

Minutes of the 764th meeting of the State Level Expert Appraisal Committee held on 19th January 2024 through Video Conference (VC) on National Informatics Centre (NIC).

The agenda of the present meeting was mailed to expert Committee in advance and a Video conference meeting on NIC was organised in this regard on 19th January 2024 at 13.30 hrs.

The 764th meeting of the State Level Expert Appraisal Committee (SEAC) was held online by Video conferencing on 19th January 2024 at 13.30 hrs. Following members joined the meeting:

1.	Shri Akshay Kumar Saxena, Chairman, SEAC
2.	Dr. S. C. Pant, Vice Chairman, SEAC
3.	Shri D. C. Chaudhari, Member, SEAC
4.	Shri J. K. Vyas, Member, SEAC
5.	Shri AnandZinzala, Member, SEAC
6.	Shri B. M. Tailor, Member, SEAC
7.	Shri D.M.Thaker Member Secretary, SEAC

The Committee considered the applications made by project proponents, additional details submitted as required by the SEAC/SEIAA and details furnished in the Form-1, PFR, EMP reports etc. The applicants made presentations on the activities to be carried out along with other details furnished in the Form-1, PFR, EIA-EMP reports and other reports.

1.	SIA/GJ/IND3/246829/2021	M/s. TWISHA INDUSTRIES Plot No. 5162, G.I.D.C. Industrial Estate, Ankleshwar, Tal: Ankleshwar, Dist: Bharuch, Gujarat – 393002.	EC – Reconsideration
Category of the unit: 5(f)-B2 Project status: EC – New Project located either in CEPI or non CEPI : CEPI Area 1) Details of Application:			
1.1. Type of application:		EC-New	
1.2. Proposal no.		SIA/GJ/IND3/246829/2021	
1.3. Category of Project:		5(f) – B2	
1.4. Date of application:		Date of Application: 30/12/2021	

	Accepted by SEAC:29/04/2023
1.5. Date of EDS by SEIAA a) EDS Raised b) Reply by PP	---
1.6. Date of EDS by SEAC a) EDS Raised b) Reply by PP c) Accepted by SEAC	Date of EDS: 03/02/2022 Date of Reply:29/04/2022 Date of Accepted by SEAC:29/04/2022
1.7. TOR No. & Date:	Not Applicable as project is categorized as B2
1.8. Date and place of Public Hearing	Not Applicable as project is categorized as B2
1.9. Name of accredited Environmental Consultant & address along with Accreditation No. & Validity	Consultant: M/s. L R Consultants The project is categorized as B2, Hence, an Accredited Environment Consultant not obligatory.
1.10. SEAC Meeting No. and Date:	424th meeting of the SEAC 20.05.2022
1.11. ADS raised by SEAC meeting No & date :	ADS Sought Date: 04.07.2022. As per minutes 20.05.2022
1.12. Reply Submitted by PP dated:	25.08.2022
1.13. Revised Consideration SEAC Meeting No. and Date:	497th meeting of the SEAC 29.09.2022
1.14. ADS raised by SEAC meeting No & date :	ADS Sought Date: 19.10.2022. As per minutes 29.09.2022
1.15. Reply Submitted by PP dated:	07.01.2023
1.16. Revised Consideration 1.17. SEAC Meeting No. and Date:	564th meeting of the SEAC 23.01.2023.
1.18. ADS raised by SEAC meeting No & date :	ADS Sought Date: 13.02.2023. As per minutes 23.01.2023
1.19. Reply Submitted by PP dated:	13.07.2023
1.20. Revised Consideration 1.21. SEAC Meeting No. and Date:	697th meeting of the SEAC 24.08.2023
1.22. ADS raised by SEAC meeting No & date :	ADS Sought Date: 22.09.2023. As per minutes 24.08.2023
1.23. Reply Submitted by PP dated:	18.12.2023
1.24. Revised Consideration SEAC Meeting No. and Date:	764th meeting of the SEAC 19.01.2024

2) This is a new project proposed for manufacturing of synthetic organic chemicals [API] as tabulated below;

S.N	Name of product	CAS No.	Quantity MT/month	End Use
	Group-1-API			
1.	Repaglinide	135062-02-1		AntiDiabetic
2.	Saxagliptin	361442-04-8		AntiDiabetic
3.	Sitagliptin	486460-32-6		AntiDiabetic
4.	Vildagliptin	274901-16-5		AntiDiabetic
5.	Canagliflozin	842133-18-0		AntiDiabetic

6.	Metformin	657-24-9	25	AntiDiabetic
7.	Glipizide	29094-61-9		AntiDiabetic
8.	Glibenclamide	10238-21-8		AntiDiabetic
9.	Cetirizine	83881-51-0		AntiHistamine
10.	Levocetirizine	130018-77-8		AntiHistamine
11.	Meclizine	569-65-3		AntiHistamine
12.	Fexofenadine	83799-24-0		AntiHistamine
13.	Losartan	114798-26-4		AntiHypertensive
14.	Valsartan	137862-53-4		AntiHypertensive
15.	Irbesartan	138402-11-6		AntiHypertensive
16.	Eprosartan	133040-01-4		AntiHypertensive
17.	Telmisartan	144701-48-4		AntiHypertensive
18.	Bosentan	147536-97-8		AntiHypertensive
19.	Carvedilol	72956-09-3		AntiHypertensive
20.	Rabeprazole	117976-89-3		AntiUlcerative
21.	RabeprazoleSodium	117976-90-6		AntiUlcerative
22.	Pantoprazole	102625-70-7		AntiUlcerative
23.	PantoprazoleSodium	138786-67-1		AntiUlcerative
24.	PantoprazoleChloro	72830-09-2		AntiUlcerative
25.	Lansoprazole	103577-45-3		AntiUlcerative
26.	EsomeprazoleMagnesium	217087-09-7		AntiUlcerative
27.	EsomeprazoleSodium	161796-78-7		AntiUlcerative
28.	Dexlansoprazole	138530-94-6		AntiUlcerative
29.	Omeprazole	73590-58-6		AntiUlcerative
30.	Pregabalin	148553-50-8		AntiConvulsant
31.	Ranolazine	95635-55-5		AntiAnginal
32.	Febendazole	43210-67-9		Antehelmentic
33.	Albendazole	54965-21-8		Antehelmentic
34.	Mebendazole	31431-39-7		Antehelmentic
35.	Fenofibrate	49562-28-9		Antilipemic
36.	13dibromo55dimethylhydantoin	77-48-5		Antiseptic
37.	OmeprazoleChloro	86604-75-3		AntiUlcerative
38.	RabeprazoleChloro	168167-42-8		AntiUlcerative
Total			25	

Brief Note of Product Profile:

1. No of Manufacturing Plants: 1 no.
2. Brief Note regarding number of Products to be manufactured considering plant capacity:
 - 1 numberofproductscanbemanufacturedatathetime.

END-USE OF PROPOSED PRODUCTS:

Sr. No	Name of the Product	Type/C ategory of Product (API/Int ermedi ate)	CAS No. (Product)	In case of Intermediate stage of API			Said API is used for/End Use of said API
				Stag e i.e. n-1, n-2, etc.	Name of API in which Intermedi ate Used/ End use of said Intermedi ate	CAS no. (API)	

1	Repaglinide	API	135062-02-1				Anti Diabetic Anti Diabetic
2	Saxagliptin	API	361442-04-8				Anti Diabetic
3	Sitagliptin	API	486460-32-6				Anti Diabetic
4	Vildagliptin	API	274901-16-5				Anti Diabetic
5	Canagliflozin	API	842133-18-0				Anti Diabetic
6	Metformin	API	657-24-9				Anti Diabetic
7	Glipizide	API	29094-61-9				Anti Diabetic
8	Glibenclamide	API	10238-21-8				Anti Diabetic
9	Cetirizine	API	83881-51-0				Anti Histamine
10	Levocetirizine	API	130018-77-8				Anti Histamine
11	Meclizine	API	569-65-3				Anti Histamine
12	Fexofenadine	API	83799-24-0				Anti Histamine
13	Losartan	API	114798-26-4				Anti Hypertensive
14	Valsartan	API	137862-53-4				Anti Hypertensive
15	Irbesartan	API	138402-11-6				Anti Hypertensive
16	Eprosartan	API	133040-01-4				Anti Hypertensive
17	Telmisartan	API	144701-48-4				Anti Hypertensive
18	Bosentan	API	147536-97-8				Anti Hypertensive
19	Carvedilol	API	72956-09-3				Anti Hypertensive
20	Rabeprazole	API	117976-89-3				Anti Ulcerative
21	Rabeprazole Sodium	API	117976-90-6				Anti Ulcerative
22	Pantoprazole	API	102625-70-7				Anti Ulcerative
23	Pantoprazole Sodium	API	138786-67-1				Anti Ulcerative
24	Pantoprazole Chloro	API	72830-09-2				Anti Ulcerative
25	Lansoprazole	API	103577-45-3				Anti Ulcerative
26	Esomeprazole Magnesium	API	217087-09-7				Anti Ulcerative
27	Esomeprazole Sodium	API	161796-78-7				Anti Ulcerative
28	Dexlansoprazole	API	138530-94-6				Anti Ulcerative

29	Omeprazole	API	73590-58-6				Anti Ulcerative
30	Pregabalin	API	148553-50-8				Anti Convulsant
31	Ranolazine	API	95635-55-5				Anti Anginal
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37	Omeprazole Chloro	API	86604-75-3				Anti Ulcerative
38	Rabeprazole Chloro	API	168167-42-8				Anti Ulcerative
			Total				

- 3) The project falls under Category B2 of project activity 5(f) as per the schedule of EIA Notification 2006 and amendment dated 27th March 2020.
- 4) The proposal was considered in the SEAC video conference meeting dated **24.08.2023**.
- 5) Project proponent (PP) and their Technical Expert remain present during video conference meeting.
- 6) Committee deliberated on Product profile, plot allotment documents, Layout plan etc.
- 7) Committee observed that PP has not mentioned end-uses of the proposed products in line to the MoEF&CC's Notification vide S.O. 1223 (E) dated 27/03/2020 in respect of Active Pharmaceutical Ingredients (API) as category B2 projects.
- 8) Committee observed that PP has submitted application to the concern authority for change in purpose of the GIDC plot and it is in process.
- 9) Committee also noted that Lay-out plan is not satisfactory and over all presentation needs to be submitted with many corrections.

After detailed discussion, Committee unanimously decided to defer the project and consider the project in one of upcoming meeting only after submission of following documents,

1. Revised adequate and engineering layout plan with dimensional scale for each section of plant area and mentioning adequate size peripheral road for ease movement of fire tender and emergency vehicles, production plant area, greenbelt

development area, storage of raw material, finished goods storage of Hazardous chemicals considering its type of hazard and compatibility chart, separate entry and exit etc with area adequacy.

2. Technical justification regarding proposed products are in line with MoEF&CC's Notification vide S.O. 1223 (E) dated 27/03/2020 in respect of Active Pharmaceutical Ingredients (API) as category B2 projects.
3. Revised presentation as well as SEAC Format with all relevant details including purpose of the Plot in line with proposed activities.

10) PP has submitted reply of above query generated on SEAC VC meeting, through Parivesh portal.

11) This proposal is reconsidered in SEAC meeting dated **29.09.2022**.

12) PP along with their technical expert/consultant, M/s. L R Consultants remains present in the meeting and made presentation before Committee.

13) During meeting, Committee noted that PP submitted following details:

- ✓ PP has presented the entire case with site layout plan. Committee deliberated on Product profile, Layout plan, Storage details, Process safety, Fire safety, water balance & waste water management, Flue gas and process gas emission & Air Pollution Control System, Hazardous waste matrix, EMP, CER, Green belt, etc.
- ✓ PP has shown details of Products. But still not clarified whether they have changed or not.
- ✓ Not submitted pointwise details of defer back points.
- ✓ In site plan PP has still not shown proper details with dimensional scale for each section of plant area and mentioning adequate size peripheral road for ease movement of fire tender and emergency vehicles, production plant area, greenbelt development area, storage of raw material, finished goods storage of Hazardous chemicals considering its type of hazard and compatibility chart, separate entry and exit, storage area, chlorine storage area etc with area adequacy.
- ✓ PP has not submitted proper water balance flow diagram.
- ✓ PP has mentioned tank in list of hazardous material storage details and tank capacity shown 2 KL seems not justifiable. PP asked to justify but they could not justify whether it is tank or drum. Also characteristics of each hazardous material are not mentioned whether it is corrosive, toxic etc.
- ✓ PP has mentioned that GIDC has given Plot for manufacturing soap-detergent, they have applied for change of product, which is in process. Thus at present they have not obtained change the product in plot allotment letter.
- ✓ In fire load PP has mentioned Water storage tank of capacity only 25 KL for firefighting which is not adequate.

