME : R Hariharan

EMPLOYEE ID : 402426

AGE : 33.435616438 Years

TEST DONE ON : 28.05.2024

GENDER: M

REPORTED ON : 29.05.2024

INVESTIGATION

OBSERVED VALUE & UNITS

REFERENCE RANGES

COMPLETE BLOOD COUNT

Total W B C s count	:	7.01 *10 ³ cells/cumm	4 - 11 *10 ³ cells/cumm
Neutrophils	:	49.8 %	50 - 70 %
Lymphocytes	:	41.2 %	25 - 50 %
Eosinophils	:	3 %	1 - 6 %
Monocytes	:	5.2 %	1 - 10 %
Basophils	:	0.8 %	0-1 %
Hemoglobin	:	14.9 gm/dl	10.0 -15.0 gm/dl
PCV Count	:	42.2 %	34 - 48 %
Red Blood Cells	:	5.03 milli/cumm	4.0 - 6.0 milli/cumm
MCV	:	83.9 fl	80 - 100 fl
MCH	:	29.6 pg	28 - 34 pg
MCHC	:	35.3 %	32 - 36 %
Platelets Count	:	228 *10 ³ /cumm	150-400 *10 ³ /cumm
Random blood sugar	:	83.3 mg/dl	80 - 140 mg/dl
BLOOD GROUPING	:	"B POSITIVE"	
ESR	:	11 mm/Hr	< 30 mm/Hr

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OCCUCARE INDIA
Complete Occupational Health Care



REG NO : 49

BLOOD TEST REPORT

NAME : R Hariharan

EMP ID NO : 402426

AGE : 33.435616438 YEARS

TEST DONE ON : 28.05.2024

GENDER : M

REPORTED ON : 29.05.2024

INVESTIGATION	OBSERVED VALUE & UNITS	REFERENCE RANGES
---------------	------------------------	------------------

RENAL FUNCTION TEST

BLOOD UREA	: 31 mg/dL	18.0 – 55.0 mg/dL
SERUM CREATININE	: 0.99 mg/dL	0.70 – 1.30 mg/dL
SERUM URIC ACID	: 4.9 mg/dL	3.5 – 7.2 mg/dL

LIPID PROFILE

TOTAL CHOLESTEROL	: 191 mg/dL	< 200 mg/dl
TRIGLYCERIDES	: 158.6 mg/dL	40 – 160 mg/dl
HDL	: 46.7 mg/dL	35.3 – 79.5 mg/dl
LDL	: 112.58 mg/dL	< 100 mg/dl
VLDL	: 31.72 mg/dL	< 30 mg/dl

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chennai - 600026.



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Complete Occupational Health Care



REG No : 49

BLOOD TEST REPORT

Name : R Hariharan

Emp ID No : 402426

Age : 33.435616438 Years

Sample Taken On : 28.05.2024

Gender : M

Reported On : 29.05.2024

INVESTIGATION	OBSERVED VALUE & UNITS	REFERENCE RANGES
<u>LIVER PROFILE (L.F.T)</u>		
Total Bilirubin :	0.72 mg/dl	0.3 – 1.2 mg/dl
Direct Bilirubin :	0.44 mg/dl	0.1 – 0.3 mg/dl
InDirect Bilirubin :	0.28 mg/dl	0.1 – 1.0mg/dl
S.G.O.T :	23.3 U/L	0 – 40 U/L
S.G.P.T :	22.6 U/L	0 – 40 U/L
Alkaline Phosphatase :	78 U/L	40– 130 U/L
GAMMA GT (GGT) :	21.2 U/L	8.0 – 71 U/L
Total PROTEINS, serum :	6.71 mg/dl	6.0 – 8.0mg/dl

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Complete Occupational Health Care



REG NO : 49

URINE ROUTINE TEST REPORT

NAME : R Hariharan

EMPLOYEE ID : 402426

AGE : 33.435616438 Years

TEST DONE ON : 28.05.2024

GENDER : M

REPORTED ON : 29.05.2024

INVESTIGATION	OBSERVED VALUE & UNITS	REFERENCE RANGES
---------------	------------------------	------------------

GENERAL EXAMINATION

COLOUR : STRAW YELLOW
APPEARANCE : CLEAR

CHEMICAL EXAMINATION

SP. GRAVITY	: 1.025	1.005-1.025
pH	: 5.0	4.5-8
PROTEINS	: 4.9	NIL
SUGAR (R)	: NIL	NIL
ACETONE	: NIL	NIL
BILE SALT	: ABSENT	ABSENT
BILE PIGMENTS	: NEGATIVE	NEGATIVE
UROBILINOGEN	: NIL	NIL

MICROSCOPY EXAMINATION

RED BLOOD CELLS	: NIL	NIL
PUS CELLS	: 1-3 /Cells/hpf	≤2-5 WBCs/hpf
EPITHELIAL CELLS	: 1-2/cells/hpf	≤15-20 cells/hpf
BACTERIA	: NIL	NIL
OTHERS	: NIL	NIL

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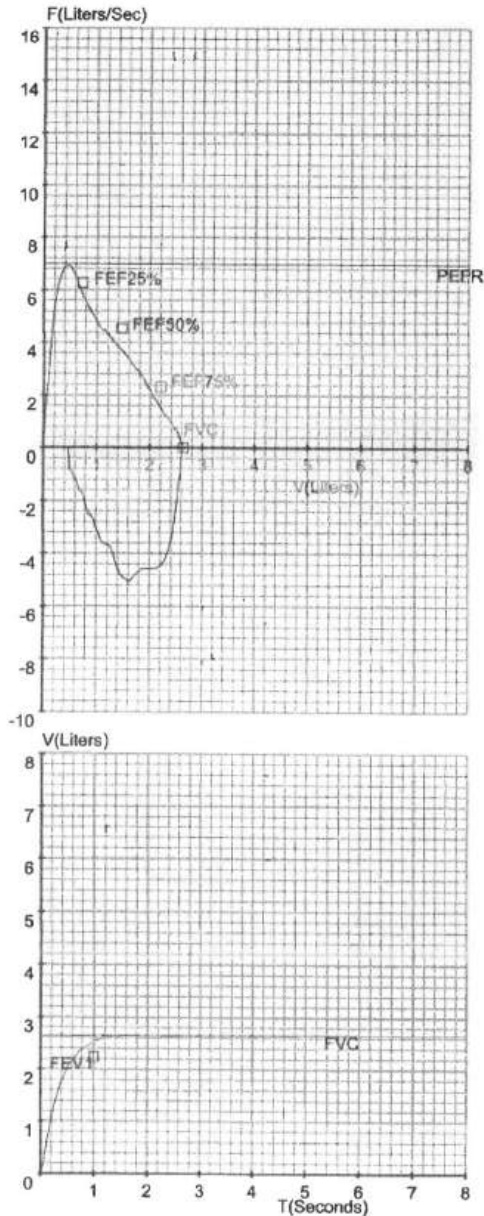
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EMP 49 - HARIHARAN R
33 Years / Male / Ht 165 Cms / 72 Kgs / Non-Smoker

FVC TEST
Date: 28-05-2024 (T1)

Pred Eqn : CLARITY Eth.Corr : 80 Temp : 0°C
Ref By : NONE



Parameter	Pred	Pre	Pre%	Post	Post%	Imp%
FVC	[L] 2.64	2.61	99	--	--	--
FEV1	[L] 2.22	2.55	115	--	--	--
FEV.5	[L] --	2.06	--	--	--	--
FEV3	[L] 2.56	--	--	--	--	--
FEV6	[L] --	--	--	--	--	--
PEFR	[L/s] 6.99	6.92	99	--	--	--
FEF25-75	[L/s] 3.33	4.11	124	--	--	--
FEF75-85	[L/s] --	1.92	--	--	--	--
FEF.2-1.2	[L/s] 5.69	5.52	97	--	--	--
FEF25%	[L/s] 6.28	6.90	110	--	--	--
FEF50%	[L/s] 4.56	4.47	98	--	--	--
FEF75%	[L/s] 2.35	2.32	99	--	--	--
FEV.5/FVC	[%] --	78.78	--	--	--	--
FEV1/FVC	[%] 84.20	97.60	116	--	--	--
FEV3/FVC	[%] 97.00	--	--	--	--	--
FEV6/FVC	[%] --	--	--	--	--	--
FEV1/FEV6	[%] --	--	--	--	--	--
FET	[S] --	1.20	--	--	--	--
ExpTime	[S] --	0.09	--	--	--	--
LungAge	[Y] 33.00	28.00	85	--	--	--
FIVC	[L] --	2.16	--	--	--	--
PIFR	[L/s] --	5.04	--	--	--	--
FIF25%	[L/s] --	7.72	--	--	--	--
FIF50%	[L/s] --	5.44	--	--	--	--
FIF75%	[L/s] --	3.98	--	--	--	--
FIV.5	[L] --	0.02	--	--	--	--
FIV1	[L] --	0.17	--	--	--	--
FIV3	[L] --	--	--	--	--	--
FIV.5/FIVC	[%] --	0.73	--	--	--	--
FIV1/FIVC	[%] --	8.02	--	--	--	--
FIV3/FIVC	[%] --	--	--	--	--	--

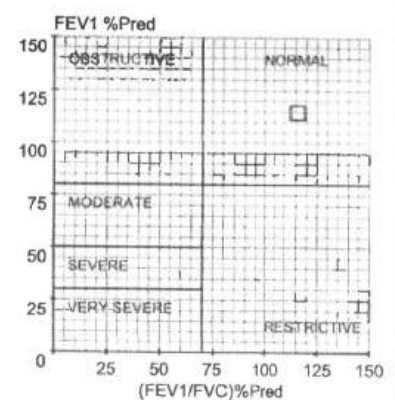
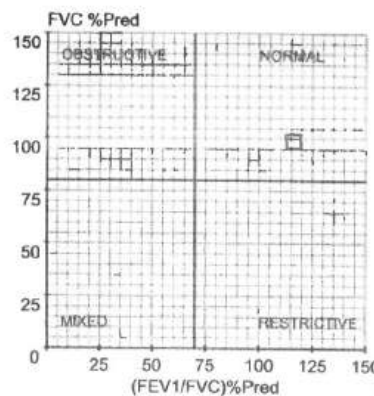
- Pre Medication Report :

Spirometry within Normal range as FVC% ≥ 80 And
FEV1/FVC% > 70

- Pre COPD Severity Report:

COPD Severity within Normal range

- Doctor's Comments :



Dr.P.MURALITHARAN
M.B.B.S., A.F.I.H.
Reg.No : 66776



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NAME : R Hariharan

REG NO : 49

AGE: 33.4 Years

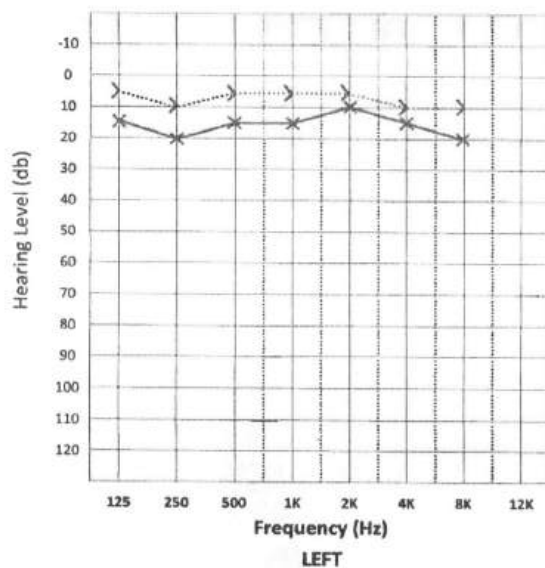
EMP ID : 402426

GENDER: MALE

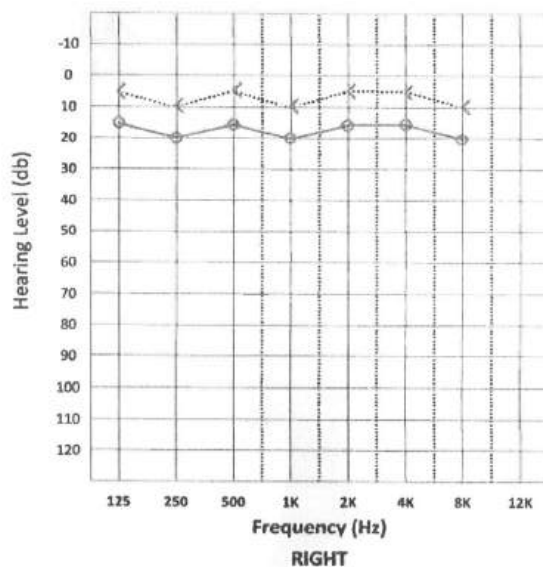
DATE: 28.05.2024

PURE TONE AUDIOMETRY

ACOACMΔBCMCBC<



ACXACM□BCMOBC>



Mode/ Ear	Air Conduction		Bone Conduction		Colour Code
	Masked	Unmasked	Masked	Unmasked	
LEFT	□	X	○	>	Blue
RIGHT	Δ	O	C	<	Red

NO RESPONSE : Add ↓ below the respective symbols

Threshold in dB	RIGHT	LEFT
AIR CONDUCTION		
BONE CONDUCTION		
SPEECH		

IMPRESSION : NORMAL HEARING IN BOTH EARS


Dr. JERIC ASHWIN
M.B.B.S., M.S. (Oto-Rhino-Laryngology)
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REG No : 66

MEDICAL EXAMINATION

NAME : T VINOTH

DATE : 29.05.2024

AGE : 31.8 Years

DEPT : Mechanical Technician

GENDER : MALE

UNIT : ASIAN PAINTS, CUDDALORE

EMP ID : 403203

General examinations

Height : 167 In CMS
Weight : 77 In Kgs
Blood Pressure : 138/83 mmHg
Pulse Rate : 87 / min
General Appearance : GOOD
SKIN : NORMAL

Systemic examination

CVS : S1S2+
RS : NVBS+
CNS : NFND FOUND
Abdomen : SOFT
BMI : 27.6

Test Details

BLOOD : REPORTS ATTACHED
URINE : REPORTS ATTACHED
PFT : REPORTS ATTACHED
AUDIOMETRY : REPORTS ATTACHED


Dr. P. MURALITHARAN
M.B.B.S., A.F.I.H.
Reg.No : 66776

Signature of Medical Officer

Registered office :

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OCCUCARE INDIA
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REG NO : 66

BLOOD TEST REPORT

NAME : T VINOTH

EMPLOYEE ID : 403203

AGE : 31.802739726 Years

TEST DONE ON : 29.05.2024

GENDER: M

REPORTED ON : 30.05.2024

INVESTIGATION

OBSERVED VALUE & UNITS

REFERENCE RANGES

COMPLETE BLOOD COUNT

Total W B C s count	:	8.18 *10³ cells\cumm	4 - 11 *10³ cells\cumm
Neutrophils	:	62.2 %	50 - 70 %
Lymphocytes	:	31.5 %	25 - 50 %
Eosinophils	:	1.9 %	1 - 6 %
Monocytes	:	4.1 %	1 - 10 %
Basophils	:	0.3 %	0-1 %
Hemoglobin	:	16.1 gm/dl	10.0 -15.0 gm/dl
PCV Count	:	46.4 %	34 - 48 %
Red Blood Cells	:	5.18 milli\cumm	4.0 - 6.0 milli\cumm
MCV	:	89.6 fl	80 - 100 fl
MCH	:	31.2 pg	28 - 34 pg
MCHC	:	34.8 %	32 - 36 %
Platelets Count	:	281 *10³/cumm	150-400 *10³ /cumm
Random blood sugar	:	85.6 mg/dl	80 - 140 mg/dl
BLOOD GROUPING	:	"O POSITIVE"	
ESR	:	9 mm/Hr	< 30 mm/Hr

Dr.G.KARTHICK.,MBBS.,MD (Pathology)
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OCCUCARE INDIA
Complete Occupational Health Care



REG NO : 66

BLOOD TEST REPORT

NAME : T VINOTH

EMP ID NO : 403203

AGE : 31.802739726 YEARS

TEST DONE ON : 29.05.2024

GENDER : M

REPORTED ON : 30.05.2024

INVESTIGATION	OBSERVED VALUE & UNITS	REFERENCE RANGES
---------------	------------------------	------------------

RENAL FUNCTION TEST

BLOOD UREA	: 40 mg/dL	18.0 – 55.0 mg/dL
SERUM CREATININE	: 0.97 mg/dL	0.70 – 1.30 mg/dL
SERUM URIC ACID	: 6.9 mg/dL	3.5 – 7.2 mg/dL

LIPID PROFILE

TOTAL CHOLESTEROL	: 169 mg/dL	< 200 mg/dl
TRIGLYCERIDES	: 128.8 mg/dL	40 – 160 mg/dl
HDL	: 31.9 mg/dL	35.3 – 79.5 mg/dl
LDL	: 111.34 mg/dL	< 100 mg/dl
VLDL	: 25.76 mg/dL	< 30 mg/dl

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chennai - 600026.