- ✓ PP has not properly justified the applicability of Off Site Emergency Plan.

14) Committee found reply submitted by PP was not satisfactory.

After detailed discussion, Committee unanimously decided to defer the project and consider the project in one of upcoming meeting only after submission of following documents:

1. Details of Products with technical justification regarding proposed products are in line with MoEF&CC's Notification vide S.O. 1223 (E) dated 27/03/2020 in respect of Active Pharmaceutical Ingredients (API) as category B2 projects.
2. Submit pointwise details of query raised during earlier SEAC meeting on dated 20.05.2022.
3. Revised adequate and engineering layout plan with dimensional scale for each section of plant area and mentioning adequate size peripheral road for ease movement of fire tender and emergency vehicles, production plant area, greenbelt development area, storage of raw material, finished goods storage of Hazardous chemicals considering its type of hazard and compatibility chart, separate entry and exit etc with area adequacy.
4. Details of water balance flow diagram with disposal facility.
5. Details of each hazardous chemical with its characteristics.
6. Submit details in format with all relevant details including purpose of the Plot in line with proposed activities, fire load calculation, characteristics of each hazardous waste etc.
7. Justification regarding applicability of Off Site Emergency Plan.
8. Submit GIDC plot allotment letter of change of product.

15) PP submitted reply of above query through Parivesh portal.

16) This proposal is reconsidered in SEAC meeting dated **23.01.2023**.

17) PP along with their technical expert/consultant, M/s. L R Consultants remains present in the meeting and made presentation before Committee.

18) During meeting, PP presented and Committee noted the following:

- ✓ Product profile mentioning the end-use of proposed products and presented that all the products are APIs.
- ✓ Revised layout plan with fire plan mentioning 4.5 m & 5 m peripheral road, office, utility, production plant area, greenbelt development area, storage of raw material, finished goods, hazardous waste storage area, lab, OHC, ETP, etc. PP also submitted the details of floor wise land area break-up but not submitted the details of area adequacy.
- ✓ Water balance diagram mentioning 24.8 KLD industrial effluent generated from process, utility & washing and domestic effluent will be treated in ETP and sent to CMEE-BEIL.
- ✓ Characteristics of hazardous chemicals.
- ✓ Details of fire load calculation
- ✓ Copy of application for change in purpose in GIDC Plot allotment letter dated: 19.11.2022.

19) After detailed discussion, Committee unanimously decided to defer the project and

consider the project in one of upcoming meeting only after submission of following documents:

1. Details of area adequacy of all components.
2. Brief note on increase in wastewater generation than water consumption.
3. Detailed offsite emergency plan.
4. Details of EMP including noise control measures and VOC control & LDAR.
5. GIDC allotment letter for change of purpose.

20) PP has submitted reply of above query through Parivesh portal.

21) This proposal is reconsidered in SEAC VC meeting dated: **24.08.2023**.

22) PP along with their technical expert/consultant, M/s. L R Consultants remains present in the meeting and made presentation before Committee.

23) During meeting, Committee noted that PP submitted following details:

- ✓ Area break-up in which raw material storage, hazardous waste storage area and hazardous chemical storage area are proposed on first floor which is not acceptable considering the safety aspects. Also greenbelt is proposed as 695.01 Sq m i.e 34.57% within premises which is not acceptable as unit falls under CEPI area.
- ✓ **Justification for increase in wastewater generation than water consumption:**
Considering the process of the products, water molecules are generated from the process, and thus the maximum generation of the product effluent is considered, and wastewater generation is higher than the consumption of the water.
- ✓ Revised EMP incorporating the cost of Noise control measures and VOC control & LDAR. Committee asked to submit the details and cost for Fire & safety components.
- ✓ PP has applied for GIDC allotment letter for change of purpose from Soap & Detergent to chemical on dated: 09.03.2023 and again made a request on 01.06.2023 but till date GIDC has not issued the purpose change in GIDC allotment letter.

24) Committee noted that PP has not submitted the compliance of additional conditions for CPAs/SPAs as per GPCB office order dated: 11.11.2019.

25) After detailed discussion, Committee unanimously decided to consider the project in one of upcoming meeting only after submission of following documents:

1. Revised layout with storage of raw material storage, hazardous waste storage area and hazardous chemical storage area on ground floor instead of first floor. Also submit the details of area adequacy for storage of raw material along with compatability chart.
2. Revised EMP incorporating cost of Fire & Safety components.
3. GIDC allotment letter for change of purpose.
4. Compliance of additional conditions for CPAs/SPAs as per GPCB office order dated: 11.11.2019.

5. Latest SEAC format.

26) PP has submitted reply of above query generated on SEAC VC meeting, through Parivesh portal.

27) This proposal is reconsidered in SEAC VC meeting dated: **19.01.2024**.

28) PP along with their technical expert/consultant, M/s. L R Consultants remains present in the meeting and made presentation before Committee.

29) During meeting, Committee noted that PP submitted following details:

1. PP has submitted revised layout with storage of raw material storage, hazardous waste storage area and hazardous chemical storage area on ground floor instead of first floor. Also submitted the details of area adequacy for storage of raw material along with compatability chart.

Here, committee noted that in layout plan PP has shown 5.0 mtr width road, so committee asked to provide 6 mtr pheripheral road inside the plant.

2. PP has submitted revised EMP incorporates the cost of fire and safety components.

Here, committee noted that in fire & safety component, PP has not shown fire hydrant line. Further cost proposed is only 30 lakhs which is too less for fire & safety equipments, so committee asked to revised the details and cost of fire & safety.

3. We are a unit namely M/s. Twisha Industries is a new project to be located at Plot No. 5162, GIDC Ankleshwar, Tal. – Ankleshwar, Dist.- Bharuch, Gujarat. The said plot is offered for the purpose of Soap & Detergent and it **falls under the chemical sector. Our entire periphery of the unit has obtained valid permission from the Board and the name of the company and inward application to the GIDC is submitted.** We have applied for an amendment to the Allotment Letter to change the purpose of the unit from Soap & Detergent to Manufacturing of chemicals products. We are in the process of obtaining our amendment to change the purpose of the unit in the GIDC plot allotment letter for a long. Now, considering the above-mentioned matter; we are requesting the Board to grant EC with the condition mentioned above.

Here, committee asked PP that still you have not changed the purpose of plot from GIDC. PP informed that GIDC is telling that this is now engineering zone. So committee asked that if so then how can be given EC for chemical purpose. Committee asked PP that first get

changed the purpose of plot from GIDC office, then only reply with copy of GIDC letter with change in purpose of land use.

4. PP has submitted compliance of additional conditions for CPAs/SPAs as per GPCB office order dated: 11.11.2019.

30) Since, the unit located within the GIDC- Ankleshwar, the public consultation is not applicable as per paragraph 7(i) III (i) (b) of the Environment Impact Assessment Notification-2006. Also the unit falls in B2 category as per the MoEF&CC's amended EIA Notification vide S.O. 1223(E) dated 27.03.2020, the public consultation is not applicable as per paragraph 7(i) III (i) (e) of the Environment Impact Assessment Notification-2006.

31) Committee found presentation not satisfactory.

After detailed discussion, Committee unanimously decided to consider the project in one of upcoming meeting only after submission of following documents:

- Submit revised layout plan with peripheral road of 6 mtr inside the plant.
- GIDC allotment letter for change of purpose of land use.
- Rework the cost of fire & safety, and add fire hydrant system in fire & safety component and submit the revised EMP details.

2.	SIA/GJ/IND3/405845/2022	M/S. S.B. Polymers Plot No. 159, Mahagujarat Industrial Estate, Village: Moraiya, Ta: Sanand, District: Ahmedabad 382213, State: Gujarat.	EC – Reconsideration
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Category of the unit: **5(f) – B1**

Project status: **EC – Expansion**

Project located either in CEPI or non CEPI : non CEPI

PP submitted salient features of the project including Water, Air and Hazardous waste management are as under from Sr. No. 1, 3 to 40. And in Sr. No. 2 detailed deliberation of Committee is mentioned. Comments of SEAC is given in relevant points.

1)	DETAILS OF APPLICATION:	
	1.1. Type of application:	EC Application
	1.2. Proposal no.	SIA/GJ/IND3/405845/2022
	1.3. Category of Project :	5(f)
	1.4. Date of application:	29/11/2019
	1.5. Date of EDS by SEIAA c) EDS Raised	23-11-2022

	<table border="1"> <tr> <td>d) Reply by PP</td><td>23-11-2022</td></tr> <tr> <td>1.6. Date of EDS by SEAC d) EDS Raised e) Reply by PP f) Accepted by SEAC</td><td>No EDS</td></tr> <tr> <td>1.7. TOR No. & Date :</td><td>SEIAA/GUJ/TOR/5(f)/377/2020 dated 05/06/2020</td></tr> <tr> <td>1.8. Date and place of Public Hearing</td><td>12/10/2022 at "Aastha" (Society for the welfare of the mentally retarded), Block no. 302, Panchratna industrial Estate, Near Laxminarayan Petrol Pump, NH-8A, Changodar, Ta: Sanand, Dist: Ahmedabad.</td></tr> <tr> <td>1.9. Name of accredited Environmental Consultant & address along with Accreditation No. & Validity</td><td>Mr. Snehal B. Satyapanthi – Empaneled EIA Co-Ordinator AQUA – AIR ENVIRONMENTAL ENGINEERS PVT. LTD. Surat</td></tr> <tr> <td>1.10. SEAC Meeting No. and Date:</td><td>536th Meeting dated 09-12-2022 608th Meeting dated 06-04-2023 679th Meeting dated 24-08-2023</td></tr> <tr> <td>1.11. ADS raised by SEAC meeting No & date:</td><td>536th Meeting dated 09-12-2022 608th Meeting dated 06-04-2023 679th Meeting dated 24-08-2023</td></tr> <tr> <td>1.12. Reply Submitted by PP dated:</td><td>27-03-2023 08-07-2023 12-12-2023</td></tr> <tr> <td>1.13. Revised Consideration SEAC Meeting No. and Date:</td><td>764th meeting dated: 19.01.2024</td></tr> </table>	d) Reply by PP	23-11-2022	1.6. Date of EDS by SEAC d) EDS Raised e) Reply by PP f) Accepted by SEAC	No EDS	1.7. TOR No. & Date :	SEIAA/GUJ/TOR/5(f)/377/2020 dated 05/06/2020	1.8. Date and place of Public Hearing	12/10/2022 at "Aastha" (Society for the welfare of the mentally retarded), Block no. 302, Panchratna industrial Estate, Near Laxminarayan Petrol Pump, NH-8A, Changodar, Ta: Sanand, Dist: Ahmedabad.	1.9. Name of accredited Environmental Consultant & address along with Accreditation No. & Validity	Mr. Snehal B. Satyapanthi – Empaneled EIA Co-Ordinator AQUA – AIR ENVIRONMENTAL ENGINEERS PVT. LTD. Surat	1.10. SEAC Meeting No. and Date:	536 th Meeting dated 09-12-2022 608 th Meeting dated 06-04-2023 679 th Meeting dated 24-08-2023	1.11. ADS raised by SEAC meeting No & date:	536 th Meeting dated 09-12-2022 608 th Meeting dated 06-04-2023 679 th Meeting dated 24-08-2023	1.12. Reply Submitted by PP dated:	27-03-2023 08-07-2023 12-12-2023	1.13. Revised Consideration SEAC Meeting No. and Date:	764 th meeting dated: 19.01.2024
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1.13. Revised Consideration SEAC Meeting No. and Date:	764 th meeting dated: 19.01.2024																		
2)	<p>DELIBERATIONS OF SEAC:</p> <ol style="list-style-type: none"> 1) This is an existing unit and now proposed for expansion in manufacturing of Synthetic Organic Chemicals. 2) The project falls under B1 category of project activity 5(f) as per the schedule of EIA Notification 2006. 3) The proposal was considered in the SEAC video conference meeting dated 09.12.2022. 4) Project proponent (PP) and their Technical Expert M/s Snehal Satyapanthi remain present during video conference meeting. 5) Committee noted that PP has submitted the prescribed SEAC format with incomplete information. Moreover, as per MoEF&CC OM dated: 08.06.2022, in case of expansion proposal, Certified Compliance report from concern authority of existing EC/CCA is mandatory; PP has not submitted the same. 6) <u>After detailed discussion, Committee unanimously decided defer the proposal and consider the project in one of upcoming meeting only after submission of complete information and CCR from concern authority of existing EC/CCA.</u> 8) PP has submitted the reply of above query through Parivesh portal. 																		

- 9) This case was reconsidered in SEAC meeting dated: **06.04.2023**.
- 10) Project proponent (PP) and their Technical Expert M/s Aqua-Air Environmental Engineering Pvt. Ltd. presented by Shri Snehal Satyapanthi remain present during video conference meeting.
- 11) Committee deliberated on Product profile, Layout plan, Storage details, Process safety, Fire safety, water balance & waste water management, Flue gas and process gas emission & Air Pollution Control System, Hazardous waste matrix, EMP, CER, Green belt, compliances of ToRs, etc.
- 12) During meeting, PP presented and Committee noted the following:
- ✓ This is an existing unit for manufacturing of CNSL Resin-60 MTPM and Alkyl Resin-40 MTPM having valid CCA of the Board issued on dated: 30.07.2018 valid up to dated: 30.06.2023. Also, there is no action taken by GPCB in last three years and no public complaints and litigation pending against the unit.
 - ✓ Certified Compliance report of RO-GPCB dated: 14.03.2023. Out of total 39 conditions, 21 are complied, 11 are being complied, 4 are not applicable, 1 is noted and 2 are mentioned as "--".
 - ✓ Land possession document i.e Namuno-7 for Survey No: 426/2 Paiki 11 Paiki, Vill: Moraiya, Tal: Sanand & Dist: Ahmedabad mentioning sale from M/s S D Paints Ltd to M/s S B Polymers mentioning purpose as Non-agriculture. PP has not submitted detailed NA order showing purpose of NA and Sale Deed.
 - ✓ PP informed that Mahagujarat Industrial Estate is not having EC as it is established since year 2004 for only plotting and they are providing common facilities, i.e. roads, electricity and water supply in estate area.
 - ✓ As per MoEF&CC's notification dated: 25.06.2014, the fresh water consumption is 2.6 KLD, fuel consumption is 4 MTPD and the unit is not MAH unit.
 - ✓ PP submitted satellite map showing that there is no any habitation, water bodies, villages, School, protected monuments etc. within 500 m radius of the project site. Aerial distance of nearest habitat of village Moraiya is @ 2.13 Km and Tajpur Lake is @ 1.25 Km. PP also submitted that there are no Eco sensitive zones, wild life sanctuaries within the 10 km area from the boundary of the project site.
 - ✓ Public hearing was conducted on 12.10.2022 at 11.30 Hrs at "Aastha" (Society for the Welfare of the Mentally Retarded), Block No: 302, Panchratna Industrial Estate, Near Laxmi Narayan Petrol Pump, NH-8A, Changodar, Tal: Sanand&Dist: Ahmedabad. The major issue raised during public hearing was regarding the employment and PP replied that the persons from surrounding villages will get employment directly or indirectly.

- ✓ Site layout mentioning 401.82 Sq m (23.5%) green belt within premises. Committee insisted to develop the required green belt within industrial estate only.
- ✓ CER activities for greenbelt development and development activities in local schools. Committee insisted to focus on environmental aspects as well as issues raised/ written representation of public hearing.
- ✓ As per water balance diagram domestic effluent will be disposed through septic tank and soak pit or STP. Committee insisted to provide STP and no cooling tower blow down was shown which is not justified.
- ✓ PP presented conservation plan for Sch-I species but it is not duly authenticated by the Chief Wildlife Warden of the State Government which is not acceptable. Also the cost of conservation plan is not included in EMP.
- ✓ PP presented flue gas matrix in which TFH (Cap: 4 Lac Kcal/Hr) in which agro Palates-4 MT/Day is proposed and 15 m stack height is proposed which is not adequate as per type of fuel.

13) The baseline environmental quality has been assessed for various components of the environment viz. air, noise, water, biological and socioeconomic aspect. The baseline environmental study has been conducted for the study area of 10 km radial distance from project site for the period October-2020 to December-2020. Ambient Air Quality monitoring was carried out PM₁₀, PM_{2.5}, SO_x, NO_x, CO, HC and VOCs at Six locations, including the project site. Values conform to the prescribed standards for Ambient Air Quality. **Committee asked clarification for conducting baseline monitoring at 6 stations only which is not as per prescribed terms of reference. PP informed that the baseline monitoring was conducted in October-2020 to December-2020 period and villagers are not allowing the consultant for conducting baseline monitoring due to COVID-19 situation.** Further, baseline monitoring of groundwater and surfacewater was not presented.

14) Further, PP presented that the maximum 24-hourly average ground level concentration for pollutant due to proposed project calculated using mathematical model which are very negligible for the worst-case scenario. Moreover, this will occur at a distance of only 30.80 meters from the source, which falls within the plant premises only where there are no permanent habitats exist. The incremental ground level concentrations at all the ambient air monitoring locations is very negligible and practically shown as NIL and therefore there will not be any impact on the air quality of surrounding villages due to the proposed project. Thus, there will not be any considerable effect on ambient air quality due to the proposed project. However, unit has taken adequate air pollution control measures in the existing unit and the same will be taken care after the proposed

project.

15) Risk assessment including prediction of the worst-case scenario and maximum credible accident scenarios has been carried out. The detailed proposed safeguard measures including On-Site / Off-Site Emergency Plan has been covered in the RA report.

16) PP presented details of pollution load/ environmental impacts of the project including Water, Air and Hazardous waste management are submitted.

17) **After detailed discussion, Committee unanimously decided to consider the project in one of upcoming meeting only after submission of following documents,**

1. Details of disclosure of consultant of EIA report and EIA coordinator as the project was presented by Shri Snehal Satyapanthi.
2. Action plan to address the issues raised/ written representation in public hearings minutes and the necessary allocation of funds for the same should be provided.
3. Copy of detailed NA and Sale Deed of the unit.
4. Copy of concern authority water supply permission for proposed project.
5. Copy of concern authority permission for development of remaining greenbelt within the Mahagujarat Industrial Estate.
6. Revised CER activities focusing on issues raised/ written representation of public hearing and environmental aspects.
7. Revised water balance diagram mentioning treatment of domestic effluent and justification regarding no generation of cooling tower blow down.
8. Justification regarding 6 Nos of baseline monitoring stations for Air and Noise though in the ToR granted minimum 8 stations are mandatory. Also, PP has not presented baseline monitoring of water (groundwater and surface water).
9. Copy of membership of CHWIF for disposal of hazardous wastes.
10. Details of hazardous chemicals to be stored in tanks, drums, bags, carboys, etc. along with its characteristics and safety measures.
11. Wildlife Conservation Plan duly authenticated by the Chief Wildlife Warden of the State Government for conservation of Schedule I fauna
12. Revised EMP including the cost of conservation plan of Schedule-1 species (fauna) and including cost of Noise control measures, Environment Monitoring, etc.
13. Revised flue gas matrix with adequate stack height as per type of fuel proposed in TFH.
14. Addendum EIA report incorporating the above mentioned points.

18) PP has submitted reply of above query through Parivesh portal.

19) This proposal is reconsidered in SEAC VC meeting dated: **24.08.2023**.

20) PP along with their technical expert/consultant, M/s. Aqua – Air Environmental Engineers Pvt. Ltd. remains present in the meeting and made presentation before Committee.

21) During meeting, PP presented and Committee noted the following details/documents:

- ✓ Snehal Satyapanthi is Empanelled EIA Coordinator NABET accredited Consultant M/s Aqua-Air Environment Engg Pvt.Ltd. PP has submitted the disclosure of consultant and name of EIA Coordinator with signature.
- ✓ The major point is about the promotion for education and tree plantation in village Moraiya raised during public hearing. PP has allocated fund for the same in CER activities.
- ✓ NA for survey number 426/ 2 Paiki 11 for industrial purpose and Sale Deed in the name of M/s S B Polymers. Committee noted that there is no linkage between address mentioned and land possession documents presented.
- ✓ Copy of water bill in the name of M/s S B Polymers. Committee asked for water supply permission for proposed expansion.
- ✓ Copy of Kavitha Gram Panchayat for development of greenbelt in Kavitha village Primary school along with details of latitude and longitude. Committee asked to develop the required greenbelt within Industrial Estate.
- ✓ Revised CER details focusing on issues raised/written re-presentation of public hearing and environmental aspects.
- ✓ Revised water balance diagram mentioning treatment of domestic effluent but PP has not submitted justification regarding no generation of cooling tower blow down and also not submitted justification regarding wastewater generation in process though there is no water consumption in process.
- ✓ We had started baseline data from 1st March 2020 but due to overspread of COVID-19, we could not continue for this period. Hence, we have started baseline monitoring study during the period of October-2020 to December-2020. At that time covid cases rose in Gujarat at peak level & also COVID guideline was implemented. Therefore, people were very scare & afraid to support monitoring team in carrying out the baseline monitoring. Monitoring team triedhard to take a baseline monitoring of eight locations around 10 km from the project site by following COVID-19 guidelines. But due to the Corona crisis, monitoring team succeeded in taking 6 out of 8 monitoring locations for Air & Noise. We have also carried out surface water analysis for 2 locations and ground water analysis for 4 locations. Committee asked clarification regarding not conducting baseline monitoring post COVID.

- ✓ Copy of membership dated: 03.07.2023 of M/s Geo Cleaner LLP for sending the Incinerable waste along with copy of valid CCA of M/s Geo Cleaner LLP.
- ✓ Copy of Wildlife Conservation plan submitted to the Chief Wildlife Warden of the State Government dated: 14.04.2023.
- ✓ Details of storage of hazardous chemicals with safety measures.
- ✓ Revised EMP including the cost of conservation plan of Schedule-1 species (fauna) and including cost of Noise control measures, Environment Monitoring, etc.
- ✓ Revised flue gas matrix mentioning 30 m stack height with agro palates TFH (earlier 15 m).
- ✓ Addendum EIA report is submitted.

22) After detailed discussion, Committee unanimously decided to consider the project in one of upcoming meeting only after submission of following documents,

1. Linkage between land possession documents i.e NA (Survey No: 426/2 Paiki) & Sale Deed (Survey No: 426/2 Paiki 11) and address as mentioned as Plot No: 159 Mahagujarat Industrial Estate for the proposed project.
2. Copy of concern authority water supply permission for proposed project.
3. Copy of concern authority permission for development of remaining greenbelt within the Mahagujarat Industrial Estate.
4. Justification regarding no generation of cooling tower blow down.
5. Justification regarding wastewater generation in process as there is no water consumption.
6. Justification regarding not conducting baseline monitoring post COVID to fulfill the requirement of ToRs related to baseline monitoring.
7. Worker Safety Certificate.
8. Addendum EIA report incorporating the above mentioned points.

23) PP has submitted reply of above query generated on SEAC VC meeting, through Parivesh portal.

24) This proposal is reconsidered in SEAC VC meeting dated: **19.01.2024**.

25) PP along with their technical expert/consultant, M/s. AQUA – AIR ENVIRONMENTAL ENGINEERS PVT. LTD remains present in the meeting and made presentation before Committee.

26) During meeting, Committee noted that PP submitted following details:

1. PP has submitted non-Agriculture (NA) order mentioned Survey no. 426/2 P admeasuring 1,09,269 sqm of village Moraiya for industrial use. Sale Deed

expresses Plot no. 159 of Survey no. 426/2 paiki 11 paiki, Village Moraiya admeasure 1709 sqm. (It is already mentioned in box against Property Details on 1st page of Sale Deed titled as “e-challan” page). NA order covers entire industrial estate, and the Estate Developer provided plotting to members. The plot numbered 159 admeasured plot area of 1709 sqm. was purchased by M/s S. B. Polymers. PP has submitted Gamno namun. No. 7 for Survey no. 426/2 paiki 11 paiki given to M/s S. B. Polymers.