OCCUCARE INDIA
Complete Occupational Health Care



REG No : 66

BLOOD TEST REPORT

Name : T VINOTH

Emp ID No : 403203

Age : 31.802739726 Years

Sample Taken On : 29.05.2024

Gender : M

Reported On : 30.05.2024

INVESTIGATION	OBSERVED VALUE & UNITS	REFERENCE RANGES
<u>LIVER PROFILE (L.F.T)</u>		
Total Bilirubin	: 0.93 mg/dl	0.3 – 1.2 mg/dl
Direct Bilirubin	: 0.52 mg/dl	0.1 – 0.3 mg/dl
InDirect Bilirubin	: 0.41 mg/dl	0.1 – 1.0mg/dl
S.G.O.T	: 20.2 U/L	0 – 40 U/L
S.G.P.T	: 15.8 U/L	0 – 40 U/L
Alkaline Phosphatase	: 61 U/L	40– 130 U/L
GAMMA GT (GGT)	: 20.5 U/L	8.0 – 71 U/L
Total PROTEINS, serum	: 7.68 mg/dl	6.0 – 8.0mg/dl

Dr.G.KARTHICK.,MBBS.,MD (Pathology)
Reg. No. 127667

Registered office :

709 A, 5th North Street, Thiagaraja Nagar,
Tirunelveli - 627 011.
web : www.occucareindia.com

Branch office :

S2, Aravind apartments, 28/20 Alagiri nagar,
VI th cross street, Vadapalani ,
chennai - 600026.



OCCUCARE INDIA
Complete Occupational Health Care



REG NO : 66

URINE ROUTINE TEST REPORT

NAME : T VINOTH

EMPLOYEE ID : 403203

AGE : 31.802739726 Years

TEST DONE ON : 29.05.2024

GENDER : M

REPORTED ON : 30.05.2024

INVESTIGATION	OBSERVED VALUE & UNITS	REFERENCE RANGES
---------------	------------------------	------------------

GENERAL EXAMINATION

COLOUR : STRAW YELLOW
APPEARANCE : CLEAR

CHEMICAL EXAMINATION

SP. GRAVITY	: 1.005	1.005-1.025
pH	: 7.0	4.5-8
PROTEINS	: 6.9	NIL
SUGAR (R)	: NIL	NIL
ACETONE	: NIL	NIL
BILE SALT	: ABSENT	ABSENT
BILE PIGMENTS	: NEGATIVE	NEGATIVE
UROBILINOGEN	: NIL	NIL

MICROSCOPY EXAMINATION

RED BLOOD CELLS	: NIL	NIL
PUS CELLS	: 2-4 /Cells/hpf	≤2-5 WBCs/hpf
EPITHELIAL CELLS	: 1-3 /Cells/hpf	≤15-20 cells/hpf
BACTERIA	: NIL	NIL
OTHERS	: NIL	NIL

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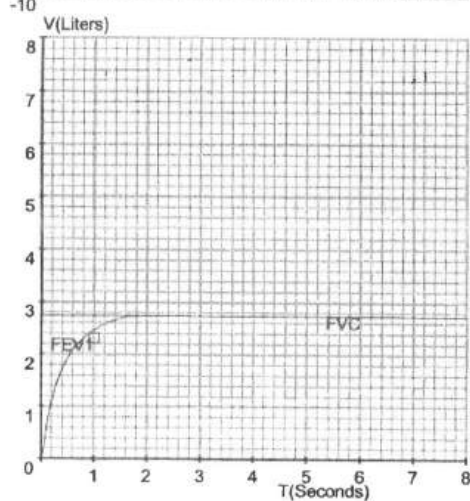
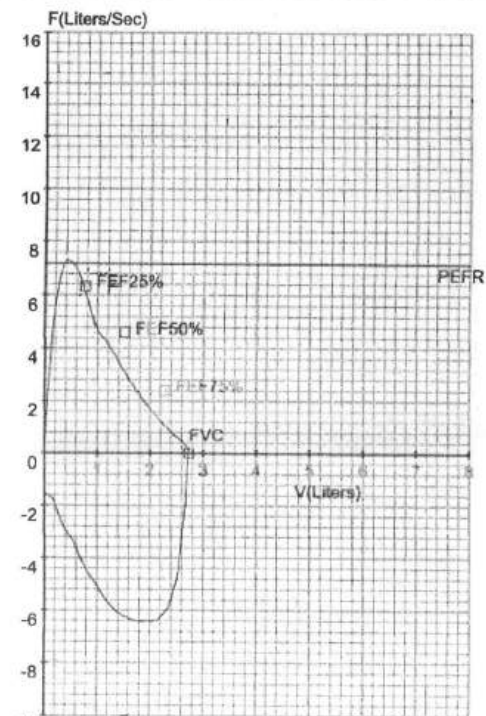
Branch office :

S2, Aravind apartments, 28/20 Alagiri nagar,
VI th cross street, Vadapalani ,
chennai - 600026.

EMP 67 - VINOTH T ⁶⁶
32 Years / Male / Ht 167 Cms / 77 Kgs / Non-Smoker

FVC TEST
Date: 29-05-2024 (T1)

Pred Eqn : CLARITY Eth.Corr : 80 Temp : 0°C
Ref By : NONE



- Pre Medication Report :

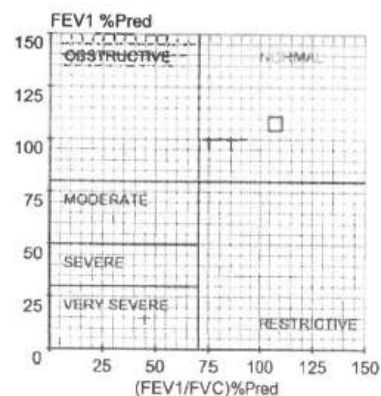
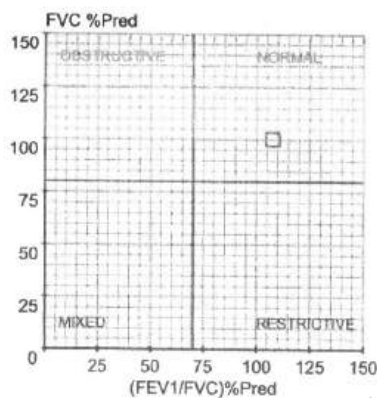
Spirometry within Normal range as FVC% \geq 80 And
FEV1/FVC% $>$ 70

- Pre COPD Severity Report:

COPD Severity within Normal range

- Doctor's Comments :

Parameter		Pred	Pre	Pre%	Post	Post%	Imp%
FVC	[L]	2.73	2.73	100	--	--	--
FEV1	[L]	2.30	2.48	108	--	--	--
FEV.5	[L]	--	1.98	--	--	--	--
FEV3	[L]	2.65	--	--	--	--	--
FEV6	[L]	--	--	--	--	--	--
PEFR	[L/s]	7.13	7.31	103	--	--	--
FEF25-75	[L/s]	3.39	3.72	110	--	--	--
FEF75-85	[L/s]	--	1.32	--	--	--	--
FEF.2-1.2	[L/s]	5.82	5.74	98	--	--	--
FEF25%	[L/s]	6.35	7.40	117	--	--	--
FEF50%	[L/s]	4.63	3.91	84	--	--	--
FEF75%	[L/s]	2.40	1.60	67	--	--	--
FEV.5/FVC	[%]	--	72.33	--	--	--	--
FEV1/FVC	[%]	84.35	90.86	108	--	--	--
FEV3/FVC	[%]	97.00	--	--	--	--	--
FEV6/FVC	[%]	--	--	--	--	--	--
FEV1/FEV6	[%]	--	--	--	--	--	--
FET	[S]	--	1.68	--	--	--	--
ExpiTime	[S]	--	0.08	--	--	--	--
LungAge	[Y]	32.00	29.00	91	--	--	--
FIVC	[L]	--	3.03	--	--	--	--
PIFR	[L/s]	--	6.45	--	--	--	--
FIF25%	[L/s]	--	7.27	--	--	--	--
FIF50%	[L/s]	--	3.81	--	--	--	--
FIF75%	[L/s]	--	1.48	--	--	--	--
FIV.5	[L]	--	2.15	--	--	--	--
FIV1	[L]	--	2.94	--	--	--	--
FIV3	[L]	--	--	--	--	--	--
FIV.5/FIVC	[%]	--	70.99	--	--	--	--
FIV1/FIVC	[%]	--	96.94	--	--	--	--
FIV3/FIVC	[%]	--	--	--	--	--	--



Dr.P.MURALITHARAN
M.B.B.S.,A.F.I.H.
Reg.No : 66776



OCCUCARE INDIA
Complete Occupational Health Care



NAME : T VINOTH

REG NO : 66

AGE: 31.8 Years

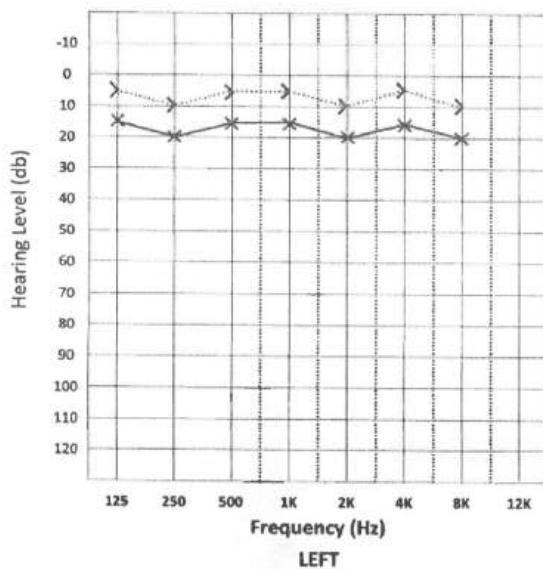
EMP ID : 403203

GENDER: MALE

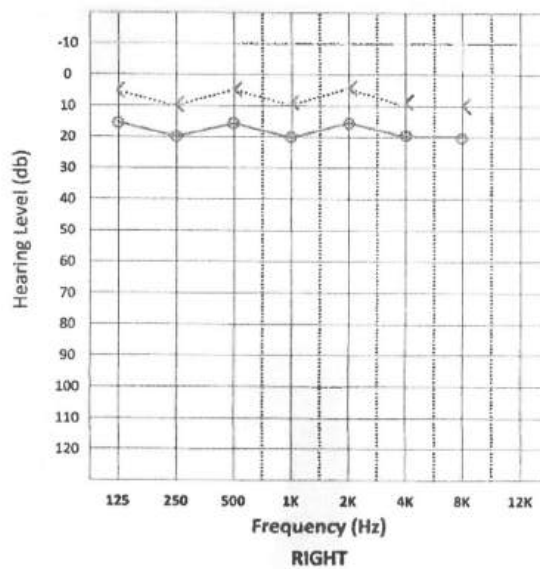
DATE: 29.05.2024

PURE TONE AUDIOMETRY

ACOACM△BCMCBC<



ACXACM□BCMOBC>



Mode/ Ear	Air Conduction		Bone Conduction		Colour Code
	Masked	Unmasked	Masked	Unmasked	
LEFT	□	X	○	>	Blue
RIGHT	△	O	C	<	Red

NO RESPONSE : Add ↓ below the respective symbols

Threshold in dB	RIGHT	LEFT
AIR CONDUCTION		
BONE CONDUCTION		
SPEECH		

IMPRESSION : NORMAL HEARING IN BOTH EARS


Dr. JERIC ASHWIN
M.B.B.S., M.S. (Oto-Rhino-Laryngology)
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Annexure 43
ATFD Register

DATE	OPENING STOCK IN KGS	GENERATION IN KGS	SENT TO STORAGE YARD	CLOSING STOCK IN KGS	STORAGE YARD INCHARGE SIGNATURE
01/10/2024	0	74	74	0	<i>[Signature]</i>
02/10/2024	0	58	58	0	<i>[Signature]</i>
03/10/2024	0	31	31	0	<i>[Signature]</i>
04/10/2024	0	53	53	0	<i>[Signature]</i>
05/10/2024	0	29	29	0	<i>[Signature]</i>
06/10/2024	0	91	91	0	<i>[Signature]</i>
07/10/2024	0	74	74	0	<i>[Signature]</i>
08/10/2024	0	57	57	0	<i>[Signature]</i>
09/10/2024	0	57	57	0	<i>[Signature]</i>
10/10/2024	0	61	61	0	<i>[Signature]</i>
11/10/2024	0	69	69	0	<i>[Signature]</i>
12/10/2024	0	27	27	0	<i>[Signature]</i>
13/10/2024	0	41	41	0	<i>[Signature]</i>
14/10/2024	0	75	75	0	<i>[Signature]</i>
15/10/2024	0	82	82	0	<i>[Signature]</i>
16/10/2024	0	25	25	0	<i>[Signature]</i>
17/10/2024	0	84	84	0	<i>[Signature]</i>
18/10/2024	0	97	97	0	<i>[Signature]</i>
19/10/2024	0	63	63	0	<i>[Signature]</i>
20/10/2024	0	50	50	0	<i>[Signature]</i>
21/10/2024	0	83	83	0	<i>[Signature]</i>
22/10/2024	0	29	29	0	<i>[Signature]</i>
23/10/2024	0	113	113	0	<i>[Signature]</i>
24/10/2024	0	92	92	0	<i>[Signature]</i>
25/10/2024	0	52	52	0	<i>[Signature]</i>
26/10/2024	0	52	52	0	<i>[Signature]</i>
27/10/2024	0	99	99	0	<i>[Signature]</i>
28/10/2024	0	69	69	0	<i>[Signature]</i>
29/10/2024	0	60	60	0	<i>[Signature]</i>
30/10/2024	0	46	46	0	<i>[Signature]</i>
31/10/2024	0	76	76	0	<i>[Signature]</i>

ATFD SALT HAZARDOUS WASTES RECORD

DATE	OPENING STOCK IN KGS	GENERATION IN KGS	SENT TO STORAGE YARD	CLOSING STOCK IN KGS	REMARKS
01/11/2024	0	84	84	-	
02/11/2024	0	43	43	-	
03/11/2024	0	52	52	-	
04/11/2024	0	24	24	-	
05/11/2024	0	74	74	-	
06/11/2024	0	40	40	-	
07/11/2024	0	53	53	-	
08/11/2024	0	75	75	-	
09/11/2024	0	69	69	-	
10/11/2024	0	13	13	-	
11/11/2024	0	-	-	-	
12/11/2024	0	-	-	-	
13/11/2024	0	-	-	-	
14/11/2024	0	-	-	-	
15/11/2024	0	-	-	-	
16/11/2024	0	80	80	-	
17/11/2024	0	148	148	-	
18/11/2024	0	97	97	-	
19/11/2024	0	88	88	-	
20/11/2024	0	128	128	-	
21/11/2024	0	57	57	-	
22/11/2024	0	33	33	-	
23/11/2024	0	60	60	-	
24/11/2024	0	28	28	-	
25/11/2024	0	62	62	-	
26/11/2024	0	8	8	-	
27/11/2024	0	28	28	-	
28/11/2024	0	120	120	-	
29/11/2024	0	84	84	-	
30/11/2024	0	22	22	-	
31/11/2024	0	-	-	-	

Remarks:

ATFD SALT HAZARDOUS WASTES REGISTER

DATE	OPENING STOCK IN KGS	GENERATION IN KGS	SENT TO STORAGE YARD	CLOSING STOCK IN KGS	STORAGE YARD INCHARGE SIGNATURE
01/12/2024	0	8	8	0	<i>Neeraj</i>
02/12/2024	0	15	15	0	<i>Neeraj</i>
03/12/2024	0	19	19	0	<i>Neeraj</i>
04/12/2024	0	5	5	0	<i>Neeraj</i>
05/12/24	0	4	4	0	<i>Neeraj</i>
06/12/24	0	13	13	0	<i>Neeraj</i>
07/12/24	0	15	15	0	<i>Neeraj</i>
08/12/24	0	17	17	0	<i>Neeraj</i>
09/12/24	0	13	13	0	<i>Neeraj</i>
10/12/24	0	9	9	0	<i>Neeraj</i>
11/12/24	0	5	5	0	<i>Neeraj</i>
12/12/24	0	15	15	0	<i>Neeraj</i>
13/12/24	0	11	11	0	<i>Neeraj</i>
14/12/24	0	5	5	0	<i>Neeraj</i>
15/12/24	0	16	16	0	<i>Neeraj</i>
16/12/24	0	16	16	0	<i>Neeraj</i>
17/12/24	0	11	11	0	<i>Neeraj</i>
18/12/24	0	19	19	0	<i>Neeraj</i>
19/12/24	0	12	12	0	<i>Neeraj</i>
20/12/24	0	11	11	0	<i>Neeraj</i>
21/12/24	0	10	10	0	<i>Neeraj</i>
22/12/24	0	15	15	0	<i>Neeraj</i>
23/12/24	0	6	6	0	<i>Neeraj</i>
24/12/24	0	6	6	0	<i>Neeraj</i>
25/12/24	0	17	17	0	<i>Neeraj</i>
26/12/24	0	18	18	0	<i>Neeraj</i>
27/12/24	0	7	7	0	<i>Neeraj</i>
28/12/24	0	10	10	0	<i>Neeraj</i>
29/12/24	0	19	19	0	<i>Neeraj</i>
30/12/24	0	12	12	0	<i>Neeraj</i>
31/12/24	6	14	14	0	<i>Neeraj</i>

ATFD SALT HAZARDOUS WASTES

DATE	OPENING STOCK IN KGS	GENERATION IN KGS	SENT TO STORAGE YARD	CLOSING STOCK IN KGS
01/1/2025	0	52	52	0
02/1/2025	0	52	52	0
03/1/2025	0	88	88	0
04/1/2025	0	113	113	0
05/1/2025	0	74	74	0
06/1/2025	0	59	59	0
07/1/2025	0	25	25	0
08/1/2025	0	88	88	0
09/1/2025	0	23	23	0
10/1/2025	0	87	87	0
11/1/2025	0	28	28	0
12/1/2025	0	52	52	-0-
13/1/2025	0	57	57	-0-
14/1/2025	0	35	35	-0-
15/1/2025	0	21	21	-0-
16/1/2025	0	13	13	-0-
17/1/2025	0	54	54	-0-
18/1/2025	0	75	75	-0-
19/1/2025	0	13	13	-0-
20/1/2025	0	39	39	-0-
21/1/2025	0	86	86	-
22/1/2025	0	104	104	-
23/1/2025	0	31	31	-
24/1/2025	0	87	87	-
25/1/2025	0	42	42	-
26/1/2025	0	28	28	-
27/1/2025	0	45	45	-
28/1/2025	0	44	44	-
29/1/2025	0	66	66	-
30/1/2025	0	33	33	-
31/1/2025	0	78	78	-

Remarks:

SIGNATURE	DATE	OPENING STOCK IN KGS	GENERATION IN KGS	SENT TO STORAGE YARD	CLOSING STOCK IN KGS	STORAGE YARD INCHARGE SIGNATURE
	01/ 2/ 2025	0	38	38	0	<i>Angus</i>
	02/ 2/ 2025	0	16	16	0	<i>Angus</i>
	03/ 2/ 2025	0	48	48	0	<i>Angus</i>
	04/ 2/ 2025	0	78	78	0	<i>Angus</i>
	05/ 2/ 2025	0	7	7	0	<i>Angus</i>
	06/ 2/ 2025	0	51	51	0	<i>Angus</i>
	07/ 2/ 2025	0	32	32	0	<i>Angus</i>
	08/ 2/ 2025	0	117	117	0	<i>Angus</i>
	09/ 2/ 2025	0	47	47	0	<i>Angus</i>
	10/ 2/ 2025	0	66	66	0	<i>Angus</i>
	11/ 2/ 2025	0	80	80	0	<i>Angus</i>
	12/ 2/ 2025	0	15	15	0	<i>Angus</i>
	13/ 2/ 2025	0	20	20	0	<i>Angus</i>
	14/ 2/ 2025	0	79	79	0	<i>Angus</i>
	15/ 2/ 2025	0	84	84	0	<i>Angus</i>
	16/ 2/ 25	-0-	53	53	-0-	
	17/ 2/ 25	-0-	32	32	-0-	<i>JThy</i>
	18/ 2/ 25	-0-	105	105	-0-	<i>JThy</i>
	19/ 2/ 25	-0-	66	66	-0-	<i>JThy</i>
	20/ 2/ 25	-0-	92	92	-0-	<i>JThy</i>
	21/ 2/ 25	-0-	36	36	-0-	<i>JThy</i>
	22/ 2/ 25	-0-	123	123	-0-	<i>JThy</i>
	23/ 2/ 25	-0-	46	46	-0-	<i>JThy</i>
	24/ 2/ 25	-0-	67	67	-0-	<i>JThy</i>
	25/ 2/ 25	-0-	103	103	-0-	<i>JThy</i>
	26/ 2/ 25	-0-	59	59	-0-	<i>JThy</i>
	27/ 2/ 25	-0-	66	66	-0-	<i>JThy</i>
	28/ 2/ 25	-0-	75	75	-0-	<i>JThy</i>
	29/ /					
	30/ /					

ATFD SALT HAZARDOUS WASTES REGISTER

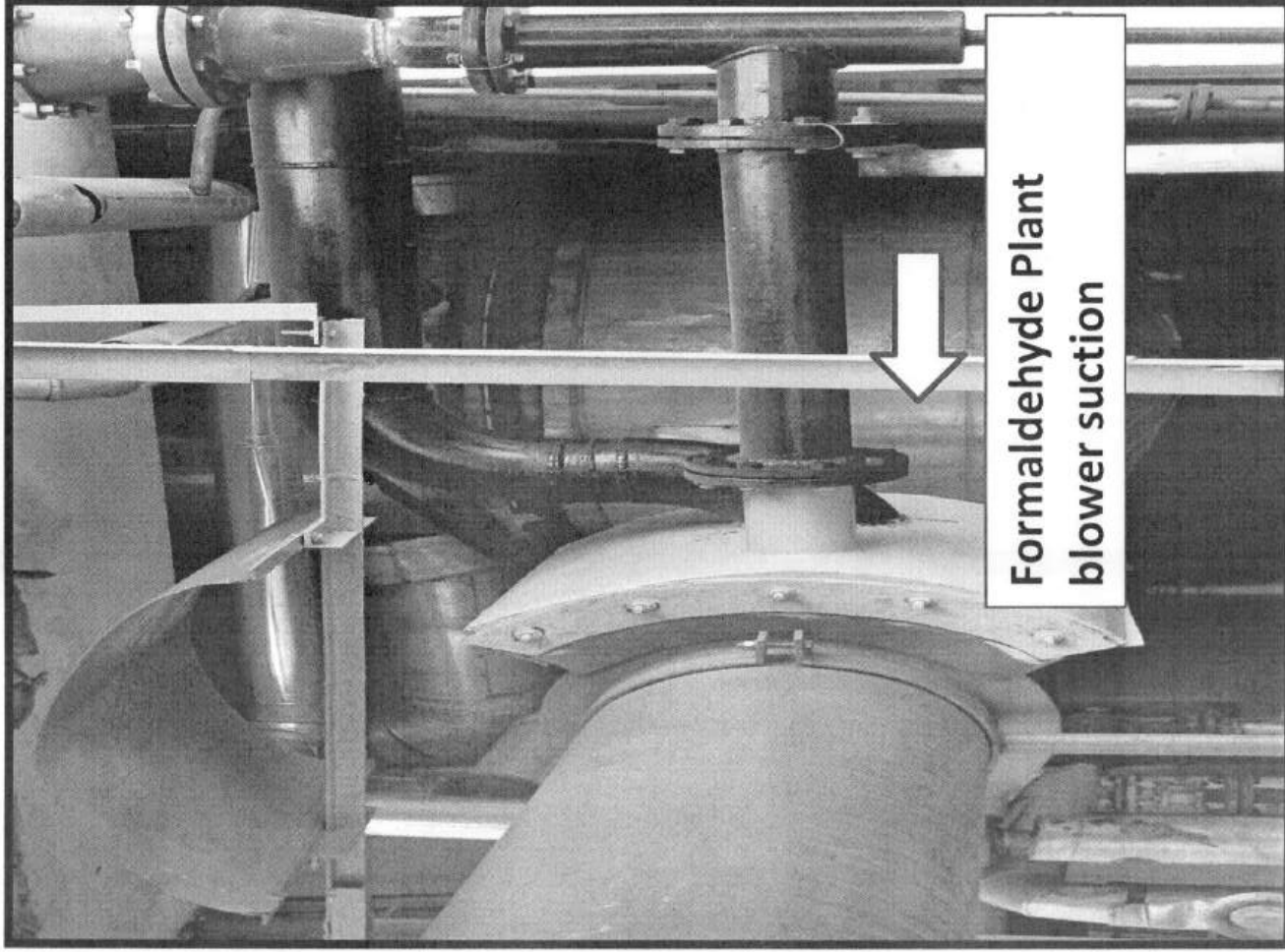
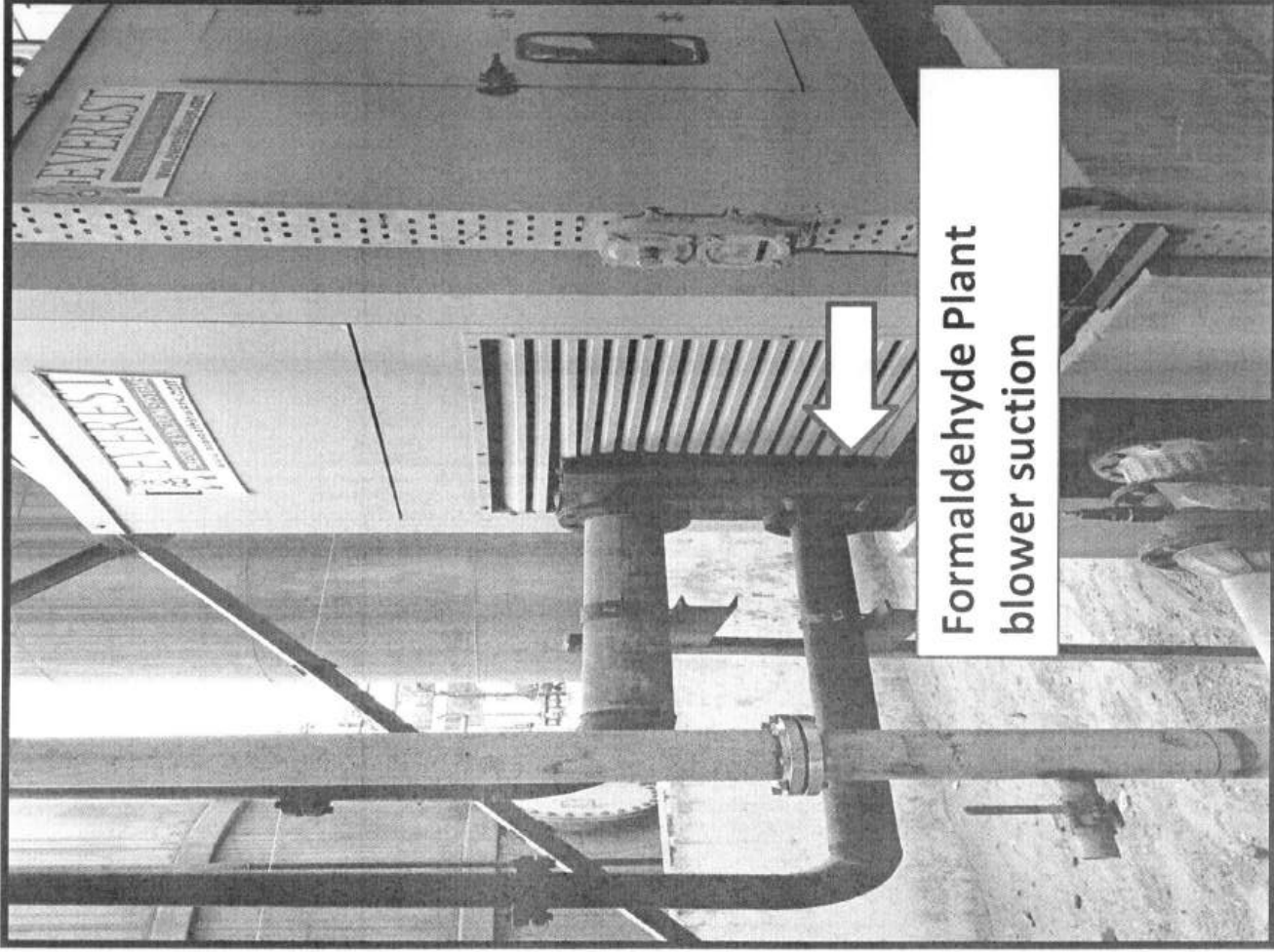
DATE	OPENING STOCK IN KGS	GENERATION IN KGS	SENT TO STORAGE YARD	CLOSING STOCK IN KGS	STORAGE EXCHANGE
		70	70	0	
		35	35	0	
		105	105	0	
		82	82	0	
		29	29	0	
		80	80	0	
		93	93	0	
		74	74	0	
		47	47	0	
		53	53	0	
		109	109	0	
		86	86	0	
		69	69	0	
		80	80	0	
		92	92	0	
		36	36	0	
		52	52	0	
		91	91	0	
		42	42	0	
		70	70	0	
		20	20	0	
		64	64	0	
		73	73	0	
		-	-	-	
		-	-	-	
		-	-	-	
		-	-	-	
		-	-	-	
		-	-	-	
		-	-	-	
		-	-	-	
		-	-	-	

Remarks:

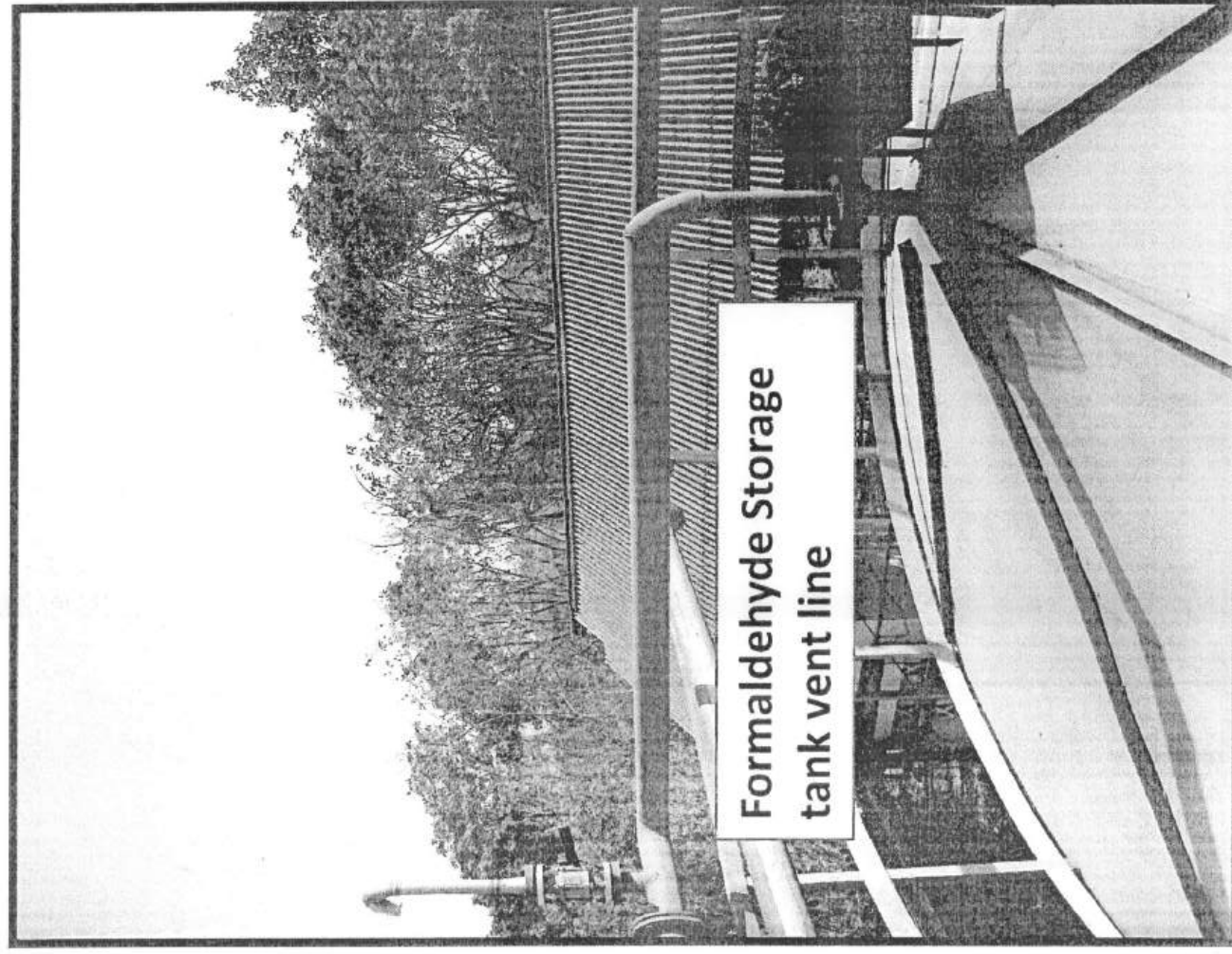
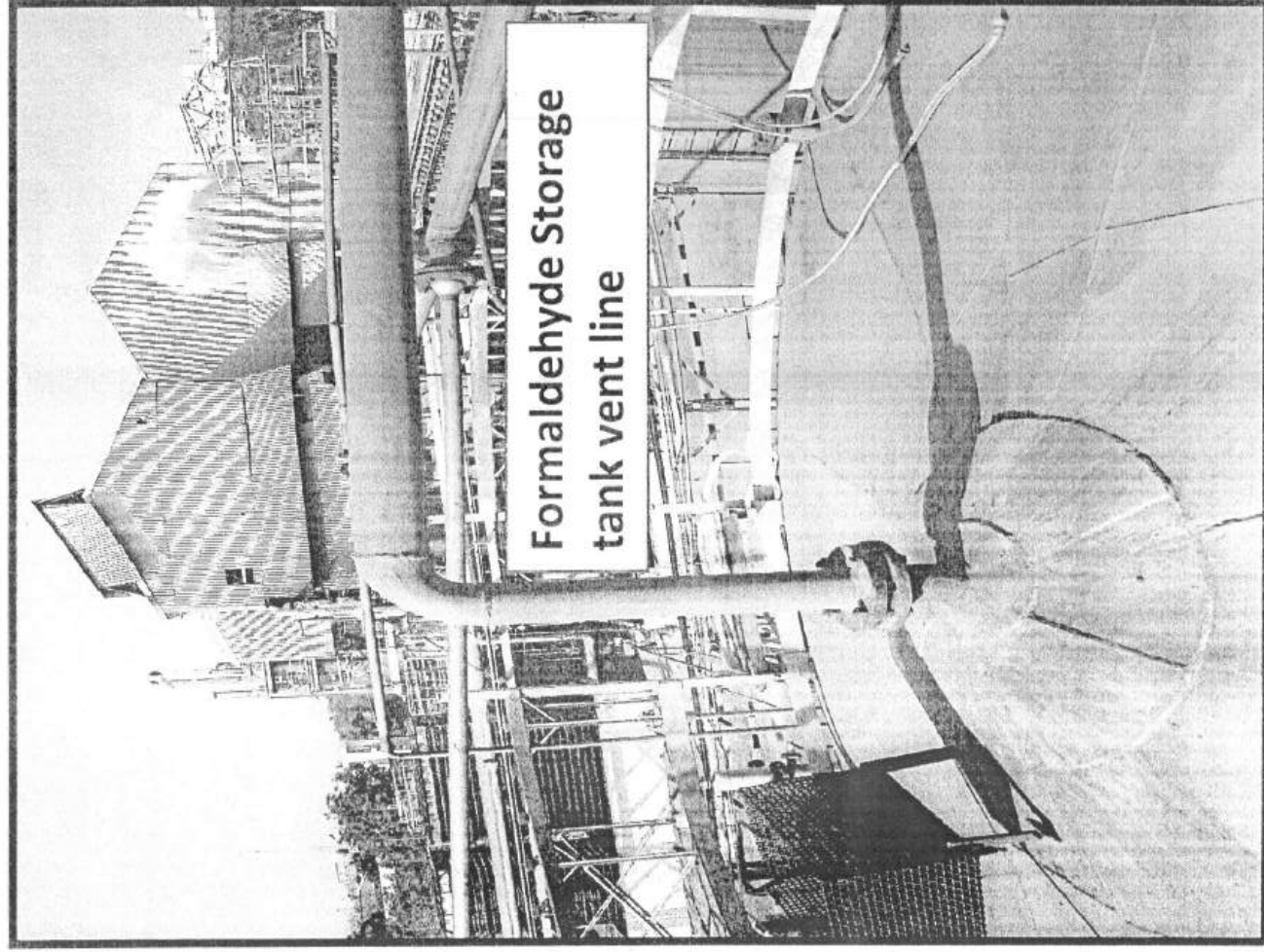
Annexure 44

Dust extraction system

Storage tank vent line connected to the Formaldehyde plant blower



Storage tank vent line connected to the Formaldehyde plant blower



Annexure 45

MSDS

MSDS – Do's & Don't



Safe Operating Procedure- Unloading Chemical Tanker

பாதுகாப்பான செயல்பாட்டு செயல்முறை-இரசாயன டேங்கர் இறக்குதல்

	Step 1: Ensure Spark arrestor provided	
	Step 2: Position the vehicle Safely	
	Step 3: Ensure English is OFF	
	Step 4: Ensure hand brake is applied	
	Step 5: Ensure Ignition Key is removed	
	Step 6: Ensure battery Circuit main switch is OFF	
	Step 7: Put Wheel Stopper	
	Step 8: Ensure Earning of tanker	
	Step 9: Ensure healthiness of unloading Hose	
	Step 10: Use Personnel Protective Equipment	

Step 1: தீப்பற்றி கொள்ளை வாய்ப்பு இருக்கின்றன என்பதை உறுதிப்படுத்துதல்.

Step 2: வாகனம் பாதுகாப்பாக நிறுத்தப்பட்டுள்ளதா என்பதை உறுதிப்படுத்துதல்.

Step 3: தீப்பற்றும் முக்கியப்படுகின்றன என்பதை உறுதிப்படுத்துதல்.

Step 4: இன்ஜின் ஓடுகிற பின் இருக்கைகளை உறுதிப்படுத்தல்.

Step 5: பற்றாக்குறை இன்ஜின் சிக்னலை உறுதிப்படுத்தல்.

Step 6: டேங்கர் எக்ஸ்ட்ரிங்குஷன் கைசை முக்கியப்படுகின்றன என்பதை உறுதிப்படுத்துதல்.


Step 7: வீல் ஸ்டாப்பரை வைக்கல்.

Step 8: டேங்கர் எக்ஸ்ட்ரிங்குஷன் உறுதி செய்தல்.

Step 9: ஹோஸ் இறக்குதல் ஆரோக்கியத்தை உறுதி செய்தல்.

Step 10: பாதுகாப்பான பாதுகாப்பு உபகரணங்களைப் பயன்படுத்துதல்.

Above activities shall be done in presence of Unloading operator



MATERIAL SAFETY DATA SHEET

கெமிக்கலின் பாதுகாப்பு பற்றிய விபரம்

<p>NAME OF THE CHEMICAL : CAUSTIC LYE (Cont. 38%)</p> <p>NATURE : Corrosive Liquid</p> <p>ODOUR : Odourless</p> <p>APPEARANCE : Oily Liquid</p> <p>FLAMMABILITY : Non Flammable</p>	<p>பெயர் : கெமிக்கல் லை (48%)</p> <p>இயல்பு : அமிலம்</p> <p>மணம் : மணமற்றது</p> <p>நிறம் : வெள்ளை நிறம்</p> <p>சேற்றம் : தீவிரமாகவியு குறைவு.</p> <p>சுத்தி : 38% நெகிழ்வுடன் சிவப்பாக மாறுவதுடன்</p> <p>கண் : கண்ணில் மூன்று நாட்கள் பாதுகாப்பு பாதிக்கப்படும்</p> <p>தோல் : தோலை அரிக்கக்கூடியது உடலில் டிபாஸ் அமைத்து பாக்கெட்டில் மூலகளை உண்டாக்கிவிடும்</p> <p>வெளித்தோல் : நுரையின்கீழ்க் கீழிய காயங்கள் உண்டாகும்</p> <p>உட்கொள்வதும் : வாய், நாக்கு, தொண்டை, வயிற்றுக்குக் கடுமையான எரிச்சல் உண்டாகும்.</p> <p>முதுகிழை : முதுகிழை</p> <p>முதுகிழை : முதுகிழைகளில் வெப்பத்தை தடுக்கவேண்டும். இரசாயன கண்ணாடி, ரப்பர் கையுறை, காலுறை அணி வேண்டும்.</p> <p>முதுகிழை : கண்ணில் டிபாஸ் கண்ணாடி 15 நிமிடம் கழுவ வேண்டும். கண்ணாடி மருத்துவரை அணுகவும்</p> <p>தோல் : பாதிக்கப்பட்ட இடத்தில் தண்ணீரை அகற்றவும். தண்ணீரில் நுழைந்து 15 நிமிடம் கழுவ வேண்டும். கண்ணாடி மருத்துவரை அணுகவும்</p> <p>வெளித்தோல் : நுரையின்கீழ்க் கீழிய காயங்கள் உண்டாகும்</p> <p>உட்கொள்வதும் : வாய், நாக்கு, தொண்டை, வயிற்றுக்குக் கடுமையான எரிச்சல் உண்டாகும்.</p> <p>முதுகிழை : முதுகிழை</p> <p>முதுகிழை : முதுகிழைகளில் வெப்பத்தை தடுக்கவேண்டும். இரசாயன கண்ணாடி, ரப்பர் கையுறை, காலுறை அணி வேண்டும்.</p>	<p>NFPA CODE</p> <p>Will not burn</p> <p>Can cause serious or permanent injury</p> <p>Normally stable. High temp. make unstable</p>
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PREVENTIVE MEASURE
Avoid contact with liquid and vapour. Do not eat and drink in the workplace. use Safety full body suit, cartridge mask, safety goggles, rubber shoe & rubber gloves

FIRST AID MEASURE

EYE : Flush with water at least 15mins. And seek medical help immediately

SKIN : Remove the contaminated cloths & Wash the affected area with water

INHALATION : Remove from exposure area to fresh air

FIRE EXTINGUISH MEDIA
Extinguish with Dry chemical, CO2, alcohol-resistant foam or water spray.

SUPPLIER :- Tamil Nadu Petro-product Ltd-Chennai; Chemplast-Norur; Chemfab-Pondicherry

கெமிக்கலின் பாதுகாப்பு பற்றிய விரபம்

NFPA CODE

Must be heated or high ambient temp. to burn

Can become serious or permanent injury

Flammable

SUPPLIER :-

பாதுகாப்பான செயல்பாட்டு செயல்முறை-இராசாயன டீபங்கர் கிறக்ததல்

- Above activities shall be done in presence of Unloading operator

Annexure 46

Hazardous waste disposed and generated

FORM-1							
DETAILS OF HAZARDOUD WASTE - GENERATION / STORAGE / DISPOSAL - As on 31.03.2025							
Month	5.1. USED SPENT OIL IN Ltrs	5.2. WASTE OIL IN Ltrs	36.2.SPENT CARBON Kgs	35.3. SLUDGE FROM WASTE WATER TREATMENT Kgs		20.3 DISTILLATION RESIDUE kgs	
Hazardous waste generation Details				ETP	ATFD	TOTAL	
Opening Balance as on 01.05.2024	0	0	1025	5607	189	5796	0
Apr-24	0	0	0	0	2612	2612	0
May-24	0	0	0	0	2054	2054	0
Jun-24	0	0	0	0	2080	2080	0
Jul-24	0	0	0	34670	2165	36835	0
Aug-24	0	0	0	33260	1677	34937	0
Sep-24	0	0	0	16240	1855	18095	0
Oct-24	0	0	0	16290	1940	18230	0
Nov-24	0	0	0	30130	1587	31717	0
Dec-24	0	0	0	0	2786	2786	0
Jan-25	0	0	1855	16000	1708	17708	0
Feb-25	0	0	0	15680	1703	17383	0
Mar-25			0	0	0	0	25370
Total gen.for the year 2024-25	0	0	1855	162270	22167	184437	25370
Hazardous waste Disposal Details							
Apr-24	0	0	0	0	0	0	0
May-24	0	0	0	0	0	0	0
Jun-24	0	0	0	0	0	0	0
Jul-24	0	0	0	34670	0	34670	0
Aug-24	0	0	0	33260	0	33260	0
Sep-24	0	0	890	16240	0	16240	0
Oct-24	0	0	0	16290	0	16290	0
Nov-24	0	0	0	30130	0	30130	0
Dec-24	0	0	0	0	0	0	0
Jan-25	0	0	1990	0	0	0	0
Feb-25	0	0	0	8280	0	8280	0
Mar-25	0	0	0	16900	0	16900	25370
Total disposal for the year 2024-25	0	0	2880	155770	0	155770	25370
Closing stock as on 31.03.2025	0	0	0	12107	22356	34463	0

	In MT				In MT
Total disposal Qty	172.000				2640
Till date disposed	155.770				25.37
To be disposed	16.230				2614.63