2. PP has submitted permission letter dated 23.05.2023 of Changodar Industrial Users Association for water supply.
3. Mahagujarat Industrial Estate denied for plantation within the industrial estate as overhead high-tension line are passing either-sides of the road. We have proposed and submitted the tree plantation program with permission letter dated 05.06.2023 from Kavitha Gram Panchayat for plantation in Kavitha village School. The village is located 7.00 km on Southern side of the Project site.
4. We proposed to use condensate water generated from the manufacturing Process of Alkyd Resin. Please refer the manufacturing process with Reaction chemistry here. This process document is already covered in EIA report submitted. The condensate water will be used in cooling tower for make-up water over evaporation losses. The TDS of the Condensate water is zero, leads to zero TDS accumulation in cooling tower. There will be no need of cooling tower blow down requirement for balancing the TDS concentration. Hence there will be no cooling tower blow down.
5. For proposed expansion, unit is not increasing water requirement for **Industrial use**. Water and Waste water Details in flow diagram is submitted is mentioned in Sr. No. 17 of format. Further, we have proposed recycling of distillation water as Cooling Tower Make up. Domestic water consumption will be increased by only 0.30 KLD. Our fresh water requirement after expansion will be 0.90 KLD.
6. PP has submitted manufacturing process with mass balance and submitted water consumption and wastewater generation details in format at Sr. No. 15 & 16.
7. We had started baseline data from 1st March 2020 but due to overspread of COVID-19, we could not continue for this period. Hence, we have started baseline monitoring study during the period of October-2020 to December-2020. At that time covid cases rose in Gujarat at peak level & also COVID guideline was implemented. Therefore, people were very scare & afraid to support monitoring team in carrying out the baseline monitoring. Monitoring team tried

	<p>hard to take a baseline monitoring of eight locations around 10 km from the project site by following COVID-19 guidelines. But due to the Corona crisis, monitoring team succeeded in taking 6 out of 8 monitoring locations for Air & Noise. We found Incremental Ground level Impact Concentrations of Air Pollutants, at AAQM stations (1) Village Nani Devati & (2) Village Kavitha, very negligible ranges from 0.008 to 0.050 µg/m³. We have carried out surface water analysis for 2 locations as Narmada water is main source of water as surface water and ground water analysis for 4 locations.</p> <p>8. Project Proponent has applied for expansion in industrial unit. The proposed construction cost will be 10 Lakhs as per the EIA Report. We shall obtain the necessary Worker Safety Certificate from Labour Department</p> <p>9. There are two additional letters (considered as Addendum-2 to EIA) (1) Water supply Consent letter and (2) Mahagujarat Industrial Estate for denying the area for planation. We have submitted the Addendum-2 to EIA Report vide letter dated 12-12-2023.</p> <p>27) During meeting committee asked for following details:</p> <ul style="list-style-type: none">✓ MoU between NABET accridiated EIA Consultant and NABL approved laboratory for environmental baseline survey.✓ NABET approval for Mr. Snehal B. Satyapathi for sector 5 (f).✓ Undertaking regarding carrying out EIA report. <p>28) Later on PP has submitted following details through email:</p> <ul style="list-style-type: none">✓ Consultant has submitted MoU between Aqua Air Environmental Engineers Pvt. Ltd and Soni Group of Technology (NABL accredited) for carrying out baseline data.✓ Mr. Snehal B. Satyapathi is Empanelled EIA Coordinator NABET accredited Consultant M/s Aqua-Air Environment Engg Pvt.Ltd.✓ Consultant i.e.Aqua Air Environmental Engineers Pvt. Ltd has submitted undertaking dated 06.09.2023 stating they have valid NABET certificate and EIA/EMP work including field study, data collection, data analysis and report preparation was done by staff of Aqua Air Environmental Engineers Pvt. Ltd. <p>29) Committee found presentation and reply submitted by PP was satisfactory.</p>								
3)	<p>EIA REPORT (BASELINE STUDIES AND RISK ANALYSIS)</p> <table><tr><th>Sr . n o.</th><th>Particulars</th><th>Details (Give brief note / Conclusion of the particular subject)</th><th>Page no., Section no. & chapter no. of EIA report</th></tr><tr><td>a</td><td>Ensure that there is no change in EIA report w. r. t.</td><td>No changes</td><td>-</td></tr></table>	Sr . n o.	Particulars	Details (Give brief note / Conclusion of the particular subject)	Page no., Section no. & chapter no. of EIA report	a	Ensure that there is no change in EIA report w. r. t.	No changes	-
Sr . n o.	Particulars	Details (Give brief note / Conclusion of the particular subject)	Page no., Section no. & chapter no. of EIA report						
a	Ensure that there is no change in EIA report w. r. t.	No changes	-						

	ToR i.e. Form-1 & PFR																						
b	Baseline environmental monitoring period	October-2020 to December-2020	Page. No. 3-1, Chapter. 3																				
c	Whether baseline data is primary or secondary data? 1) If baseline data carried out by other NABL accredited laboratory then MoU between both. 2) If baseline data is taken from another EIA report, then MoU between NABET consultant and industry whose data used in preparing present EIA report and time period of baseline data shall be as per MoEF&CC's OM dated: 08.06.2022.	Primary Yes, the MoU between M/s Aqua-Air Environmental Engineers Pvt Ltd and M/s Sony Group of Technologies submitted dated 20/24-01-2024 to SEAC vide letter dated 24-01-2024 (Environmental Baseline line AAQM, Soil, Water & noise data for three months). Not applicable	Page. No. 3-1, Chapter. 3																				
d	Baseline study area (Km)	Area 314 sqm Radius 10 km																					
AIR																							
e	No. of AAQM stations including project site	6	Page. No. 3-9, Chapter. 3																				
f	Parameters considered for AAQM including project specific parameters.		Page. No. 3-10, Chapter. 3																				
<table border="1"> <thead> <tr> <th>Sr. no.</th><th>Parameter s</th><th>Range of Concentrations ($\mu\text{g}/\text{m}^3$)</th><th>Remarks</th></tr> </thead> <tbody> <tr> <td>1</td><td>PM₁₀</td><td>41.1- 94.1</td><td rowspan="5">within prescribed norms</td></tr> <tr> <td>2</td><td>PM_{2.5}</td><td>20.8-49.6</td></tr> <tr> <td>3</td><td>SO₂</td><td>12.2-25.1</td></tr> <tr> <td>4</td><td>NO_x</td><td>13.7-32.3</td></tr> <tr> <td>5</td><td></td><td></td></tr> </tbody> </table>				Sr. no.	Parameter s	Range of Concentrations ($\mu\text{g}/\text{m}^3$)	Remarks	1	PM ₁₀	41.1- 94.1	within prescribed norms	2	PM _{2.5}	20.8-49.6	3	SO ₂	12.2-25.1	4	NO _x	13.7-32.3	5		
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5																							
g	Whether the results of AAQM is within the norms prescribed in NAAQS? If no, give reasons as per EIA report	Yes	Page. No. 3-10, Chapter. 3																				
h	Comments for AAQM results w. r. t. NAAQS	AAQM results are within prescribed NAAQS norms	Page. No. 3-10, Chapter. 3																				

i	Software used for the mathematical Modelling for anticipated incremental GLCs (Ground Level Concentrations)	AERMOD View by Lakes Software - Industrial source complex short term (ISCST3) Dispersion model is a steady state Gaussian Plume model.	Page. No. 4-7, Chapter. 4 Para 4.2.2.1
j	The resultant concentrations w. r. t. NAAQS and its conclusion.	All results are within the NAAQS norms	Page. No. 4-7 to 4-12, Chapter. 4 Para 4.2.2.2 Table 4.5 to 4.9
WATER			
k	No. of monitoring stations including project site wrt water a) Groundwater b) Surface water	6	Page. No. 3-25, Chapter. 3 Para 3.6 table 3.31 to 3.33
l	Conclusion of the Monitoring during baseline study of water (ground water and surface water)	Ground Water quality is within the specification of IS 10500:2012. The surface water quality of ponds is not suitable for drinking purpose due to biological contamination. Villagers are using only for irrigation purpose. It is advised to use disinfectants like hypochloride solution addition to remove the biological contamination.	Page. No. 3-25, Chapter. 3 Para 3.61 & 3.6.2 Table 3.30 to 3.31
m	No. of monitoring stations including project site wrt soil	6	Page. No. 3-32, 3-33 Chapter. 3, Para 3.7 Table 3.36 to 3.37
n	Conclusion of the Monitoring during baseline study of land / soil	Nutrient values are moderate. The soil holds moisture	Page. No. 3-33, 3-34, Chapter. 3, Para 3.7.2 Table 3.38
o	No. of monitoring stations including project site wrt Noise	6	Chapter3, page 3-18 to 3-24, para 3.5.2 Summary, Tables 3-24 to 3-29
p	Conclusion of the Monitoring during baseline study of Noise		Chapter 3, page 3-24, para 3.5.3

				Interpretation																														
q	Any other details: a) Details of carbon footprint: 1984 TPA b) Details of water footprint: 949 KL/year c) Details of carbon sequestration: - d) Details of roof top rain water harvesting and reuse within premises:Not Applicable																																	
r	Details of Schedule-I species and its conservation plan, if any: Please refer Chapter 3, Para 3.11.2, page no. 3-48 onwards (1) Indian Peafowl (Pavo cristatus) P3-49 to 3-53, (2) Shikra (Accipiter badius) P3-53 to 3-56, (3) Black Shouldered Kite (Elanus Axillaris) P3-56 to 3-60, (4) Oriental Honey Buzzard (Pernis ptilorhynchus) P3-60 to 3-62, (5) Black Kite (Milvusmigrans) P3-63 to 3-66 (6) Indian Flapshell Turtle (Lissemys punctata) P3-66 to 3-68																																	
-																																		
4)	RISK ANALYSIS & ITS MITIGATION MEASURES IN GENERAL AS GIVEN IN EIA REPORT Flammable chemicals Fire potential & toxic chemical release to air, water and soil, may damage the surrounding Environment, materials, and injuries to Human being and Flora & Fauna. Use of appropriate PPA, training to employees for safe handling of chemicals, Action for preventive maintenance of plant & machineries, proper housekeeping etc will reduce the risk & hazards for handling the Hazardous & toxic chemicals in the premises.																																	
5)	PRODUCT PROFILE AND BRIEF NOTE OF PRODUCT PROFILE <table><tr><th rowspan="2">Sr. No.</th><th rowspan="2">Name of Products</th><th rowspan="2">CAS No.</th><th colspan="3">Quantity (MT/month)</th><th rowspan="2">End use of Product</th></tr><tr><th>Existing</th><th>Proposed</th><th>Total</th></tr><tr><td>1.</td><td>Alkyd Resin</td><td></td><td>40</td><td>760</td><td>800</td><td rowspan="2">Surface coating, Synthetic paints, Varnish, Enamels, etc.</td></tr><tr><td>2.</td><td>CNSL Resin</td><td></td><td>60</td><td>340</td><td>400</td></tr><tr><td colspan="3">Total</td><td>100</td><td>1,100</td><td>1,200</td><td></td></tr></table> <p># Brief Note of Product Profile:</p> <p>1. No of Manufacturing Plants: 1</p> <p>2. Brief Note regarding number of Products to be manufactured considering plant capacity: 2 nos.</p>				Sr. No.	Name of Products	CAS No.	Quantity (MT/month)			End use of Product	Existing	Proposed	Total	1.	Alkyd Resin		40	760	800	Surface coating, Synthetic paints, Varnish, Enamels, etc.	2.	CNSL Resin		60	340	400	Total			100	1,100	1,200	
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6)	PROJECT DETAILS (COST/LAND OWNERSHIP/NA PERMISSION ETC.) a) Total cost of Proposed Project (Rs. in Crores): <table><tr><th>Existing</th><th>Proposed</th><th>Total</th></tr><tr><td>0.15</td><td>1.26</td><td>1.41</td></tr></table>				Existing	Proposed	Total	0.15	1.26	1.41																								
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Break-up of proposed project Cost:

Details	Existing (Rs. In Crores)	Proposed (Rs. In Crores)	Total (Rs. In Crores)
Land	0.15	0.00 (On lease)	1.41
Building		0.10	
Plant & Machinery		0.90	
EMP		0.26	
Total	0.15	1.26	1.41

b) **Details of Land / Plot ownership details:** (Linking between Land ownership and PP is required.)

- i. **Total Plot area (sq mt): 1,709**
- ii. **GIDC Plot Allotment letter/ NA documents:**
- iii. **Rent agreement, if any**
- iv. **Other Land Possession documents, if any 7/12 utara M/s S. B. Polymers**

7) **IF IT IS EXPANSION WHETHER CCR/EARLIER EC COMPLIANCE GIVEN:**

Sr. no.	Particulars	Brief Information/Details	Remarks
1	Earlier Environmental Clearance (EC) details [EC letter no. and date & obtained from MoEF&CC/SEIAA.]	Not obtained as unit is existed before EIA notification 2006	
2	In case EC not obtained for existing project: Copy of first CTE (NOC) & CCA obtained from GPCB i.e., before 14/09/2006. (For justification that you have not obtained EC for existing project).	Record not available beyond 2005	
3	Certified Compliance Report (CCR) from the concern authority(IRO-MoEF&CC/MS-GPCB)for existing EC/ CCA as per the MoEFCC'sOM no.F.No: IA3-22/10/2022-IA.III [E 177258] dated: 08/06/2022.	GPCB RO Sanand letter vide no. GPCB/CCA-ABD-GEN-472/ID-13484/736027 dated 14-03-2023	
4	Summary of CCR and Time bound action taken report/ plan of conditions i.e partly complied/ non-	All conditions are being complied by unit.	

	complied		
5	Details of latest Consent to Operate (CTO/CC&A) obtained from GPCB along with date of issue and validity	GOCB CTO no. AWH-30959 valid upto 30-06-2023 The CTO renewal applied	
6	Details of Improvement notice, Show- cause notice, notice of direction, Directions, Closure direction etc. issued by the GPCB to the existing unit in last 3 years . Details in tabular format comprise issues, actions taken and current status . As per the latest XGN screen shot.	Not issued in last three years by GPCB	
7	Details of Public Complaints (If any)	No public complaints received	Undertaki
8	Details of litigation pending before any court of Law against the Project (If any)	No litigation pending before any court of Law	ng Letter submitted
<p>-</p> <p><u>Comments:</u></p> <p>As per MoEF&CC's OM dated: 08.06.2022, PP has submitted CCR from RO- GPCB, conditions which is found satisfactory. Also, PP has submitted that there is no action taken by GPCB in last three years, no litigation pending and public complaints against the unit.</p>			
8)	PUBLIC HEARING APPLICABILITY AND ITS COMPLIANCE:		
	Main Issues raised by stake holders	Commitments by Project proponent and Action Plan	Action Plan
	Employment scope by villagers of Moraiya (issue raised by (3) Prabhudas Dholabhai Prajapati, Village: Moraiya Ta: Sanand, Dist: Ahmedabad (2) Punabhai S. Saraiya, Village:Kali Talavadi, Moraiya Ta: Sanand, Dist: Ahmedabad& (3) Dhanjibhai Shardulbhai	Project Proponent ensured for employment to villagers having adequate qualification & experience for proposed increased capacity of the unit.	Recruitment based on requirement, qualification and experience to the villagers Tree plantation will be carried out in the nearby villages.