Annexure 47

Confined space work permit

op
asianpaints

Lockout => P300, P302, Kev 352, Kev 356
Job Doer

ASIAN PAINTS LIMITED, PENTA DIVISION

WORK PERMIT

M302-1 No. 10406

BASIC DETAILS (To be filled by User Department)											
Date: 14/2/25 Time: From 12:30 Hrs to 17:00 Hrs					Raised by: Mechanical/Electrical/Instrument/Civil/Process/Utilities						
Location: Mono-D1					Isolation Requirements						
Equipment / Pipe lines involved: L302					Process	Electrical	Instrument	Mechanical	Utility		
Job Description: L302 agitator blade to be fixed					<div style="display: flex; justify-content: space-between;"> (One blade lagged) Signature: [Signature] </div>						
Permit required: Cold Work / Height work / Hot Work / Hazardous Work / Confined space entry / Excavation work											
GENERAL CHECK LIST											
Equipment Isolated LOTOTO-Process (Physical Disconnection / Blind / Mechanical (Rotating Parts) / Electrical (Feeder)										YES/NO/NA	
Equipment / Pipeline Depressurised / Flushed / Drained / Copied and Ensured free of material.										YES/NO/NA	
Presence of Flammable Material / Products checked and Removed from the 35 ft surrounding area										YES/NO/NA	
Do not operate tags placed on isolation valves.										YES/NO/NA	
Area barricaded and sign post provided										YES/NO/NA	
Proper Ventilation (Fan/Air hose) and Illumination (Lighting) provided.										YES/NO/NA	
Instrument connections isolated / Radioactive sources isolated.										YES/NO/NA	
Personnel assigned the job has been explained and understood about the safe working method.										YES/NO/NA	
PRECAUTION - CHECK LIST (To be filled by Service Department)											
All Portable Tools and Equipment's is in good condition										YES/NO/NA	
Certified Chain pulley block / Crane used for rigging activity.										YES/NO/NA	
Lifting tackles SWL is 2 times more than the material being lift.										YES/NO/NA	
Monorail/Holding Structure / MS Beam safe to lift the material.										YES/NO/NA	
Fire guard available at the spot with adequate Fire hydrant hoses & Fire extinguishers (CO2, DCP, M.Foam)										YES/NO/NA	
HEIGHT WORK - CHECK LIST											
Safe access to workplace and Condition of Ladder/ scaffolding / Platform is checked.										YES/NO/NA	
Condition of the safety belt is checked and the hook is properly anchored to a fixed / rigid support.										YES/NO/NA	
Safety Net required and provided.										YES/NO/NA	
Fragile roof: Roof ladder / Cat walk checked & found in order.										YES/NO/NA	
HOT WORK CHECK LIST					CONFINED SPACE ENTRY-CHECK LIST						
Provide welding blanket and Protect against falling sparks.					YES/NO/NA	Safety belt and life line provided					YES/NO/NA
Adjacent Equipment/Drains/Gutters covered.					YES/NO/NA	Facilitated with proper entry / exit					YES/NO/NA
Welding cables / Gas hoses were properly routed					YES/NO/NA	24V Lamp Provided					YES/NO/NA
Area Checked with explosimeter: % LEL/NA						Confined Space checked for LEL..... CO..... O2.....					200%
HAZARDOUS WORK CHECK LIST					EXCAVATION WORK - CHECK LIST						
Wind direction noted					YES/NO/NA	Precautions against damaging Underground cable. (Informed to Instrument / Electrical Department)					YES/NO/NA
Escape route / Exit clear					YES/NO/NA	Precautions against damaging Underground pipe. (Informed to Mechanical department)					YES/NO/NA
Spark proof tools provided.					YES/NO/NA						
Name of the Contract					Name of the persons involved on the work						
Fitter					Ambasaran, Sooraman, Santhosh						
The Above precautions are checked and found in order. The work-place is certified safe to carry out the job mentioned.											
Service Department / Requester			User Department / Issuer			Approver - 1		Approver - 2			
P. Singh			[Signature]			[Signature]		Not Required.			
PERMIT EXTENSION / DAYWISE RENEWAL											
Date											
Time - From: To:											
Department	Time	Sign	Time	Sign	Time	Sign	Time	Sign	Time	Sign	
Operator											
Service Dept.											
User Dept.											
Approver - 1											
Approver - 2											
AGM											
Equipment handing over Status.					Job Completion Status:						
Process	Electrical	Instrument	Mechanical	Utility	Date: 14/2/2025						
					Incomplete Due to: Nil						
<div style="display: flex; justify-content: space-between;"> Signature: [Signature] Signature: [Signature] </div>					Site Cleared of Material and Tools:					YES/NO	
					Machine Guard Refixed:					YES/NO	
					Earthing Jumpers Re fixed:					YES/NO	
					Service Department					User Department	

The Permit is suspended immediately in case an emergency declared and all persons report to nearest assembly point.

LOCATION RISK ASSESMENT

HAZARDS IDENTIFIED (JOINTLY BY ISSUER AND ACCEPTOR):

1. Corrosive/Toxic chemical	2. Flammable substances	3. Explosive Substances
4. Fumes/ Dust / Vapors/Particles	5. Compressed Gases	6. Hot Water / Steam
7. High / Low Pressure	8. High / Low Temperature	9. Electrical (High/ Low Volt, Static)
10. Moving Machinery / Vehicle	11. Overhead Danger	12. Sharp / Protruding objects
13. Auto-start Equipment	14. Trip / Slip / Fall	15. Fall of person from height
16. Low headroom	17. Stacking Material	18. Use of Scaffold
19. Use of Ladder	20. Fragile Roof	21. Traffic
22. Unsafe Access	23. Confined Space	24. Lack of Oxygen
25. Arc / Glare / Poor Lighting	26. Lone Work	27. Buried Cables
28. Buried Pipelines	29. Noise	30. Vibration
31. Lifting m/c, tackle overloading	32. Others (specify)	

B. PPE TO BE USED:

1. Helmet	2. Safety Shoes	3. Gum Boots	4. Hand glove (Cotton)
5. Hand glove (Elect.)	6. Apron	7. Safety Goggle	8. Face Shield
9. PVC Overall	10. Ear Plug / Muff	11. Dust Mask	12. Gas Mask
13. SCBA	14. Safety Belt	15. Safety Net	16. Crawling Board
17. 3M Mask	18. Leather Gloves	19. Leg guard	20. Welding screen
21. Fall arrestor	22. Tripod	23. Lifeline	24. Others (specify)

C. PRECAUTIONS CHECKLIST

1. Job site checked	2. Area cordoned	3. Caution board displayed
4. Combustibles removed	5. ELCB for portable tools	6. Lifting tools certified
7. Adequate ventilation provided	8. Ignition sources isolated	9. LEL Checked
10. Fire Fighting Equipment provided	11. Fire Fighters Alerted	12. Welding sets earthed
13. Welding cable checked	14. Flashback arrestor for gas cylinder	15. Non-sparking tools provided
16. Access Route Cleared	17. Ladder/Scaffold Checked	18. Arrangement to tie safety belt
19. Safety net installed	20. Barricaded below	21. Underground cable check
22. Underground pipes checked	23. Adequate lighting provided	24. Method Statement Explained
25. Portable tools checked	26. Hand tools condition checked	27. MSDS checked
28. Shoring arrangement done	29. Insurance Coverage	30. Medical fitness checked
31. Safety Training Provided	32. Emergency procedure explained	33. Signage's provided
34. PPE provided	35. Supervision provided	36. Dust removed from the area
37. Pour water continuously.	38. Nearby safety shower identified	39. Windsock visibility checked
40. Other (specify)		

D. PERMIT ACCEPTANCE IN CASE OF CONTRACT JOBS : I have been explained the content of this permit and have been provided necessary PPE. I shall be responsible for supervising the job and ensuring compliance to all applicable safety precautions.

Name of Contractor / Supervisor: *father*

Signature: *[Signature]*

Date / time: *14/2/2025 13:30hrs*

E. PERMIT OWNER:

NAME: *Shashank*

Signature: *[Signature]*

F. PERMIT USER

NAME: *P. VINESH*

Signature: *[Signature]*

G. PERMIT AUTHORIZER

NAME: *[Signature]*

Signature: *[Signature]*

HAZARD ACCIDENT RISK PREVENTION (HARP)

Tool Box Talk

HAZARD	ACCIDENT	Attendee Name	Attendee Signature
<i>Had material handling</i> Lack of O ₂ Falling down	<i>Fracture</i> unconscious brain injury	<i>Anbarason</i>	<i>[Signature]</i>
		<i>Saravanan</i>	<i>[Signature]</i>
		<i>Sardharsh</i>	<i>[Signature]</i>
RISK High	PREVENTION isolation, LOTO, PPE's		

DATE	REMARKS

Annexure 48
RISK CUM DISASTER MANAGEMENT PLAN

On Site Emergency Plan & Off Site Emergency Guidelines 2022



**Asian Paints Limited (Penta Division)
B5-B10, SIPCOT Industrial Complex
Kudikadu Village, Cuddalore
Tamilnadu - 607005**

PROCEEDINGS OF THE DIRECTOR OF INDUSTRIAL SAFETY AND HEALTH (FAC)
CHENNAI

PRESENT: THIRU.K.JAGATHESAN, M.E.,

ABSTRACT

The Factories Act 1948 and the Tamil Nadu Factories Rules 1950 – The Tamil Nadu Control of Industrial Major Accident Hazardous Chemicals Rules 1989 – On Site Emergency Plan of **Asian Paints Limited (Penta Division), B-5 to B-10 Sipcot Industrial Complex, Kudikadu Village, Cuddalore-607 005 (CDR 00674)** – Recorded.

R.Dis H2/6106/2022

Dated:01.07.2022

Read: Letter received from the Management Dated: 09.03.2022

ORDER:

The Management of **Asian Paints Limited (Penta Division), B-5 to B-10 Sipcot Industrial Complex, Kudikadu Village, Cuddalore-607 005 (CDR00674)** has prepared an 'On-Site Emergency preparedness plan' pertaining to their factory and submitted to this office.

Taking into consideration of the information furnished by the management in the 'On-Site Emergency Plan' and in exercise of the power conferred under section 41 B (4) of the factories Act 1948 and the Rule 13 (1) of Tamil Nadu control of Industrial major Accident hazardous chemicals Rules 1989 (as amended in 1994 and 2000) the Director of Industrial Safety and Health, Chennai hereby records the On-Site Emergency preparedness plan of the above said factory subject to the following conditions:

1. The On-Site Emergency Plan submitted by the management is recorded only for the conditions prevailing on the date of receipt of the On-Site Emergency Plan.
2. If there is any change in the layout of machinery, plant, process or any other modification are carried out a fresh On-Site Emergency Plan in accordance of such modifications should be prepared and submitted again for approval.

3. Full Scale On-Site Emergency mock drill should be conducted once in 6 months, involving the officials from the Directorate of Industrial Safety and Health, Fire and Rescue services department, Medical Department, Pollution Control Board and the adequacy of the emergency response measures, shall be assessed and the outcome of the mock drill shall be periodically reported to the Director office.
4. Site plan showing the following details shall be enclosed in the On-site Emergency Plan.
 - i) Location of entry / emergency exit.
 - ii) Location of hazardous chemicals storage area.
 - iii) Location of Emergency Control Centre.
 - iv) Location of Occupational Health Centre.
 - v) Location of Coal Yard Storage area.
5. Emergency Control Centre shall have a copy of TOPO Plan, On-site Emergency Plan, a set of fire proximity suit and details in this regard shall be furnished in the On-site Emergency Plan.
6. Workers in Coal Bunker area shall be subjected to periodical Medical Examination. Also Pulmonary Function Test shall be carried out to the workers and the record of examination carried out shall be entered in the certificate.
7. Adequate lighting system shall be provided in Coal Yard.
8. Roles and responsibilities shall be assigned to key persons and alternate key persons to combat any emergency.
9. Emergency Safety Shower and eye wash fountain shall be provided near HCL, H_2SO_4 and $NaOH$ storage area.
10. Societal Risk has been calculated and the corresponding F-N Curve provided with red and yellow line and in between these two lines green line i.e. the risk curve move towards the Acceptable region which would be possible only after taking proper control measures, the societal risk would come down. As stated in the Risk analysis report, the control measures that would be taken to reduce the societal risk to acceptable level shall be clearly stated in the On-site Emergency Plan.
11. As highly flammable chemical substances are handled in this factory, a specific work permit system shall be established based on the nature of work / efficiency of the workmen / Risk involved / facility to eliminate the risk / authorized person for handling the emergency. Details of permit

system established and a specimen copy of such system shall be furnished in the On-site Emergency Plan.

12. Material Safety Data Sheet of all chemicals stored in the factory shall be circulated to all employees.

13. Accident reporting system shall be developed including near miss incident and periodical review on these incidents shall be carried out to avoid recurrence of such incidents.

14. Management shall take up the full responsibility of procuring and supplying the required Personal Protective Equipment conforming to BIS Standards to all the workers including Contract Workers.


(S/d.K.Jagathesan)
Director (FAC),
Industrial Safety and Health,
Chennai-32.

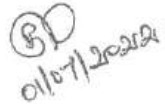
To
The Occupier,
Asian Paints Limited (Penta Division),
B-5 to B-10 Sipcot Industrial Complex,
Kudikadu Village,
Cuddalore-607 005.

Copy to:

1. The Joint Director, Industrial Safety & Health, Cuddalore.
(He is requested to monitor the compliance of the conditions by the Management during his regular inspection)
2. Additional Director, Industrial Safety & Health, Trichy.
3. Spare Copy.
4. Stock File.

//Forwarded by Order//


for Director (FAC),
Industrial Safety and Health,
Chennai -32.


01/07/2022



asianpaints

ASIAN PAINTS LIMITED
PENTA DIVISION
AN ISO 9001
ISO 14001 &
OHSAS 18001 UNIT

Corporate Identification Number (CIN) : L24220MH1945PLC004598
For Shares related queries, email to investor.relations@asianpaints.com
For Customer queries / complaints / Dealership enquiries,
email to customercare@asianpaints.com
For HR related queries, email to careers@asianpaints.com
For Media related queries, e-mail to proffice@asianpaints.com
Pan : AAACA3622K
GST No. 33AAACA3622K1Z2

Asian Paints Limited
B-5 to B-10 Sipcot
Industrial Complex,
Kudikadu Village,
Cuddalore - 607 005.
Tamil Nadu
Tel.No-04142-239248
www.asianpaints.com

Ref: APL/CDL/OEP/02

Date: 09/03/2022

To

Director – Industrial Safety & Health,
31A, Water Works Road,
Thiru Vi Ka Industrial Estate,
SIDCO Industrial Estate,
Guindy, Chennai,
Tamil Nadu 600032

Dear Sir,

Sub: Submission of Onsite Emergency Plan as per Schedule 11 of Import, Export, Handling of Hazardous Chemicals Rules 1989 with required annexure – Reg

We Asian Paints Limited (Penta Division), B5-B10, SIPCOT Industrial Complex, Cuddalore, Tamilnadu – 607005, Manufacture of chemicals viz various grades of Pentaerythritol, Sodium Formate and Formaldehyde. We herewith submit Two copies of Onsite emergency plan with all the necessary supporting documents, Escape Route plan, Location of Hazardous Storage, TOPO plan Etc.,

Kindly record our onsite emergency plan and Guidelines of off-site emergency plan and acknowledge the receipt of the same.

For Asian Paints Limited (Penta Division)

Associate General Manager Cum
Factory Manager

சென்னை தொழிலகம் பாதுகாப்பு மற்றும்
அவசர சூழ்நிலை அடிப்படையில் உற்பத்தி
செய்யும் பதிகப்படி அனுப்புவதில் உறுதுணிவு
கொண்டு கருவாங்குகிறோம்.
திகதி 11.03.22
[Signature]

11.03.22

[SCHEDULE -11]
[See Rule 13(1)]

DETAILS TO BE FURNISHED IN THE ON-SITE EMERGENCY PLAN

**DETAILS TO BE FURNISHED IN THE ON-SITE EMERGENCY PLAN AS PER RULE 13(1) OF THE
MANUFACTURER OF HAZARDOUS CHEMICALS RULES 1989**

SL.NO	DESCRIPTION	DETAILS
1.	Name and address of the person furnishing the information.	B. Rajendra Babu Associate General Works Manager, APIL, B5-B10, SIPCOT Industrial Complex, Kudikadu, Cuddalore - 607 005
2	Key Personnel of the organization and responsibilities assigned to them in case of an emergency.	Provided in chapter No.17 of this plan
3	Outside organization in involved in assisting during on-site emergency.	Major fire & heavy leakage of raw material / collapse of chemical storage tanks. Fire fighting Providing assistance to evacuate the victims. Providing any other resources victims.
4	Details of liaison arrangements between the organization.	The safety in charge / the head of the organization are contacted at the time of emergency to get necessary help.
5	Information on the preliminary hazard analysis:	Possibility of fire, Explosion, Chemical spill & Health Hazards only Details discussed in on site plan.
	(a) Types of accidents	
	(b) System elements or events that can lead to a major accident	Unloading of solvents
	(c) Hazards	Spillage of Hazardous Material like Solvents, Oil, Diesel, etc.,
6	Details about this site:	
	(a) Location of dangerous substances	Details are shown in a layout and enclosed
	(b) Site key personnel	Details are shown in a layout and enclosed
	(c) Emergency Control Room	Details are shown in a layout and enclosed
7	Description of hazardous chemicals at plant site (a) Chemicals (Quantities and toxicological data)	Details are provided in on site plan

For ASIAN PAINTS LIMITED


RAJENDRABABU B
Associate General Manager.