	Saraiya Village: Moraiya Ta: Sanand, Dist: Ahmedabad)																																																
	Patel Jitendra Babalbhai, Ankleshwar-Bharuch raised points like details about unit's closure from GPCB, baseline related details, plantation, also appreciated for solar heating in existing unit.	Unit had submitted all the information pointwise to the Stack holder Shri Patel Jitendra Babalbhai.																																															
	Dharmendra Mistry Bharuch related to NABET approval details, Unit related details	Unit had submitted all the information pointwise to the Stack holder Shri Dharmendra Mistry.																																															
<p><u>Comments:</u></p> <p>PP presented the issues raised by participant and issues received through written representation and its reply given by PP as mentioned in Public Hearing proceedings. Also, time bound action plan for issues raised during public hearing are found satisfactory.</p>																																																	
9)	SITING CRITERIA DETAILS (OTHER THAN GIDC):																																																
	<table><tr><th>Sr. no.</th><th>Environmental Sensitivity</th><th>Name/Specific details</th><th>Siting criteria as per GPCB guidelines dated: 05.06.2022 & its amendment</th><th>Aerial Distance in Km</th></tr><tr><td>1</td><td>Habitat (Residential Area)</td><td>Village Moraiya</td><td>0.50 km</td><td>1.20</td></tr><tr><td rowspan="5">2</td><td>Water Bodies</td><td></td><td></td><td></td></tr><tr><td>River</td><td></td><td>0.50 km</td><td></td></tr><tr><td>Natural Nallah/Drain</td><td></td><td>0.50 km</td><td>0.75</td></tr><tr><td>Lake/Pond/Wetlands</td><td></td><td>0.50 km</td><td>1.20</td></tr><tr><td>Water supply Tanks/Reservoirs</td><td></td><td>-</td><td></td></tr><tr><td></td><td>Canal</td><td></td><td>As per Canal Authority</td><td>3.30</td></tr><tr><td>3</td><td>Protected Monuments/Heritage sites/Public Buildings i.e School, colleges, etc.</td><td></td><td>0.50 km</td><td></td></tr><tr><td>4</td><td>National/State Highway OR Express way</td><td>National Highway Ahmedabad-Rajkot</td><td>As per Highway Authority >75 m</td><td>0.75</td></tr></table>	Sr. no.	Environmental Sensitivity	Name/Specific details	Siting criteria as per GPCB guidelines dated: 05.06.2022 & its amendment	Aerial Distance in Km	1	Habitat (Residential Area)	Village Moraiya	0.50 km	1.20	2	Water Bodies				River		0.50 km		Natural Nallah/Drain		0.50 km	0.75	Lake/Pond/Wetlands		0.50 km	1.20	Water supply Tanks/Reservoirs		-			Canal		As per Canal Authority	3.30	3	Protected Monuments/Heritage sites/Public Buildings i.e School, colleges, etc.		0.50 km		4	National/State Highway OR Express way	National Highway Ahmedabad-Rajkot	As per Highway Authority >75 m	0.75		
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5	Coastal Regulation Zone (CRZ) (In case of Coastal area projects)	Not applicable	-	-
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Comments:

SEAC has deliberated on siting criteria i.e habitation, river/ natural drain/ lake/ pond/canal/ reservoirs, protected monuments/ heritage sites/public buildings i.e. Schools, colleges, Coastal Regulation Zone (CRZ), etc. and National Highway Ahmedabad-Rajkot is 0.75 KM away from plant are found satisfactory.

10) **A. APPLICABILITY OF GENERAL CONDITIONS AND COMMENTS WITH SPECIFIC CLARIFICATION OF MOEF&CC GUIDELINES:** Any project or activity specified in Category 'B' will be appraised at Central level as Category 'A' if located in whole or in part within 5 Km radius from the project boundary of:-

Sr No	Particulars	Aerial Distance in Km
1.	Protected Areas notified under the Wildlife (Protection) Act 1972 (53 of 1972)	130 km
2.	CPA/SPA (Critically Polluted Area/Severely Polluted Area) as identified by the CPCB	18 km (Vatva GIDC)
3	Eco sensitive areas as notified under sub-section (2) of section 3 of EPA-1986	24 km (Thol Sanctuary)
4	Interstate boundaries and international boundaries	135 km (MP state)

Comments:

As per MoEF&CC's notification dated: 25.06.2014 and as per details submitted by PP, General condition is not applicable.

B. Ensure compliance of category as defined in the amendment to EIA Notification, 2006 vide SO 1599 (E) dated 25/06/2014. i.e. Conditions of small units: (in case of 5 (f) category units and outside the GIDC)

Sr no.	Condition	Compliance with justification
1	Water consumption less than 25 M3/day;	Yes. Total water consumption is 3 M3/day less than 25 M3/day.
2	Fuel consumption less than 25 TPD;	Yes, Agro-palates consumption will be 4 MT/day less than 25 TPD
3	Not covered in the category of MAH units as per the Management, Storage, Import of Hazardous Chemical Rules (MSIHC Rules), 1989 as per the legal undertaking submitted with EIA report.	Not MAH units per MSIHCR as not any quantity exceeding threshold quantity as per schedule

Comments:

	As per details submitted by Project Proponent, it is small scale unit.																																																																																
11)	<p>AREA ADEQUACY AND COMMENTS</p> <p>Total Land area:</p> <p>Floor-wise land area break-up table</p> <p>Area Adequacy table:</p> <table><tr><th>Sr No</th><th>Components</th><th>Area required (Sq m)</th><th>Area Provided (sq m)</th><th>Percentage</th></tr><tr><td>1.</td><td>Office/Admin building/Lab Building</td><td>-</td><td>72.00</td><td>4.21</td></tr><tr><td>2.</td><td>Production Area</td><td>-</td><td>309.79</td><td>18.13</td></tr><tr><td>3.</td><td>Finished Goods Storage Area</td><td>-</td><td>147.00</td><td>8.60</td></tr><tr><td>4.</td><td>Raw Material Storage Area</td><td>-</td><td>403.70</td><td>23.62</td></tr><tr><td>5.</td><td>Hazardous waste Storage</td><td>-</td><td>50.00</td><td>2.93</td></tr><tr><td>6.</td><td>ETP / STP/ MEE/ RO/ spray dryer/etc. area</td><td>-</td><td>10.00</td><td>0.59</td></tr><tr><td>7.</td><td>Green Belt Area</td><td>33.33 %</td><td>391.82</td><td>22.93</td></tr><tr><td>8.</td><td>Parking, Road Area and Margins</td><td>-</td><td>232.00</td><td>13.58</td></tr><tr><td>9.</td><td>Tank Farm</td><td>-</td><td>-</td><td>-</td></tr><tr><td>10.</td><td>Security Cabin</td><td>-</td><td>-</td><td>-</td></tr><tr><td>11.</td><td>Utility Block</td><td>-</td><td>27.00</td><td>1.58</td></tr><tr><td>12.</td><td>OHC</td><td>-</td><td>-</td><td>-</td></tr><tr><td>13.</td><td>Open area</td><td>-</td><td>65.69</td><td>3.84</td></tr><tr><td>14.</td><td>Others, if any</td><td>-</td><td>-</td><td>-</td></tr><tr><td colspan="2">Total</td><td></td><td>1709.00</td><td>100.00</td></tr></table> <p><u>Comments:</u></p> <p>SEAC has examined it w.r.t.to total monthly production, maximum products, manufactured per month, the total raw material required, weekly storage requirement of each raw material, their mode of storage, their compatibility (flammability, corrosive, toxic), area needed by each raw material, one week storage of finished goods. Area adequacy, from overall safety perspective, has been provided in proposal and is satisfactory.</p>	Sr No	Components	Area required (Sq m)	Area Provided (sq m)	Percentage	1.	Office/Admin building/Lab Building	-	72.00	4.21	2.	Production Area	-	309.79	18.13	3.	Finished Goods Storage Area	-	147.00	8.60	4.	Raw Material Storage Area	-	403.70	23.62	5.	Hazardous waste Storage	-	50.00	2.93	6.	ETP / STP/ MEE/ RO/ spray dryer/etc. area	-	10.00	0.59	7.	Green Belt Area	33.33 %	391.82	22.93	8.	Parking, Road Area and Margins	-	232.00	13.58	9.	Tank Farm	-	-	-	10.	Security Cabin	-	-	-	11.	Utility Block	-	27.00	1.58	12.	OHC	-	-	-	13.	Open area	-	65.69	3.84	14.	Others, if any	-	-	-	Total			1709.00	100.00
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12)	<p>GREEN BELT CONDITIONS AND MEASURES ALONG WITH AREA:</p> <table><tr><th>Total Plot area (Sq meter)</th><th>Total Green belt area (Sq meter)</th><th>% of Greenbelt</th></tr><tr><td>1709</td><td>Inside: 391.82 Outside: 200.00</td><td>23.00 11.70</td></tr></table> <p>Details of copy of permission letter of concern GIDC/ Panchayat/etc. for greenbelt development (in case of greenbelt development outside the premises: The</p>	Total Plot area (Sq meter)	Total Green belt area (Sq meter)	% of Greenbelt	1709	Inside: 391.82 Outside: 200.00	23.00 11.70																																																																										
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	<p>permission letter from Kavitha Gram Panchayat letter dated 05-06-2023 is attached.</p> <p><u>Comments:</u></p> <p>➤ The PP shall develop green belt [391.82 Sq m (23.00 %) inside plant premises + 200.00 Sq m (11.70 %) at Kavitha Gram Panchayat (Outside plant premises) = Total: 591.82 Sq. m.) i.e. 34.7 % of total plot area] as submitted before SEAC. Green belt shall be developed with native plant species that are significant and used for the pollution abatement as per the CPCB guidelines. It shall be implemented within 3 years of operation phase in consultation with GPCB.</p>																																																							
13)	<p>EMPLOYMENT GENERATION:</p> <table><tr><th>Permanent</th><th>Contractual</th><th>Total</th></tr><tr><td>4</td><td>4</td><td>8</td></tr></table> <p>-</p>	Permanent	Contractual	Total	4	4	8																																																	
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14)	<p>SOURCE OF WATER SUPPLY WITH QUANTITY AND PERMISSION (DETAILS OF CGWA IF BOREWELL</p> <p>a) Source of water supply: Changodar Industrial Users Association</p> <p>b) Total Fresh water quantity (KLD): 0.90</p> <p>c) Permission of concerned authority (Name and quantity (in KLD):- Letter dated 23.05.2023 of Changodar Industrial Users Association.</p> <p><u>Comments:</u></p> <p>PP has obtained permission from Changodar Industrial Users Association for procurement of water which is found satisfactory.</p>																																																							
15)	<p>WATER CONSUMPTION RELATED DETAILS WITH COMMENTS</p> <table><tr><th>Category</th><th>Existing (KLD)</th><th>Proposed (KLD)</th><th>Total (KLD)</th><th>Remarks</th></tr><tr><td>• Domestic</td><td>0.60 F</td><td>0.30 F</td><td>0.90 F</td><td>F= Fresh & R= Recycle</td></tr><tr><td>• Gardening</td><td>0.05 R</td><td>0.45 R</td><td>0.50 R</td><td></td></tr><tr><td>• Industrial</td><td></td><td></td><td></td><td></td></tr><tr><td>Process</td><td>0.00</td><td>0.00</td><td>0.00</td><td></td></tr><tr><td>Washing</td><td>0.00</td><td>0.00</td><td>0.00</td><td></td></tr><tr><td>Boiler</td><td>0.00</td><td>0.00</td><td>0.00</td><td></td></tr><tr><td>Cooling</td><td>0.00</td><td>1.60 R</td><td>1.60 R</td><td>F= Fresh & R= Recycle</td></tr><tr><td>Others (Scrubber)</td><td>0.00</td><td>0.00</td><td>0.00</td><td></td></tr><tr><td>Industrial Total</td><td>0.00</td><td>1.60 R</td><td>1.60 R</td><td></td></tr><tr><td>Grand Total (A+B+C)</td><td>0.65 (0.60 F + 0.05 R)</td><td>2.35 (0.30 F + 2.05 R)</td><td>3.00 (0.90 F + 2.10 R)</td><td>F= Fresh & R= Recycle</td></tr></table> <p><u>Comments:</u></p>	Category	Existing (KLD)	Proposed (KLD)	Total (KLD)	Remarks	• Domestic	0.60 F	0.30 F	0.90 F	F= Fresh & R= Recycle	• Gardening	0.05 R	0.45 R	0.50 R		• Industrial					Process	0.00	0.00	0.00		Washing	0.00	0.00	0.00		Boiler	0.00	0.00	0.00		Cooling	0.00	1.60 R	1.60 R	F= Fresh & R= Recycle	Others (Scrubber)	0.00	0.00	0.00		Industrial Total	0.00	1.60 R	1.60 R		Grand Total (A+B+C)	0.65 (0.60 F + 0.05 R)	2.35 (0.30 F + 2.05 R)	3.00 (0.90 F + 2.10 R)	F= Fresh & R= Recycle
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PP has submitted the above water consumption which is calculated considering the worst case scenario and in no case the water requirement shall not exceed the same which is found satisfactory.

16) **WASTE WATER GENERATION AND DISPOSAL**

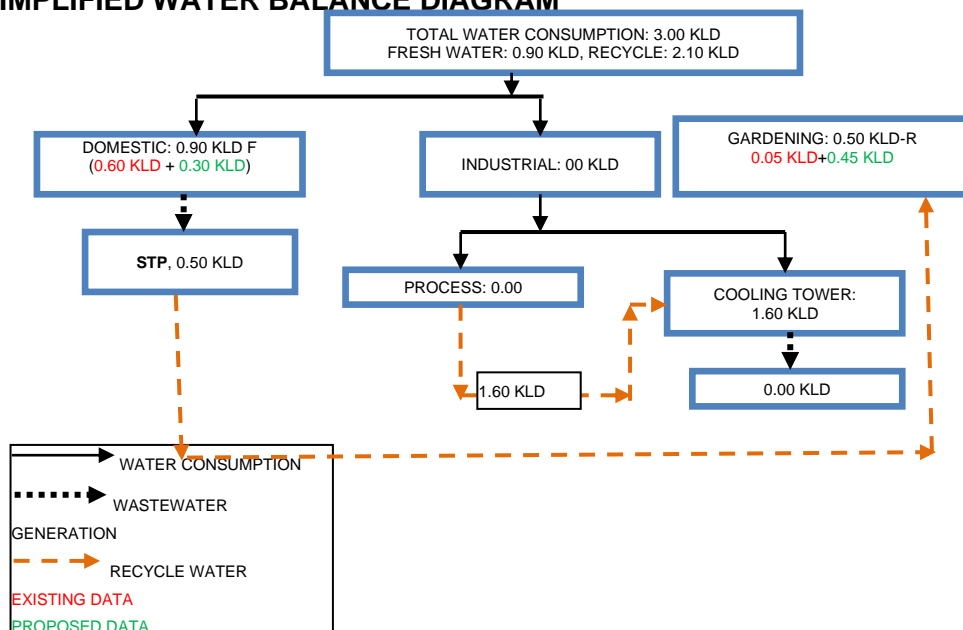
Category	Existing (KLD)	Proposed (KLD)	Total (KLD)	Remarks
(A) Domestic	0.30	0.20	0.50	Treatment in proposed STP
(B) Industrial				
Process	0.00	1.60	1.60	to recycle in cooling tower
Washing	0.00	0.00	0.00	
Boiler	0.00	0.00	0.00	
Cooling	0.00	0.00	0.00	
Others (Scrubber)	0.00	0.00	0.00	
Total Industrial waste water	0.00	1.60	1.60 KLD effluent	
Total [A + B]	0.30	0.20 + 1.60	0.50 KLD Sewage + 1.60 KLD effluent	

Justification in case of increase/ drastic reduction in wastewater generation than water Consumption:

Comments:

PP has submitted the above wastewater generation which is calculated considering the worst case scenario and in no case the wastewater generation shall not exceed the same which is found satisfactory.

17) **SIMPLIFIED WATER BALANCE DIAGRAM**



18)	<div>BREAKUP OF WASTE WATER DISPOSAL (DOMESTIC & INDUSTRIAL BOTH)</div> <table><tr><th>Sr. no.</th><th>Quantity KLD</th><th>Facility</th></tr><tr><td>1</td><td>Domestic: 0.50 KLD</td><td>Proposed STP will treat the sewage. The treated sewage will be reused in the garden area</td></tr><tr><td>2</td><td>Industrial wastewater: 1.60 KLD Condensate water from Process</td><td>The Condensate water will be re-used in Cooling tower</td></tr><tr><td>Total</td><td>2.10 KLD</td><td></td></tr></table> <div><u>Comments for Domestic Effluent:</u><ul style="list-style-type: none">➤ Domestic wastewater generation shall not exceed 0.50 KL/day for proposed project and it shall be treated in STP. It shall not be disposed off through soak pit/ septic tank. Treated sewage shall be utilized for gardening and plantation purpose within premises after achieving on-land discharge norms prescribed by the GPCB.<u>Comments for Industrial Effluent:</u><ol style="list-style-type: none">1. Management of Industrial effluent shall be as under:<ul style="list-style-type: none">➤ 1.60 KLD effluent generated from process shall be reused in cooling tower and there shall be no discharge of any industrial effluent into an environment like drain, land etc and shall maintain Zero Liquid Discharge (ZLD).</div>	Sr. no.	Quantity KLD	Facility	1	Domestic: 0.50 KLD	Proposed STP will treat the sewage. The treated sewage will be reused in the garden area	2	Industrial wastewater: 1.60 KLD Condensate water from Process	The Condensate water will be re-used in Cooling tower	Total	2.10 KLD	
Sr. no.	Quantity KLD	Facility											
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Total	2.10 KLD												
19)	<div>MECHANISM AND METHODOLOGY OF STREAM SEGREGATION Both sources of wastewater are from different sources. The domestic wastewater will be generated from domestic application. The condensate water will be generated from Process.</div>												
20)	<div>STP AND/OR ETP SPECIFICATION AND DESIGN AND ITS CAPACITY STP will be of 1.00 KLD capacity for sewage generation of 0.5 KLD</div>												
21)	<div>TREATABILITY OF WATER: -NA</div>												
22)	<div>SUMMARY OF WATER USE AND REQUIREMENT OF FRESH/REUSED WATER</div> <table><tr><th>Summary of water requirement</th><th>Quantity KLD</th><th>Remarks</th></tr><tr><td>Total water requirement for the project (A)</td><td>3.00</td><td></td></tr><tr><td>Quantity to be recycled (B)</td><td>2.10</td><td>Condensate water from Process to</td></tr></table>	Summary of water requirement	Quantity KLD	Remarks	Total water requirement for the project (A)	3.00		Quantity to be recycled (B)	2.10	Condensate water from Process to			
Summary of water requirement	Quantity KLD	Remarks											
Total water requirement for the project (A)	3.00												
Quantity to be recycled (B)	2.10	Condensate water from Process to											

					Cooling tower. Treated sewage for gardening purpose.		
		Total fresh water requirement (C)	0.90		From Changodar Industrial Users Association		
		Ensure Total water requirement = Recycled water + Fresh water i.e. A = B + C = 2.1 + 0.90 = 3.00					
23)	REUSE, REDUCE, RECYCLE RECOVERY MEASURES ADOPTED -						
	a) Reduce						
		Sr. No.	Item	Quantity	% percentage		
	b) Reuse						
		Sr. No.	Item	Quantity	% percentage		
		1	Sewage	0.50 KLD	100		
	c) Recycle						
		Sr. No.	Item	Quantity	% percentage		
		1	Condensate water	1.60 KLD	100		
	-						
24)	FLUE GAS EMISSION						
	Sr. no.	Source of emission With Capacity	Stack Height (meter)	Type of Fuel	Quantity of Fuel	Type of emissions i.e. Air Pollutants	Air Pollution Control Measures (APCM)
	1	Thermic Fluid Heater (4 lakh Kcal. capacity)	30	Agro Palates,	100 MT/Month	PM ≤ 150 mg/Nm3 SO2 ≤ 100 ppm NOX ≤ 50 ppm	Multi Cyclone & Adequate Stack Height
	<u>Comments:</u>						
	➤ The proposed fuel to be used is approved fuel for the requirement of the heat energy and proposed the Air pollution Control measures and stack height so as to achieve the emission norms prescribed by the competent authorities are found satisfactory.						
25)	PROCESS GAS EMISSION : -						
	There is no source of gas emission from the process.						
	<u>Comments:</u>						

	➤ As per the submission of details there is no process gas emission.					
26)	FUGITIVE GAS EMISSION – Not applicable <u>Comments:</u> As per the submission of details there is no fugitive gas emission.					
27)	HAZARDOUS PROCESSES AND ITS SAFETY MEASURES : Not applicable -					
28)	SOLVENT MANAGEMENT (For example): Not Applicable					
29)	VOC EMISSION AND MITIGATION MEASURES FOR ACHIEVING MAXIMUM SOLVENT RECOVERY AND MINIMUM VOC GENERATION: Not Applicable					
30)	LDAR PROPOSED					
	S. N.	Component	Frequency of monitoring	Repair preventive maintenance schedule		
	1.	Valves / Flanges	Quarterly	Week time		
	2.	Pump seal	Quarterly			
	3.	Compressor seals	Quarterly			
	4.	Pressure relief devices	Quarterly			
	5.	Pressure relief devices (after venting)	Within 24 hrs.			
	6.	Process drains	Annually			
	7.	Components that are difficult to monitor	Annually			
	8.	Pump seals with visible liquid dripping	Weekly	Immediately		
	9.	Any component with visible leaks	Weekly	Immediately		
	10.	Any component after repair / replacement	Within a week	-		
	The Following methodology to be adopted during LDAR study: 1) For all identified leaks, closure shall be ensured with the help of maintenance department and records for the same shall be maintained 2) Record-keeping and reporting requirements.					
31)	LDAR FOR SPECIFIC SOLVENT (For example): Not applicable as no solvent is being used -					
32)	HAZARDOUS WASTE MANAGEMENT MATRIX					
	Sr .	Type/Name of	Specific Source	Category and	Quantity (MT/Annum)	Management of HW

no .	Hazardous waste	of generati on (Name of the Activity, Product etc.)	Schedule as per HW Rules.		
1	Used/ Spent Oil	Plat and machineri es	5.1	0.045 MT/year	Collection, storage, transportation and disposal by selling to register recycler.
2	Discarded Containers 1. Discarded Drum 2. Discarded Bags	Raw material and product storage area	33.1	1. Discarded Drums: 3,000 nos./year 2. Discarded Bags: 72,000 nos./year	Collection, storage, transportation and disposal by selling to authorized decontamination facility.
3	Process Waste	from manufact uring process	35.3	0.50MT/year	Collection, storage, transportation and disposal at CHWIF and/or at Preprocessor
4	Contaminated cotton rags and other cleaning materials	Raw material and product storage area	33.2	0.10 MT/year	Collection, storage, transportation and disposal at CHWIF and/or at Preprocessor.
<p><u>Comments:</u></p> <p>➤ Hazardous waste management includes collection, storage, transportation and disposal at TSDF, captive/ common incineration, co-processing/ pre-processing, sold to authorized actual users having Rule-9 permission and recycle/ reuse of waste. SEAC examined the details provided and found it as per requirement.</p>					
33)	NON-HAZARDOUS WASTE MANAGEMENT MATRIX NOT APPLICABLE				

Sr. no.	Type/Name of non-hazardous waste	Specific Source of generation (Name of the Activity, Product etc.)	Quantity (MT/Annum)	Management of HW
1	STP Sludge	STP	1.00	Reused as Manure as it is digested biological sludge generated from STP

Comments:

- As per the submission of details there is no non-hazardous waste management matrix.