	(b) Transformation if any which could occur	Details are provided in on site plan
	© Purity of hazardous chemicals	Details are provided in on site plan
8	Likely dangers to the plant	The plant could be totally damaged by fire if not extinguished immediately
9	Enumerate effects of (i) Stress and strain caused during normal operation	Stress & strain not caused during normal operation
	(ii) Fire and explosion inside the plant and effect if any, of fire explosion outside	Fire inside the plant can damage the plant machinery Fire outside the plant can cause air pollution damage to storage facilities & can lead to offsite emergency
10	Details regarding (i) Warning alarm and safety and security systems	Details are given in this plan
	(ii) Alarm and hazard control plans in live with disaster control and hazard control planning. Ensuing the necessary technical and organizational precautions.	System is checked once in a week.
	(iii) Reliable measuring instruments, control units and servicing of such equipment	Periodically serviced through preventive maintenance schedule
	(iv) Precautions in designing of the foundation and load bearing parts of the building.	Adequate care has been taken.
	(v) Continuous surveillance of operations	Operations are monitored by the concerned operations / shift in charges all 24 hours of the day.
	(vi) Maintenance and repair work according to the generally reorganized rules of good engineering practices	Being ensured.
11	Details of communication facilities available during emergency and those required for an off - site emergency.	Four external telephone lines are available with battery backup. Additional Email & Fax facilities are available.
12	Details of firefighting and other facilities available and those required for an off – side emergency.	Full-fledged fire protection system, Sprinkler, Hydrant, foam system, Fire Alarm system details and drawing provided in on site plan.
13	Details of first aid and hospital services available and its adequacy.	Adequate facilities are available, and details are given in on site plan.

For ASIAN PAINTS LIMITED


RAJENDRABABU B
Associate General Manager.

Preface

Emergencies can occur in any industry even though best efforts are put to prevent them, when they do take place in a chemical industry, they may cause loss of lives and damage to plant and property. In some cases the loss measured in human and monetary terms, has been severe. It is equally true that in many industries the loss has been greatly reduced. This was possible solely due to the existence of a well-planned and rehearsed emergency plan.

Industries handling hazardous chemicals have an onerous responsibility to preserve and protect the environment and ensure that whatever happens within their premises does not affect the surroundings.

It is in this perspective the regulatory body have made it mandatory that industries where hazardous materials are handled prepare a detailed "On- Site Emergency Plan". Based on this plan, necessary training and mock drills have been conducted at periodic intervals. With the experience gained from mock drills, the onsite emergency plan has been suitably revised.

It is sincerely hoped that this On-site emergency plan will help all employees of Asian Paints Ltd., Penta Division, B5- B10, SIPCOT Industrial complex, Cuddalore – 607 005. Phone no. (04142) 239247, 239248 (O) to prepare themselves to contain, mitigate and neutralise the consequences of any emergency that may arise.



B. Rajendra Babu
Associate General Manager





Asian Paints is committed to ensuring safety and protecting the health of its employees, service providers, visitors, neighboring communities, customers and assets.

This Health and Safety Policy is applicable to all the operating sites of Asian Paints, its subsidiaries, and joint ventures (where Asian Paints has Management Control). The operating sites include Plants, Research & Technology facilities, Offices, Distribution operations, Sales depots, Retail Sales & Services and Project Sales. This policy is applicable at work, travel between home and work of employees, business related travel including stay and all Company organized business events.

1. Comply with all applicable health and safety statutory regulations.
2. Move towards Zero Injuries, Zero Occupational illnesses and Zero incidents of Property Damage
3. Comply with the applicable Safety Manual to achieve its safety, health and wellbeing objectives.
4. Adopt and implement best practice standards of risk management to prevent and mitigate consequences arising out of major accident hazards

1. Ensure compliance with all applicable health and safety legislations and relevant standards.
2. Integrate safety, health and wellbeing into all business processes.
3. Ensure that all activities across the value chain are conducted as per the defined health and safety procedures, including
 - a. selection and evaluation of suppliers, contractors and other service providers,
 - b. research leading to the development of new products and services
 - c. design, engineering, construction and commissioning of new projects,
 - d. adopting principles of inherently safe design,
 - e. operating and maintaining plants and other facilities in accordance with the designated safety criteria throughout their working life
 - f. distribution of products
 - g. technical service at customer sites and other consumer interfaces
4. Educate customers on the safe use of products.
5. Provide safe and healthy working conditions for the prevention of work-related injury and ill health of employees and service providers.



Asian Paints Limited
Asian Paints House
6A, Shantinagar
Santacruz (E)
Mumbai 400 055
T : (022) 6218 1000
F : (022) 6218 1111
www.asianpaints.com

6. Ensure that adequate resources, support and supervision are provided to employees and service providers to carry out their job safely and to continually upgrade health and safety standards.
7. Conduct risk assessments, safety audits and safety inspections at a prescribed frequency and take all remedial measures to eliminate hazards and reduce health and safety risks, arising out of operations. Risk registers are continuously reviewed and upgraded on a regular prescribed frequency.
8. Implement Behavior-Based Safety Program in order to inculcate safety as a personal value
9. Maintain a comprehensive On-Site Emergency Plan and related facilities to handle emergencies.
10. Assess the competence of individuals in the area of safety during recruitment and career advancement.
11. Define roles and responsibilities of employees in the safety organization of the plant/facility/operations.
12. Keep employees and service providers informed, educated, trained and retrained on safety, health and wellbeing to ensure the safe conduct of their jobs.
13. Establish mechanisms for consultation with employees and their representatives, contractors, suppliers, customers, local communities, neighbors and regulators to promote safety and build a safe work culture.
14. Establish mechanisms for the participation of employees and service provider's representatives wherever applicable.
15. Ensure that each employee including contractors and visitors comply with all safety rules and regulations framed for the operation.
16. Extend all possible help to industries /depots/offices around Asian Paints Operations in case of emergencies.
17. Provide a resume of health and safety performance in the Company annual report.

The Company shall ensure the effectiveness of this policy through:

1. Setting goals and objectives on safety, health and wellbeing and reviewing these periodically to ensure that these are being met.
2. Analysis of health and safety incidents, identification of root causes and implementation of corrective and preventive actions (CAPA).
3. Appropriate action, in case of a violation by an employee, as per rules and procedures framed for the purpose.
4. Review of this policy annually or on significant changes in the business.
5. Periodic review of the safety, health and wellbeing standards for their continued appropriateness and effectiveness.

Amit Syngle **SYNGLE**
Managing Director & CEO

14th Jan 2022

Annexure 49
PUBLIC LIABILITY CERTIFICATE

Digitally Signed by: Shammi Kapoor

Date: 22/05/2025

Location: Mumbai



Date: 09/05/2025

ASIAN PAINTS LIMITED

**6A & 6B, SHANTINAGAR,
SANTACRUZ (EAST), MUMBAI
MUMBAI - 400055
MUMBAI
MAHARASHTRA
INDIA
27AAACA3622K2ZU(GSTIN Number)**

Policy No : 0304013668

Renewal : 00

Endorsement : 00

Dear Sir / Madam,

We thank you for choosing **Tata AIG General Insurance Company Ltd.** as your preferred insurer. Your Policy No. Is 0304013668 00 00.

We are glad that you have chosen our product **PUBLIC LIABILITY ACT** and given us an opportunity to be your risk carrier for this Product.

'Casualty Line' caters to most of the Enterprises / Industries in India, whether Large, Medium or Small. As one of the India's most established insurance companies, we understand these unique needs of coverage. At Tata AIG we care for you and would strive to offer convenience coupled with a range of products that cater continuously to your ever increasing needs.

Enclosed please find your policy docket based on the information furnished by you in the Proposal.

We look forward to a long and mutually beneficial relationship and providing you wider range of benefits in the years to come.

Yours Sincerely,

For Tata AIG General Insurance Company Limited



WITH YOU ALWAYS

**PUBLIC LIABILITY ACT POLICY
POLICY SCHEDULE**

Agent/Broker Name -MARSH INDIA INSURANCE BROKERS PVT LTD

Agent/Broker License Code - 120:Agent/Broker :Contact No - 022-66512947 (mobile or landline)

Attaching to and forming part of Policy No. 0304013668 00 00
Name of Insured Owner: ASIAN PAINTS LIMITED
Business: manufacturing, selling and distribution of paints, coatings, products related to home décor, bath fittings and providing related services
Address: 6A & 6B, SHANTINAGAR,
SANTACRUZ (EAST), MUMBAI
MUMBAI - 400055
MUMBAI
MAHARASHTRA
INDIA
27AAACA3622K2ZU(GSTIN Number)
Place of supply -MAHARASHTRA
State code -27

Territorial limits: Anywhere in India

Policy Period: From: 01/04/2025 12:00 AM/ PM
To Midnight of: 31/03/2026 12:00 AM/ PM

Indemnity limit:Rs 1,000,000,000.00(AOA Limit) in respect of any one accident and not exceeding Rs 1,000,000,000.00(AOY Limit) in the aggregate during the policy period.

Service Tax Registration No:
Premium ₹ 350,000.00
UGST/SGST @9 % ₹ 31,500.00
CGST @9 % ₹ 31,500.00

**Contribution to the
Environment Relief Fund:₹ 350,000.00**

Date of Proposal and declaration:01/04/2025

In witness whereof the undersigned being duly authorized by the company and on behalf of the company has hereto set his hand at MUMBAI on 09/05/2025

The stamp duty of 0.5 paid in cash or demand draft or by pay order,vide Receipt/Challan no: LOA/ENF1/CSD/90/2024/25/5 dated the 01/01/2025

For Tata AIG General Insurance Company Limited

Date :09/05/2025
Place :MUMBAI

**Policy Servicing Office
Tata AIG General Insurance Company Limited**

BUILDING NO. 28,GROUND AND MEZZANINE FLOOR, DR. ERNEST BORGES ROAD, PAREL EAST, OPP. SHIRODKAR HIGH,MUMBAI,MAHARASHTRA,MUMBAI-400012
Tel No:22-22-62606600

RECEIPT

Receipt No. : 102001106198999

Receipt Date : 01/04/2025

Policy No : 0304013668 00 00

Received with thanks from ASIAN PAINTS LIMITED a sum of ₹ **7,63,000.00** (Rupees Seven Lakhs Sixty Three Thousand And Paise Zero Only)

Sr. No.	Policy Number	Total Premium (₹)	Utilized from the receipt for policy (₹)	Balance (₹)
1	0304013668 00 00	7,63,000.00	7,63,000.00	0.00

Note:

1. This is a computer generated receipt and does not require a signature.
2. Upon issuance of this Receipt, all previously issued temporary receipts, if any, related to this Policy shall be considered null and void.
3. Amounts received by cheque shall be subject to realisation.
4. Any amount received in excess of the Premium is being/shall be refunded by the Company.

GSTIN : 27AABCT3518Q1ZW - MAHARASHTRA Service Accounting Code : 997139

Insurance is the subject matter of the solicitation. For more details on risk factors, terms and conditions, please read sales brochure carefully before concluding a sale.
TATA AIG General Insurance Company Ltd. Regd. Office: 15th floor, Tower A, Peninsula Business Park, Ganpatrao Kadam Marg, Off Senapati Bapat Marg, Lower Parel, Mumbai- 400 013.

IRDA Registration No.108, CIN No : U85110MH2000PLC128425, PAN : AABCT3518Q
Website: www.tataaig.com 24X7 Tollfree Helpline 1800-266-7780 E-mail: customersupport@tataaig.com

LIABILITY INSURANCE POLICY (UNDER PUBLIC LIABILITY INSURANCE ACT 1991)

1. OPERATIVE CLAUSE

Whereas the Insured Owner named in the schedule hereto and carrying on business described in the said schedule has applied to the Tata AIG General Insurance Company Limited (hereinafter called the Company) for the indemnity hereinafter contained and has made a written proposal and declaration which shall be the basis of this contract and is deemed to be incorporated herein and has paid the premium and statutory contribution towards the Environment Relief Fund as per the provisions of the Public Liability Insurance Act and the rules framed thereunder.

NOW THIS POLICY WITNESSETH that subject to the terms, exceptions and conditions contained herein or endorsed hereon, the company will indemnify the insured owner against the statutory liability arising out of accidents occurring during the currency of the policy due to handling hazardous substances as provided for in the said Act and the Rules framed thereunder.

2. DEFINITIONS:

- a) "ACT" unless otherwise specifically mentioned shall mean the Public Liability Insurance Act 1991 as amended from time to time;
- b) "Accident" means an accident involving a fortuitous, sudden or unintentional occurrence while handling any hazardous substance resulting in continuous, intermittent or repeated exposure to death of, or injury to any person or damage to any property but does not include an accident by reason only of war or radioactivity;
- c) "Handling" in relation to any hazardous substance means the manufacture, processing, treatment, package, storage, transportation by vehicle, use, collection, destruction, conversion, offering for sale, transfer or the like of such hazardous substance;
- d) "Hazardous Substance" means any substance or preparation which is defined as hazardous substance under the Environment (Protection) Act, 1986, and exceeding such quantity as may be specified, by notification, by the Central Government;
- e) "Owner" means a person who owns, or has control over handling any hazardous substance at the time of accident and includes:
- i) in the case of a firm any of its partners;
 - ii) in the case of an association, any of its members, and
 - iii) in the case of a company, any of its directors, managers, secretaries or other officers who is/are directly in charge of, and is/are responsible to the company for the conduct of the business of the company;
- f) "Turnover" shall mean
- i) Manufacturing units-Annual Gross Sales of all goods including all levies and taxes
 - ii) Godowns/ warehouse owners-Total Annual rental receipts.
 - iii) Transport Operators-Total Annual freight receipts.
 - iv) Others-Total Annual gross receipts.

3. EXCLUSIONS:

- (1) arising out of wilful or intentional non-compliance of any Statutory provisions.
- (2) in respect of fines, penalties, punitive and/or exemplary damages.
- (3) arising under any other legislation except in so far as provided for in Section 8 Sub Section (1) and (2) of the Act.
- (4) in respect of damage to property owned, leased or hired or under hire purchase or on loan to the Insured or otherwise in the Insured Owner's control, care or custody.
- (5) directly or indirectly occasioned by, happening through or in consequence of war, invasion, act of foreign enemy, hostilities (whether war be declared or not), civil war, rebellion, revolution, insurrection or military or usurped power;
- (6) directly or indirectly caused by or contributed to by.
 - (a) ionising radiation or contamination by radioactivity from any nuclear fuel or from any nuclear waste from the combustion of nuclear fuel
 - (b) the radioactive, toxic, explosive or other hazardous properties of any explosive nuclear assembly or nuclear component thereof.

4. CONDITIONS:

The Insured owner shall give written notice to the Company as soon as reasonably practicable of any claim made against the Insured Owner or of any specific event or (1) circumstance that may give rise to a claim. The Insured Owner shall immediately give to the Company copies of notice of applications forwarded by the Collector and all

Insurance is the subject matter of the solicitation. For more details on risk factors, terms and conditions, please read sales brochure carefully before concluding a sale.
TATA AIG General Insurance Company Ltd. Regd. Office: 15th floor, Tower A, Peninsula Business Park, Ganpatrao Kadam Marg, Off Senapati Bapat Marg, Lower Parel, Mumbai- 400 013.
IRDA Registration No.108, CIN No : U85110MH2000PLC128425, PAN : AABCT3518Q, UIN No : IRDAN108CP0058V01201819
Website: www.tataaig.com 24X7 Tollfree Helpline 1800-266-7780 E-mail: customersupport@tataaig.com



WITH YOU ALWAYS

such additional information and or assistance that the company may require.

- (2) No admission, offer, promise or payments shall be made or given by or on behalf of the Insured owner under this policy without the written consent of the Company.
 - (3) The Company shall not be liable for any claim for relief made after five years from the date of occurrence of the accident.
 - (4) The Insured Owner shall keep record of annual turnover, and at the time of renewal of insurance declare such turnover and all other details as may be required by the Company. The Company shall at all reasonable times have full rights to call for and examine such records.
 - (5) If at the time of happening of any accident resulting in a claim under this policy there be any other insurance covering the same liability, then the Company shall not be liable to pay or contribute more than its ratable proportion of such liability.
 - (6) This policy may be cancelled by the Insured Owner by giving 30 days notice in writing to the company in which event the Company will retain premium at short period scale subject to there not having occurred an accident during the policy period which may give rise to a claim(s), failing which no refund of premium shall be allowable.
 - (7) This Policy may also be cancelled by the Insurer by giving 30 days notice in writing to the Insured Owner in which event the Company shall be liable to repay on demand a ratable proportion of the premium for the unexpired term from the date of cancellation.
- If the Company shall disclaim liability to the Insured Owner for any claim hereunder and such claim shall not within 12 calendar months from the date of such disclaimer
- (8) have been made the subject matter of a suit in a competent court of law, then the claim for the practical purposes shall be deemed to have been abandoned and shall not thereafter be recoverable hereunder or be made the subject matter of any suit.
- The Company shall not be liable to make any payment in respect of any claim if such claim shall be in any manner fraudulent or supported, by any person on behalf of the
- (9) Insured Owner and/or if the insurance has been continued in consequence of any material misstatement or non-disclosure of any material information by or on behalf of the Insured Owner. In such a case if the Company pays any amount to the claimant due to any statutory provision such amount shall be recoverable from the Insured Owner.
- (10) The Policy and the Schedule shall be read together as one contract and any word or expression to which a specific meaning has been assigned in the Act and the Rules framed thereunder or in this Policy shall bear such specific meaning.
 - (11) Any dispute regarding interpretation of the terms, conditions and exclusions of this Policy shall be determined in accordance with the law and practice of a court of competent jurisdiction within India.