34) STORAGE SAFETY MEASURES

- a) **Storage of Hazardous chemicals in Tanks:** Not applicable as no tank storage

Sr. no	Name of Chemical	Capacity of Tank	Number of Tanks	Hazardous Characteristics of Chemical
TANK FARM (NON-PESO)				
1				
2				
3				
TANK FARM (PESO)				
4				
5				
6				
7				

Safety Measures for PESO Underground storage tank farm:

- b) **Storage of Hazardous chemicals other than Tanks i.e. Drum, Barrels, Carboys, Bags etc.**

Sr. no	Name of Chemical	Capacity of Drum/Bag/ Cylinder/ Glass Bottle	Number of Drum/Bag/ Cylinder/ Glass Bottle	Hazardous Characteristics of Chemical
1	Xylene	Drums: 200-250 L	approx.100	-Sr. no. 442 of part 2 of schedule 1 in MSIHC rules, 1989
2	Phthalic anhydride	Drums: 200-250 L	approx.50	-Sr. no. 508 of part 2 of Schedule 1 in MSIHC rules, 1989

3	MTO (Mineral Turpentine Oil)	Drums: 200-250 L	approx.50	-Sr. no. 666 of part 2 of schedule 1 in MSIHC rules, 1989
Safety measures for Hazardous Chemicals:				
Type of Hazardous Chemicals	Safety measures			
FLAMMABLE & EXPLOSIVE CHEMICALS	No flammable storage			
CORROSIVE CHEMICALS	Respiratory protection Air-purifying respirators are appropriate use a full-face particle respirator. Skin protection: Handle with gloves. Body Protection: Complete suit protecting against chemicals. Eye/face protection: Face shield and safety glasses Use equipment for eye protection			
TOXIC CHEMICALS	Respiratory protection Air-purifying respirators are appropriate use a full-face particle respirator. Skin protection: Handle with gloves. Body Protection: Complete suit protecting against chemicals. Eye/face protection: Face shield and safety glasses Use equipment for eye protection			
REACTIVE CHEMICALS	-			
Others, if any				
-				
35)	FIRE LOAD CALCULATION			
Total Plot Area:			1,709 m ²	
Area utilized for plant activity:			1318.00 m ²	
Area utilized for Hazardous Chemicals Storage:			150.00 m ²	
Number of Floors:			01	
Water requirement for firefighting in KLD:			4.2	
Water storage tank provided for firefighting in KL:			100.00	
Details of Hydrant Pumps:			Proposed	
Nearest Fire Station :			Sanand Nagar Palika fire station	
Applicability of Off Site Emergency Plan:			-	
<u>Comments:</u>				

	The project proponent has proposed fire safety plan which includes fire hydrant line, sprinkler system, fire extinguishers, fire suits, covering the project area and provides for fire water storage tank of 100 KL. SEAC found it as per the requirement.																																							
36)	WORKERS SAFETY AND OCCUPATIONAL HEALTH MANAGEMENT To avoid any occupational health hazards workers involved for handling of hazardous chemicals are trained for proper handling of chemicals as per standard operating procedure with safety measures and aware about characteristics of hazardous chemicals with display of do's and don'ts at handling area, as well as provided required PPES and not allow to work without PPEs. Periodic training and awareness regarding handling of chemicals and induction training for new & existing workers is planned and carried out. Periodic medical examination carried out at frequency of 6 months for any occupational diseases through registered hygienist and records are kept in form 33 & 32. <u>Comments:</u> Project proponent has provided PPEs, Occupational health center (OHC) with adequate provision of manpower, equipment and operational cost. SEAC finds it as per the provisions of Gujarat Factory Rules 1963.																																							
37)	DETAILS OF MEMBERSHIP OF COMMON FACILITIES: <table><tr><th>Sr. No</th><th>Membership for Common Facility</th><th colspan="2">Membership Certificate issuing agency along with Date of Issue and validity of membership</th></tr><tr><td>01</td><td>CETP</td><td colspan="2">Name of CETP: Not Applicable Date of Issue of membership along with validity: Capacity of CETP (KLD): Allotted Capacity (KLD) to member unit: Spare Capacity (KLD) of CETP:</td></tr><tr><td>02</td><td>TSDF site(PREPROCESSOR)</td><td colspan="2">Name of TSDF: GEO CLEANER LLP (PREPROCESSOR) Date of Issue of membership along with validity: 03-07-2023, 5 YEARS Capacity of TSDF (MT):<table><tr><th>No</th><th>Product</th><th>Quantity</th></tr><tr><td>1</td><td>Waste mixed liquid</td><td>19500 MT/year</td></tr><tr><td></td><td>Waste mixed solid/ semi-solid</td><td>79200 MT/year</td></tr></table>Allotted Capacity (MT) to member unit: 0.60 MT/ YEAR Spare Capacity (MT) of TSDF:</td></tr><tr><td>03</td><td>Common Hazardous Waste Incineration Facility</td><td colspan="2">-</td></tr><tr><td>04</td><td>Common Spray Drying Facility</td><td colspan="2">-</td></tr><tr><td>05</td><td>Common MEE Facility</td><td colspan="2">-</td></tr><tr><td>06</td><td>Common Conveyance System</td><td colspan="2">-</td></tr></table>			Sr. No	Membership for Common Facility	Membership Certificate issuing agency along with Date of Issue and validity of membership		01	CETP	Name of CETP: Not Applicable Date of Issue of membership along with validity: Capacity of CETP (KLD): Allotted Capacity (KLD) to member unit: Spare Capacity (KLD) of CETP:		02	TSDF site(PREPROCESSOR)	Name of TSDF: GEO CLEANER LLP (PREPROCESSOR) Date of Issue of membership along with validity: 03-07-2023, 5 YEARS Capacity of TSDF (MT): <table><tr><th>No</th><th>Product</th><th>Quantity</th></tr><tr><td>1</td><td>Waste mixed liquid</td><td>19500 MT/year</td></tr><tr><td></td><td>Waste mixed solid/ semi-solid</td><td>79200 MT/year</td></tr></table> Allotted Capacity (MT) to member unit: 0.60 MT/ YEAR Spare Capacity (MT) of TSDF:		No	Product	Quantity	1	Waste mixed liquid	19500 MT/year		Waste mixed solid/ semi-solid	79200 MT/year	03	Common Hazardous Waste Incineration Facility	-		04	Common Spray Drying Facility	-		05	Common MEE Facility	-		06	Common Conveyance System	-	
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	07	PESO permission	Yes. Class B Storage 30 KL from PESO																										
	08	FIRE permission																											
	09	Health Certificate	-																										
	-																												
38)	EMERGENCY MEASURES PROPOSED AND PREPAREDNESS ACTION PLAN a) Pre emergency activity b) Emergency time activity c) Post emergency activity																												
39)	CER ACTIVITIES PROPOSED YEAR WISE/ IN CASE OF EXPANSION ANY ADDITIONALITY SUGGESTED AND ITS COMPLIANCE (AS PER THE MOEF & CC GUIDELINES) <table border="1"><tr><td>Total cost of Project (Rs in Crores)</td><td>Total Cost of CER (Rs in Crores)</td><td>Percentage (%)</td></tr><tr><td>1.00</td><td>0.02</td><td>2</td></tr></table> <table border="1"><tr><td>Sr No</td><td>Activities</td><td>Name of Villages</td><td>Cost (Rs in Lakhs)</td></tr><tr><td>1)</td><td>To provide solar panels</td><td>Moraiya Gram panchayat</td><td>1,50,000</td></tr><tr><td>2)</td><td>Tree Plantation</td><td>Changodar</td><td>50,000</td></tr><tr><td></td><td></td><td>Total, ₹</td><td>2,00,000</td></tr></table> <p>-</p> <p><u>Comments:</u></p> <p>As per MoEF&CC's OM dated: 01.05.2018 and 30.09.2020, SEAC examined that the proposed cost of CER i.e 2 % (Rs 0.02 Crores) which is as per the requirement.</p>				Total cost of Project (Rs in Crores)	Total Cost of CER (Rs in Crores)	Percentage (%)	1.00	0.02	2	Sr No	Activities	Name of Villages	Cost (Rs in Lakhs)	1)	To provide solar panels	Moraiya Gram panchayat	1,50,000	2)	Tree Plantation	Changodar	50,000			Total, ₹	2,00,000			
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		+Flame proof electrical fittings, Fire Extinguishers; Foam Type Trolley, mock drills, etc.		
5	Green Belt Development	Inside & Outside Green belt Development tree Guard & labelling, excavation, refilling of top soil	0.50	0.40
6.	Occupational Health	Cost of providing medical check-up on regular basis, PPE kit, First aid kit and sanitary facility at the site	0.80	0.50
7.	Noise Control	Acoustic enclosure; Vibration pads; Noise PPEs, etc.	0.10	0.00
8.	VOC Control & LDAR	Emergency Gas Scrubber	6.00	0.50
9	Environment Monitoring Program	Fuel gas emission Work zone Environment Ambient air Water	--	0.50
10	CER Activity	i.e., 2 % of project cost	2.00	--
11	Cost of conservation plan of Schedule-I species, if any	Conservation Action plan for 6 nos. of Schedule-1 species	5.40	--
Total			25.80	6.00

Comments:

The overall environment management plan (EMP) provided for capital and recurring cost for wastewater treatment, air emission control, noise control, hazardous waste disposal, fire & safety, occupational health, environment monitoring program, green belt and corporate environmental responsibility was deliberated and found satisfactory.

41) RECOMMENDATIONS OF SEAC

"On the basis of information provided to SEAC on project, its location, technical, physical and environmental infrastructure, products, quantity to be manufactured, its raw material, storage, waste disposal, water treatment, safety measures, green belt development planning, regulatory compliance assured of related statutory provisions, necessary documents of requisite permissions provided from concerned departments and overall environmental management planning for the project, along with financial resources committed for operation and maintenance, and on the basis of presentation made before SEAC, modification suggested by SEAC and incorporated by project proponent, SEAC finds the project as per the requirement and **unanimously** recommends the same to SEIAA for environmental clearance."

Conditions with which Environment Clearance is recommended:

42) **GENERAL CONDITIONS****Construction Phase**

- a) "Wind – breaker of appropriate height i.e. 1/3rd of the building height and maximum up to 10 meters shall be provided. Individual building within the project site shall also be provided with barricades.
- b) "No uncovered vehicles carrying construction material and waste shall be permitted."
- c) "No loose soil or sand or construction & demolition waste or any other construction material that cause dust shall be left uncovered. Uniform piling and proper storage of sand to avoid fugitive emissions shall be ensured."
- d) Roads leading to or at construction site must be paved and blacktopped (i.e. – metallic roads).
- e) No excavation of soil shall be carried out without adequate dust mitigation measures in place.
- f) Dust mitigation measure shall be displayed prominently at the construction site for easy public viewing.
- g) Grinding and cutting of building materials in open area shall be prohibited.
- h) Construction material and waste should be stored only within earmarked area and road side storage of construction material and waste shall be prohibited.
- i) Construction and demolition waste processing and disposal site shall be identified and required dust mitigation measures be notified at the site. (If applicable).

SPECIFIC CONDITIONS:

1. Unit shall install CEMS [**Continuous Emission Monitoring System**] in line to CPCB directions to all SPCB vide letter no. B-29016/04/06PCI-1/5401 dated 05/02/2014 for effluent discharge and air emission as per pollutants discharge/emission from respective project and an arrangement shall also be done for reflecting the online monitoring results on the company's server, which can be assessable by the GPCB/CPCB on real time basis. [**For Small/Large/Medium (Red Category) & Whichever (Air emission & Effluent discharge) is applicable**].
2. The National Ambient Air Quality Emission Standards issued by the Ministry vide G. S. R. No. 826 (E) dated 16th November, 2009 shall be complied with.
3. National Emission Standards for Organic Chemicals Manufacturing Industry issued by the Ministry vide G. S. R. 608 (E) dated 21/07/2010 and amended from time to time shall be followed. (In case of other than Pharma and dyes)
4. Unit shall have to adhere to the prevailing area specific policies of GPCB with respect to the discharge of pollutants, and shall carry out the project development in accordance & consistence with the same.
5. All measures shall be taken to avoid soil and ground water contamination within

premises.

6. Safety & Health:

- a) PP shall obtain PESO permission for the storage and handling of hazardous chemicals. (If applicable).
- b) PP shall provide Occupational Health Centre (OHC) as per the provisions under the Gujarat Factories Rule 68-U.
- c) PP shall obtain fire safety certificate / Fire No-Objection certificate (NOC) from the concern authority as per the prevailing Rules / Gujarat Fire Prevention and Life Safety Measures Act, 2016.
- d) Unit shall adopt functional operations/process automation system including emergency response to eliminate risk associated with the hazardous processes.
- e) PP shall carry out mock drill within the premises as per the prevailing guidelines of safety and display proper evacuation plan in the manufacturing area in case of any emergency or accident.
- f) PP shall install adequate fire hydrant system with foam trolley attachment within premises and separate storage of water for the same shall be ensured by PP.
- g) PP shall take all the necessary steps for control of storage hazards within premises ensuring incompatibility of storage raw material and ensure the storage keeping safe distance as per the prevailing guidelines of the concerned authority.
- h) PP shall take all the necessary steps for human safety within premises to ensure that no any harm is caused to any worker/employee or labour within premises.
- i) Flame proof electrical fittings shall be provided in the plant premises, wherever applicable.
- j) Unit shall never store drum/barrels/carboys of incompatible material/chemical together.
- k) Unit shall provide effective Isolation for Process area and storage of hazardous chemicals.
- l) The project management shall prepare a detailed Disaster Management Plan (DMP) for the project as per the guidelines from Directorate of Industrial Safety and Health.