GRIEVANCE REDRESSAL POLICY

Grievance Lodgment Stage

The Company is committed to extend the best possible services to its customers. However, if you are not satisfied with our services and wish to lodge a complaint, please feel free to contact us through below channels:

Call us 24x7 toll free helpline 1800 266 7780

Email us at customersupport@tataaig.com

Write to us at : Customer Support, Tata AIG General Insurance Company Limited
A-501 Building No.4 IT Infinity Park, Dindoshi, Malad (E), Mumbai - 400097

Visit the Servicing Branch mentioned in the policy document

Nodal Officer

Please visit our website at www.tataaig.com to know the contact details of the Nodal Officer for your servicing branch.

After investigating the grievance internally and subsequent closure, we will send our response within a period of 10 days from the date of receipt of the complaint by the Company or its office in Mumbai. In case the resolution is likely to take longer time, we will inform you of the same through an interim reply.

Escalation Level 1

For lack of a response or if the resolution still does not meet your expectations, you can write to manager.customersupport@tataaig.com. After investigating the matter internally and subsequent closure, we will send our response within a period of 8 days from the date of receipt of your complaint.

Escalation Level 2

For lack of a response or if the resolution still does not meet your expectations, you can write to the Head-Customer Services at head.customerservices@tataaig.com. After examining the matter, we will send you our response within a period of 7 days from the date of receipt of your complaint. Within 30 days of lodging a complaint with us, if you do not get a satisfactory response from us and you wish to pursue other avenues for redressal of grievances, you may approach Insurance Ombudsman appointed by IRDA under the Insurance Ombudsman Scheme. Given below are details of the Insurance Ombudsman located at various centers.

List of Insurance Ombudsman Offices

Office of the Ombudsman	Address & Contact details	Jurisdiction of Office Union Territory, District
AHMEDABAD	Office of the Insurance Ombudsman, Jeevan Prakash Building, 6th Floor, Tilak Marg, Relief Road, Ahmedabad - 380 001. Tel.: 079 - 25501201/02/05/06 Email: bimalokpal.ahmedabad@ecoi.co.in	Gujarat, Dadra & Nagar Haveli, Daman and Diu.
BENGALURU	Office of the Insurance Ombudsman, Jeevan Soudha Building, PID No. 57-27-N-19 Ground Floor, 19/19, 24th Main Road, JP Nagar, 1st Phase, Bengaluru - 560 078. Tel.: 080 - 26652048 / 26652049 Email: bimalokpal.bengaluru@ecoi.co.in	Karnataka
BHOPAL	Office of the Insurance Ombudsman, Janak Vihar Complex, 2nd Floor, 6, Malviya Nagar, Opp. Airtel Office, Near New Market, Bhopal - 462 003. Tel.: 0755 - 2769201 / 2769202 Fax: 0755 - 2769203 Email: bimalokpal.bhopal@ecoi.co.in	Madhya Pradesh Chattisgarh
BHUBANESHWAR	Office of the Insurance Ombudsman, 62, Forest park, Bhubneshwar - 751 009. Tel.: 0674 - 2596461 / 2596455 Fax: 0674 - 2596429 Email: bimalokpal.bhubaneswar@ecoi.co.in	Orissa
CHANDIGARH	Office of the Insurance Ombudsman, S.C.O. No. 101, 102 & 103, 2nd Floor, Batra Building, Sector 17 - D, Chandigarh - 160 017. Tel.: 0172 - 2706196 / 2706468 Fax: 0172 - 2708274 Email: bimalokpal.chandigarh@ecoi.co.in	Punjab, Haryana, Himachal Pradesh, Jammu & Kashmir, Chandigarh
CHENNAI	Office of the Insurance Ombudsman, Fatima Akhtar Court, 4th Floor, 453, Anna Salai, Teynampet, CHENNAI - 600 018. Tel.: 044 - 24333668 / 24335284 Fax: 044 - 24333664 Email: bimalokpal.chennai@ecoi.co.in	Tamil Nadu, Pondicherry Town and Karaikal (which are part of Pondicherry).
DELHI	Office of the Insurance Ombudsman, 2/2 A, Universal Insurance Building, Asaf Ali Road, New Delhi - 110 002. Tel.: 011 - 23239633 / 23237532 Fax: 011 - 23230858 Email: bimalokpal.delhi@ecoi.co.in	Delhi
GUWAHATI	Office of the Insurance Ombudsman, Jeevan Nivesh, 5th Floor, Nr. Panbazar over bridge, S.S. Road, Guwahati - 781001(ASSAM). Tel.: 0361 - 2132204 / 2132205 Fax: 0361 - 2732937 Email: bimalokpal.guwahati@ecoi.co.in	Assam, Meghalaya, Manipur, Mizoram, Arunachal Pradesh, Nagaland and Tripura
HYDERABAD	Office of the Insurance Ombudsman, 6-2-46, 1st floor, "Moin Court", Lane Opp. Saleem Function Palace, A. C. Guards, Lakdi-Ka-Pool, Hyderabad - 500 004. Tel.: 040 - 65504123 / 23312122 Fax: 040 - 23376599 Email: bimalokpal.hyderabad@ecoi.co.in	Andhra Pradesh, Telangana, Yanam and part of Territory of Pondicherry.
JAIPUR	Office of the Insurance Ombudsman, Jeevan Nidhi - II Bldg., Gr. Floor, Bhawani Singh Marg, Jaipur-302 005. Tel.: 0141 - 2740363 Email: Bimalokpal.jaipur@ecoi.co.in	Rajasthan
ERNAKULAM	Office of the Insurance Ombudsman, 2nd Floor, Pulinat Bldg., Opp. Cochin Shipyard, M. G. Road, Ernakulam - 682 015. Tel.: 0484 - 2358759 / 2359338 Fax: 0484 - 2359336 Email: bimalokpal.ernakulam@ecoi.co.in	Kerala, Lakshadweep, Mahe-a part of Pondicherry
KOLKATA	Office of the Insurance Ombudsman, Hindustan Bldg. Annexe, 4th Floor, 4, C.R. Avenue, KOLKATA-700 072. Tel.: 033 - 22124339 / 22124340 Fax: 033 - 22124341 Email: bimalokpal.kolkata@ecoi.co.in	West Bengal, Sikkim, Andaman & Nicobar Islands
LUCKNOW	Office of the Insurance Ombudsman, 6th Floor, Jeevan Bhawan, Phase-II, Nawal Kishore Road, Hazratganj, Lucknow - 226 001. Tel.: 0522 - 2231330 / 2231331 Fax: 0522 - 2231310 Email: bimalokpal.lucknow@ecoi.co.in	Districts of Uttar Pradesh : Laitpur, Jhasi, Mahoba, Hamirpur, Banda, Chitrakoot, Allahabad, Mirzapur, Sonbhadra, Fatehpur, Pratapgarh, Jaunpur, Varanasi, Gaziipur, Jalaun, Kanpur, Lucknow, Unnao, Sitapur, Lakhimpur, Bahraich, Barabanki, Raebareli, Sravasti, Gonda, Faizabad, Amethi, Kaushambi, Balrampur, Basti, Ambedkarnagar, Sultanpur, Maharajgang, Santkabirnagar, Azamgarh, Kushinagar, Gorkhpur, Deoria, Mau, Ghazipur, Chandauli, Ballia, Sidharathnagar

Insurance is the subject matter of the solicitation. For more details on risk factors, terms and conditions, please read sales brochure carefully before concluding a sale.

TATA AIG General Insurance Company Ltd. Regd. Office: 15th floor, Tower A, Peninsula Business Park, Ganpatrao Kadam Marg, Off Senapati Bapat Marg, Lower Parel, Mumbai - 400 013.

IRDA Registration No.108, CIN No : U85110MH2000PLC128425, PAN : AABCT3518Q, UIN No : IRDAN108CP0058V01201819

Website: www.tataaig.com 24x7 Tollfree Helpline 1800-266-7780 E-mail: customersupport@tataaig.com

MUMBAI	Office of the Insurance Ombudsman, 3rd Floor, Jeevan Seva Annexe, S. V. Road, Santacruz (W), Mumbai - 400 054. Tel.: 022 - 26106552 / 26106960 Fax: 022 - 26106052 Email : bimalokpal.mumbai@ecoi.co.in	Goa, Mumbai Metropolitan Region excluding Navi Mumbai & Thane
NOIDA	Office of the Insurance Ombudsman, Bhagwan Sahai Palace, 4th Floor, Main Road, Naya Bans, Sector 15, Distt: Gautam Buddh Nagar, U.P-201301. Tel.: 0120-2514250 / 2514252 / 2514253 Email : bimalokpal.noida@ecoi.co.in	State of Uttaranchal and the following Districts of Uttar Pradesh : Agra, Aligarh, Bagpat, Bareilly, Bijnor, Budaun, Bulandshehar, Etah, Kanooj, Mainpuri, Mathura, Meerut, Moradabad, Muzaffarnagar, Oraiyya, Pilibhit, Etawah, Farrukhabad, Firozbad, Gautambodhanagar, Ghazaibad, Hardoi, Shahjahanpur, Hapur, Shamli, Rampur, Kashganj, Sambhal, Amroha, Hathras, Kanshiramnagar, Saharanpur
PATNA	Office of the Insurance Ombudsman, 1st Floor, Kalpana Arcade Building, Bazar Samiti Road, Bahadurpur, Patna 800 006. Tel.: 0612-2680952 Email: bimalokpal.patna@ecoi.co.in	Bihar, Jharkhand
PUNE	Bhagwan Sahai Palace, 4th Floor, Main Road, Naya Bans, Sector 15, G.B. Nagar, Noida. NOIDA – 201301 Tel: 0120-2514250/51/53 Email: bimalokpal.noida@gbic.co.in	Maharashtra, Area of Navi Mumbai and Thane excluding Mumbai Metropolitan Region

Annexure 50
STP - UV

Annexure 28:

UV TREATMENT IN EXISTING STP



Annexure 51
MOEF COVERING LETTER



asianpaints
ASIAN PAINTS LIMITED
PENTA DIVISION
AN ISO 9001
ISO 14001 &
ISO 45001 UNIT

Corporate Identification Number (CIN) : L24220MH1945PLC004598
For Shares related queries, email to investor.relations@asianpaints.com
For Customer queries / complaints / Dealership enquiries,
email to customercare@asianpaints.com
For HR related queries, email to careers@asianpaints.com
For Media related queries, e-mail to proffice@asianpaints.com
Pan : AAACA3622K
GST No. 33AAACA3622K1Z2

Asian Paints Limited
B-5 to B-10 SIPCOT
Industrial Complex,
Kudikadu Village,
Cuddalore - 607 005.
Tamil Nadu
Tel.No-04142-239248
www.asianpaints.com

To:

Date: 11.11.2024

**The Deputy Director General of Forests (C),
Integrated Regional Office (IRO),
Ministry of Environment, Forest & Climate Change,
Shastri Bhawan, Nungambakkam,
Chennai - 600034.**

**Sub: Organic Chemicals manufacturing Unit located at Plot No. B5-B10, SIPCOT
Industrial Complex, Kudikadu Village, Cuddalore Taluk, Cuddalore District,
Tamil Nadu by M/s Asian Paints Limited - Submission of Six-Monthly
Compliance Report for Environmental Clearance - April 2024 to
September 2024- Reg**

**Ref: EC Identification No. - EC22A021TN152664
File No. - IA-J-11011/283/2021-IA-II(I) dated EC - 29/11/2022**

Dear Sir/Madam

We, M/s Asian Paints obtained Environmental Clearance (EC) -Expansion
for the production capacities of Pentaerythritol - 1500 MTPM, Sodium Formate -
1050 MTPM, Formaldehyde - 1800 MTPM, and a Captive Power Plant of 3.5 MW.

We are submitting the Six-Monthly Compliance Report of EC conditions for
the period from April 2024 to September 2024, along with the necessary
enclosures for your kind perusal.

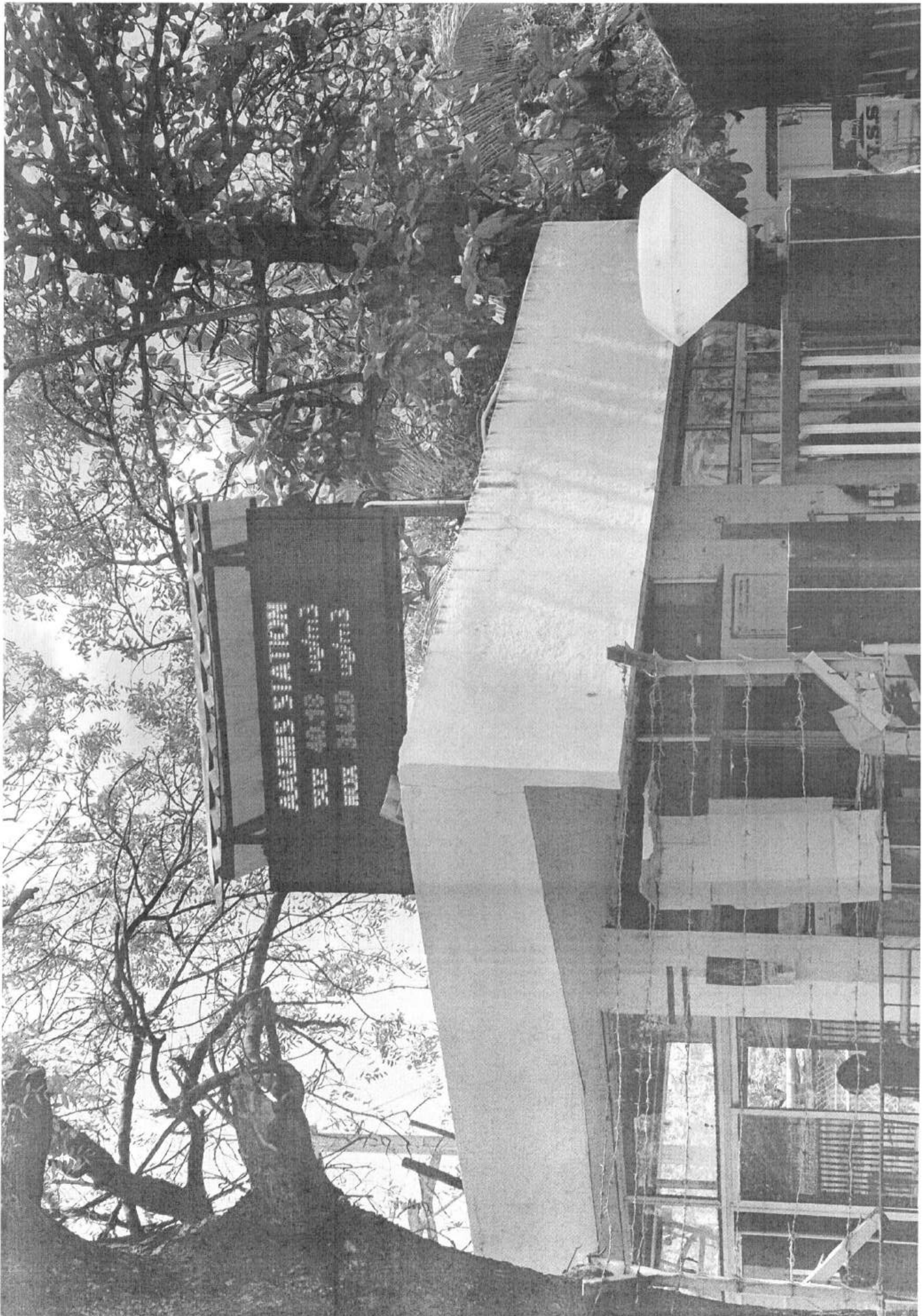
Thanking you
Yours faithfully
For M/s. Asian Paints Limited

P Jayakanthan
Authorized Signatory

RT623121935IN IVR:8284623121935
RL SIPCOT CUDDALORE S.O <607005>
Counter No:1,03/12/2024,12:23
To:THE DY DIR GE,CHENNAI
PIN:600034, Nungambakkam MD0
From:ASIAN PAINT,SIPCOT INDUSTRIA
Wt:1800gms Ack Fee:3.00,REG=17.0
Amt:554.60,Tax:84.60,Amt.Paid:555.00(Cash)
<Track on www.indiapost.gov.in>
<Dial 18002666868> <Wear Masks, Stay Safe>

Registered Office : Asian Paints Limited, 6A, Shantinagar, Santacruz (East), Mumbai - 400 055. Tel : (022) 62181000

Annexure 52
DIGITAL DISPLAY BOARD



Annexure 53
INSPECTION OBSERVATION LOG

Visit Date Description of Inspection

23/04/2024 All water Samples collected for laboratory testing.

29/5/24 STP outlet water Sample collected for laboratory testing.

24/6/24 STP outlet water Sample collected for laboratory testing

24/07/24 All water Sample from ETP & STP outlet water Samples collected for lab testing.

26/8/24 STP outlet water Sample collected for lab testing

26/9/24 STP outlet water Sample collected for lab testing

15/10/24 All water Samples collected from ETP & STP outlet water sample collected

Date of Visit Description of Inspection

21/11/2024 STP outlet water
Sample collected for
lab analysis.

24/12/2024 STP outlet water
Sample collected for
lab analysis.

22/1/2025 ETP all water samples
collected & STP water
sample collected for
lab analysis.

24/2/2025 STP outlet water
Samples collected for
lab analysis.

10/3/2025 STP outlet water samples
collected for lab
analysis.

Annexure 54
ROAD AND SPEED LIMIT PHOTOS

**SPEED
LIMIT**
20 KM
**DRIVE WITH
CAUTION**

dp
all works
KEY SAFE MECHANICAL
Mechanical Plant

Ensure the machine
guards are in place
Enough space to
Lift / transport

OVERHAULING
P.O. 1-2

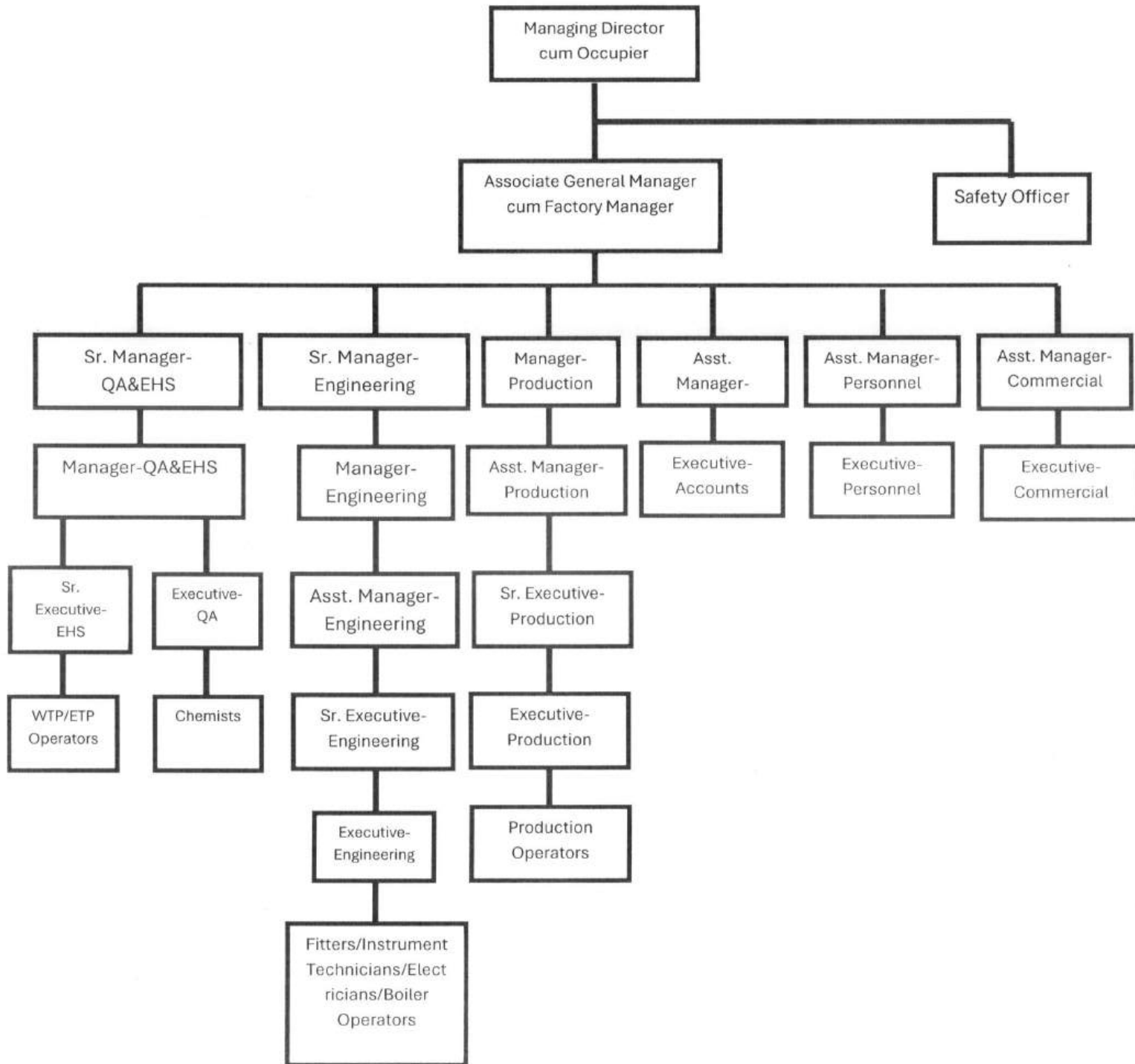






Annexure 55
ORGANIZATIONAL CHART

ORGANIZATION CHART



Annexure 56
EC COMPLIANCE SUBMITTED PROOF TO MOEF



asianpaints
ASIAN PAINTS LIMITED
PENTA DIVISION
AN ISO 9001
ISO 14001 &
ISO 45001 UNIT

Corporate Identification Number (CIN): L24220MH1945PLC004888
For Shares related queries, email to investor.relations@asianpaints.com
For Customer queries / complaints / Dealership enquiries,
email to customer.care@asianpaints.com
For HR related queries, email to careers@asianpaints.com
For Media related queries, e-mail to pr.office@asianpaints.com
Pan / AAACA3622K
GST No. 33AAACA3822K122

Asian Paints Limited
B-5 to B-10 SIPCOT
Industrial Complex,
Kudikadu Village,
Cuddalore - 607 005.
Tamil Nadu
Tel.No-04142-239248
www.asianpaints.com

To:

Date: 08.11.2024

The District Environmental Engineer,
Tamil Nadu Pollution Control Board,
Plot No A-3, SIPCOT Industrial Complex,
Kudikadu, Cuddalore - 607 005.

Sub: Organic Chemicals manufacturing Unit located at Plot No. B5-B10, SIPCOT Industrial Complex, Kudikadu Village, Cuddalore Taluk, Cuddalore District, Tamil Nadu by M/s Asian Paints Limited - Submission of Six-Monthly Compliance Report for Environmental Clearance - April 2024 to September 2024- Reg

Ref: EC Identification No. - EC22A021TN152664
File No. - IA-J-11011/283/2021-IA-II(I) dated EC - 29/11/2022

Dear Sir/Madam

We, M/s Asian Paints obtained Environmental Clearance (EC) -Expansion for the production capacities of Pentaerythritol - 1500 MTPM, Sodium Formate - 1050 MTPM, Formaldehyde - 1800 MTPM, and a Captive Power Plant of 3.5 MW.

We are submitting the Six-Monthly Compliance Report of EC conditions for the period from April 2024 to September 2024, along with the necessary enclosures for your kind perusal.

Thanking you
Yours faithfully
For M/s. Asian Paints Limited

P Jayakanthan
Authorized Signatory



CC: Joint chief environmental Engineer, Cuddalore
Central Pollution Control Board, Chennai
State Level Environment Impact Assessment Authority, Chennai

Registered Office : Asian Paints Limited, 6A, Shantinagar, Santarni

RT623121825IN IVR:8284623121825
RL SIPCOT CUDDALORE S.O <607005>
Counter No:1,03/12/2024,12:23
To:CENTRAL POLLU, RD CHENNAI
PIN:600058, Ambattur Indl Estate SO
From:ASIAN PAINT, SIPCOT INDUSTRIA
Wt:1800gms Ack Fee:3.00, REG=17.0
Amt:554.60, Tax:84.60, Amt.Paid:555.00(Cash)
<Track on www.indiapost.gov.in>



asianpaints
ASIAN PAINTS LIMITED
PENTA DIVISION
AN ISO 9001
ISO 14001 &
ISO 45001 UNIT

Corporate Identification Number (CIN) : L24220MH1945PLC004598
For Shares related queries, email to investor.relations@asianpaints.com
For Customer queries / complaints / Dealership enquiries,
email to customercare@asianpaints.com
For HR related queries, email to careers@asianpaints.com
For Media related queries, e-mail to proffice@asianpaints.com
Pan : AAACA3622K
GST No. 33AAACA3622K1Z2

Asian Paints Limited
B-5 to B-10 SIPCOT
Industrial Complex,
Kudikadu Village,
Cuddalore - 607 005.
Tamil Nadu
Tel.No-04142-239248
www.asianpaints.com

To:

Date: 11.11.2024

**The Deputy Director General of Forests (C),
Integrated Regional Office (IRO),
Ministry of Environment, Forest & Climate Change,
Shastri Bhawan, Nungambakkam,
Chennai - 600034.**

**Sub: Organic Chemicals manufacturing Unit located at Plot No. B5-B10, SIPCOT
Industrial Complex, Kudikadu Village, Cuddalore Taluk, Cuddalore District,
Tamil Nadu by M/s Asian Paints Limited - Submission of Six-Monthly
Compliance Report for Environmental Clearance - April 2024 to
September 2024- Reg**

**Ref: EC Identification No. - EC22A021TN152664
File No. - IA-J-11011/283/2021-IA-II(I) dated EC - 29/11/2022**

Dear Sir/Madam

We, M/s Asian Paints obtained Environmental Clearance (EC) -Expansion
for the production capacities of Pentaerythritol - 1500 MTPM, Sodium Formate -
1050 MTPM, Formaldehyde - 1800 MTPM, and a Captive Power Plant of 3.5 MW.

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the period from April 2024 to September 2024, along with the necessary
enclosures for your kind perusal.

Thanking you
Yours faithfully
For M/s. Asian Paints Limited

P Jayakanthan
Authorized Signatory

RT623121935IN IVR:8284623121935
RL SIPCOT CUDDALORE S.O <607005>
Counter No:1,03/12/2024,12:23
To:THE DY DIR GE,CHENNAI
PIN:600034, Nungambakkam MD0
From:ASIAN PAINT,SIPCOT INDUSTRIA
Wt:1800gms Ack Fee:3.00,REG=17.0
Amt:554.60,Tax:84.60,Amt.Paid:555.00(Cash)
<Track on www.indiapost.gov.in>
<Dial 18002666868> <Wear Masks, Stay Safe>



asianpaints

ASIAN PAINTS LIMITED
PENTA DIVISION
AN ISO 9001
ISO 14001 &
ISO 45001 UNIT

Corporate Identification Number (CIN) : L24220MH1945PLC004598
For Shares related queries, email to investor.relations@asianpaints.com
For Customer queries / complaints / Dealership enquiries,
email to customercare@asianpaints.com
For HR related queries, email to careers@asianpaints.com
For Media related queries, e-mail to proffice@asianpaints.com
Pan : AAACA3622K
GST No. 33AAACA3622K1Z2

Asian Paints Limited
B-5 to B-10 Sipcot
Industrial Complex,
Kudikadu Village,
Cuddalore - 607 005.
Tamil Nadu
Tel No. 04142-239248
www.asianpaints.com

Date: 11.11.2024

The Member Secretary,
State Level Environment Impact Assessment Authority,
4-D, Panagal Maligai, No.1, Jeenis Road,
Saidapet, Chennai-600 015

Sub: Organic Chemicals manufacturing Unit located at Plot No. B5-B10, SIPCOT Industrial Complex, Kudikadu Village, Cuddalore Taluk, Cuddalore District, Tamil Nadu by M/s Asian Paints Limited - Submission of Six-Monthly Compliance Report for Environmental Clearance - April 2024 to September 2024- Reg

Ref: EC Identification No. - EC22A021TN152664
File No. - IA-J-11011/283/2021-IA-II(I) dated EC - 29/11/2022

Dear Sir/Madam

We, M/s Asian Paints obtained Environmental Clearance (EC) -Expansion for the production capacities of Pentaerythritol - 1500 MTPM, Sodium Formate - 1050 MTPM, Formaldehyde - 1800 MTPM, and a Captive Power Plant of 3.5 MW.

We are submitting the Six-Monthly Compliance Report of EC conditions for the period from April 2024 to September 2024, along with the necessary enclosures for your kind perusal.

Thanking you
Yours faithfully
For M/s. Asian Paints Limited

P Jayakanthan
Authorized Signatory

भारतीय डाक
RT623121706IN IVR:8284623121706
RL SIPCOT CUDDALORE S.O <607005>
Counter No:1,03/12/2024,12:23
To:THE MEMBER SE,STATE LEVEL ENV
PIN:600015, Saidapet S.O (Chennai)
From:ASIAN PAINT,SIPCOT INDUSTRIA
Wt:1800gms Ack Fee:3.00,REG=17.0
Amt:554.60,Tax:84.60,Amt.Paid:555.00(Cash)
<Track on www.indiapost.gov.in>
<Dial 18002666868> <Wear Masks, Stay Safe>

To:

Date: 08.11.2024

The District Environmental Engineer,
Tamil Nadu Pollution Control Board,
Plot No A-3, SIPCOT Industrial Complex,
Kudikadu, Cuddalore - 607 005.

Sub: Organic Chemicals manufacturing Unit located at Plot No. B5-B10, SIPCOT
Industrial Complex, Kudikadu Village, Cuddalore Taluk, Cuddalore District,
Tamil Nadu by M/s Asian Paints Limited - Submission of Six-Monthly
Compliance Report for Environmental Clearance - April 2024 to
September 2024- Reg

Ref: EC Identification No. - EC22A021TN152664
File No. - IA-J-11011/283/2021-IA-II(I) dated EC - 29/11/2022

Dear Sir/Madam

We, M/s Asian Paints obtained Environmental Clearance (EC) -Expansion
for the production capacities of Pentaerythritol - 1500 MTPM, Sodium Formate -
1050 MTPM, Formaldehyde - 1800 MTPM, and a Captive Power Plant of 3.5 MW.

We are submitting the Six-Monthly Compliance Report of EC conditions for
the period from April 2024 to September 2024, along with the necessary
enclosures for your kind perusal.

Thanking you
Yours faithfully
For M/s. Asian Paints Limited

P Jayakrishnan
Authorized Signatory



CC: Joint chief environmental Engineer, Cuddalore
Central Pollution Control Board, Chennai
State Level Environment Impact Assessment Authority, Chennai

Registered Office : Asian Paints Limited, 6A, Shantinagar, Sar

RT623121961IN IVR:8284623121961
RL SIPCOT CUDDALORE S.O <607005>
Counter No:1,05/12/2024,11:09
To:CHAIRPERSON,TNPCR
PIN:600032, Guindy Industrial Estate S.O
From:ASIAN PAINT,SIPCOT INDUSTRIA
Wt:1800gms Ack Fee:3.00,REG=17.0
Amt:554.60,Tax:84.60,Amt.Paid:555.00(Cash)
<Track on www.indiapost.gov.in>

Annexure 57

SINGLE USE PLASTIC AWARENESS

Single use plastic awareness program