WATER

7. Total water requirement for the project shall not exceed 3.00 KLD. Unit shall reuse 2.10 KLD of treated effluent within premises. Hence, fresh water requirement shall not exceed 0.90 KLD and it shall be met through Changodar Industrial Users Association only. Prior permission from concerned authority shall be obtained for procurement of water.

8. The industrial effluent generation from the project shall not exceed 1.60 KLD.
9. Management of Industrial effluent shall be as under:
 - ✓ 1.60 KLD effluent generated from process shall be reused in cooling tower and there shall be no discharge of any industrial effluent into an environment like drain, land etc and shall maintain Zero Liquid Discharge (ZLD).
10. Domestic wastewater generation shall not exceed 0.50 KL/day for proposed project and it shall be treated in STP. It shall not be disposed off into soak pit. Treated sewage shall be utilized for gardening and plantation purpose within premises after achieving on-land discharge norms prescribed by the GPCB.
11. During monsoon season when treated sewage may not be required for the plantation / Gardening / Green belt purpose, it shall be stored within premises. There shall be no discharge of waste water outside the premises in any case.
12. Unit shall provide buffer water storage tank of adequate capacity for storage of treated waste water during rainy days.
13. Complete Zero Liquid Discharge [ZLD] status shall be maintained all the time and there shall be no drainage connection from the premises.
14. Unit shall provide STP and ETP with adequate capacity.
15. The unit shall provide metering facility at the inlet and outlet of ETP and maintain records for the same.
16. Proper logbooks of ETP; reuse/ recycle of treated/ untreated effluent; chemical consumption in effluent treatment; quantity & quality of treated effluent; power consumption etc. shall be maintained and shall be furnished to the GPCB from time to time.

AIR:

17. Unit shall not exceed fuel consumption for Thermic Fluid Heater as per the point no. 24 as mentioned above.
18. PP shall use approved fuels only as fuel in Thermic Fluid Heater.
19. Unit shall provide adequate APCM with flue gas generation sources to achieve the norms prescribed by GPCB.
20. There shall be no process gas emission.
21. Regular monitoring of ground level concentration of PM10, PM2.5, SO2 and NOx shall be carried out in the impact zone and its records shall be maintained. Ambient air quality levels shall not exceed the standards stipulated by the GPCB. If at any stage these levels are found to exceed the prescribed limits, necessary additional control measures shall be taken immediately. The location of the stations and frequency of monitoring shall be decided in consultation with the GPCB.

HAZARDOUS / SOLID WASTES:

22. All the hazardous/ solid waste management shall be taken care as per the point no. 32 and 33 as mentioned above.
23. Authorized end-users shall have permissions from the concerned authorities under the Rule 9 of the Hazardous and Other Wastes (Management and Transboundary Movement) Rules 2016.
24. Unit shall explore the possibilities for environment friendly methods like co-processing of hazardous waste for disposal of Incinerable & land fillable wastes before sending to CHWIF & TSDF sites respectively.
25. The project proponent has to obtain membership of TSDF site & CHWIF before obtaining CTO of GPCB.
26. STP sludge shall be collected and used as manure in gardening activity or send to TSDF site for landfilling.
27. The unit shall submit the list of authorized end users of hazardous wastes along with MoU signed with them at least two months in advance prior to the commencement of production. In the absence of potential buyers of these items, the unit shall restrict the production of the respective items.

GREENBELT AREA

29. The PP shall develop green belt [391.82 Sq m (23.00 %) inside plant premises + 200.00 Sq m (11.70 %) at Kavitha Gram Panchayat (Outside plant premises) = Total: 591.82 Sq. m.) i.e. 34.7 % of total plot area] as submitted before SEAC. Green belt shall be developed with native plant species that are significant and used for the pollution abatement as per the CPCB guidelines. It shall be implemented within 3 years of operation phase in consultation with GPCB.

OTHERS:

30. The project proponent shall carry out the activities of amount of Rs. 0.02 Crores (To provide solar panels at Moraiya Gram panchayat and Tree Plantation at Changodar) proposed under CER and it shall be part of the Environment Management Plan (EMP) as per the MoEF&CC's OM no. F. No. 22-65/2017-IA.III dated 30.09.2020. This shall be monitored and the monitoring report shall be submitted to the regional office of MoEF&CC as a part of half-yearly compliance report and to the District Collector. The monitoring report shall be posted on the website of the project proponent.
31. As proposed, at least Rs. 5.40 lakhs shall be allocated for the conservation plan Schedule- I species. (MoEF&CC) (In case of Sch-I species)
32. The activities and the action plan proposed by the project proponent to address the

	<p>socio-economic and public hearing issues in the study area, shall be completed as per the schedule presented before the Committee and as described in the EMP report in letter and spirit. (if Public consultation is applicable.) (MoEF&CC)</p> <p>33. All the recommendations, mitigation measures, environmental protection measures and safeguards proposed in the EIA report of the project prepared by M/s. Air Environmental Engineers Pvt. Ltd. and submitted by the project proponent and commitments made during presentation before SEAC and proposed In the EIA report shall be strictly adhered to in letter and spirit.</p>
43)	<p>COMPLIANCE AND ADMINISTRATION/APEAL OF EC ORDERS</p> <ol style="list-style-type: none"> 1. Project proponent shall inform to all the concerned authorities including Municipal Corporation and District Collector and shall also give wide publicity through advertisement in minimum two local newspapers within seven days, about the Environment Clearance order accorded. 2. Project proponent shall appoint a key person in the organization who shall be responsible for compliance of above condition fully on behalf of the proponent. It will not mean that appointing a key person will exempt the project proponent from the responsibility of compliance. Any change in key person shall immediately be informed to SEIAA and all concerned authorities. 3. Designated key person shall submit six monthly compliance report to SEIAA/SEAC, MOEF&CC, GPCB and Nodal Department of the Government. 4. The Nodal Department or any authority or officer authorized by MOEF&CC/SEIAA can inspect the site of the project and all the facilities, for verification of compliances of environment clearance conditions. 5. In case of violation reported upon, the project proponent shall be responsible for all the legal actions as per Environment Protection Act, 1986 including SEIAA may cancel, withdraw or keep in abeyance, the Environment Clearance accorded. 6. Any person including the project proponent affected by this Environment Clearance order may file appeal to Honorable National Green Tribunal West Zone branch, Pune, preferably within a period of thirty days from the date of issue of Environment Clearance as prescribe under section 16 of National Green Tribunal Act 2010. 7. All complains and public grievance or representations may be addressed to SEIAA/SEAC in the email addresses (a) msseiaagj@gmail.com& (b) seacgujarat@gmail.com

3.	SIA/GJ/IND3/425422/2023	M/s. Dhyani Industries Plot No. 126, Gozaria GIDC, Taluka: Vijapur, District: Mehsana, Gujarat 382825	EC – Reconsideration
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Category of the unit: **5(f) – B1**

Project status: **EC – New**

Project located either in CEPI or non CEPI : non CEPI

PP submitted salient features of the project including Water, Air and Hazardous waste management are as under from Sr. No. 1, 3 to 40. And in Sr. No. 2 detailed deliberation of Committee is mentioned. Comments of SEAC is given in relevant points.

1) **DETAILS OF APPLICATION:**

1.1. Type of application:	EC (New)
1.2. Proposal no.	SIA/GJ/IND3/425422/2023
1.3. Category of Project:	B1
1.4. Date of application:	18.04.2023
1.5. Date of EDS by SEIAA a) EDS Raised b) Reply by PP	--
1.6. Date of EDS by SEAC a) EDS Raised b) Reply by PP c) Accepted by SEAC	EDS Raised: 09.05.2023 EDS Replied: 15.05.2023 Accepted by SEAC: 14.06.2023
1.7. TOR No. & Date:	SIA/GJ/88305/2022 19.05.2022
1.8. Date and place of Public Hearing	Not applicable as unit is located in Gozaria GIDC.
1.9. Name of accredited Environmental Consultant & address along with Accreditation No. & Validity	M/s. T. R. Associates NABET Accreditation No.: NABET certificate with certificate number NABET/EIA/2326/RA0293 dated 06/09/2023 and valid up to 08/04/2026 Address: A-401, S. G. Business Hub, B/w sola Bhagwat & Gota Over Bridge, Near Umiya Campus, S. G. Highway, Ahmedabad - 380060.
1.10. SEAC Meeting No. and Date:	684 th SEAC meeting, Agenda no.: 3 Date: 01/09/2023 709 th SEAC meeting, Agenda no.: 3 Date: 17/10/2023

	1.11. ADS raised by SEAC meeting No & date:	684 th minutes of meeting of SEAC
		709 th minutes of meeting of SEAC
	1.12. Reply Submitted by PP dated:	1 st ADS Reply: 29/09/2023
		2 nd ADS Reply: 02/12/2023
	1.13. Revised Consideration SEAC Meeting No. and Date:	764 th SEAC meeting, Agenda no.: 3 Date: 19/01/2024
	-	
2)	DELIBERATIONS OF SEAC: <ol style="list-style-type: none"> 1) This is New project proposed for manufacturing of synthetic organic chemicals. 2) The project falls under B1 category of project activity 5(f) as per the schedule of EIA Notification 2006. 3) The proposal was considered in the SEAC video conference meeting dated 01.09.2023. 4) Project proponent (PP) and their Technical Expert M/s T. R. Associates remain present during video conference meeting. 5) The baseline environmental quality has been assessed for various components of the environment viz. air, noise, water, biological and socioeconomic aspect. The baseline environmental study has been conducted for the study area of 10 km radial distance from project site for the period October-2022 to December-2022. Ambient Air Quality monitoring was carried out SO₂, NO_x, PM_{2.5}, PM₁₀, CO, HCl and VOC at Eight locations, including the project site. Values conform to the prescribed standards for Ambient Air Quality. The incremental Ground Level Concentration (GLC) has been computed using "AERMOD View". Incremental GLC's for all parameters remain within 500 m from the project site. The resultant concentrations are within the NAAQS. The modelling study proved that the air emissions from the proposed plant would not affect the ambient air quality of the region in any significant manner. The ambient air quality around the proposed project site will remain within the National Ambient Air Quality Standards (NAAQS). 6) The baseline monitoring of groundwater was collected from 8 locations. Ground water is suitable for domestic and agricultural purpose after primary treatment and disinfection. Further, surface water was collected from 8 locations. Surface water can be used for domestic and agricultural purpose after primary treatment as well as after disinfection. Water quality of all 8 locations is found below E as per CPCB guidelines. 7) Risk assessment including prediction of the worst-case scenario and maximum credible accident scenarios has been carried out. The detailed proposed safeguard measures including On-Site / Off-Site Emergency Plan has been covered in the RA report. 8) Committee deliberated on Product profile, Layout plan, Storage details, Process safety, Fire safety, water balance & waste water management, Flue gas and process gas 	

emission & Air Pollution Control System, Hazardous waste matrix, EMP, CER, Green belt, etc.

9) During meeting, PP presented and Committee noted the following:

- ✓ PP has submitted the undertaking on letter head dated: 28.08.2023 for not manufacturing dirty products as per GPCB Circular vide no: GPCB/P-1/99/474905 dated: 30/11/2018. Committee insisted to submit the said undertaking as notarized.
- ✓ Notarized undertaking dated: 29.08.2023 regarding NABET accreditation mentioning *"M/s T. R. Associates has a valid NABET accreditation Certificate vide No: NABET/EIA/1922/SA 0153 Rev 01 dated: 23/06/2022 valid up to dated: 08/04/2023 (validity extended up to dated: 29/09/2023 vide letter No: QCI/NABET/ENV/ACO/23/2790 from QCI NABET and entire EIA/EMP work including field study, data collection, data analysis and report preparation of M/s Dhyani Industries is being carried out by us and/or our staff including NABL approved T. R. Associates Laboratory vide Certificate No: TC-7896 issued on dated: 25/11/2022 valid upto dated: 24/11/2024."*
- ✓ GIDC Plot Transfer letter dated: 19.10.2022 from M/s A-Modern Agrico to M/s Dhayni Industries for establishment of automobile engineering parts. Further, PP has applied for change of purpose in GIDC letter on dated: 15.05.2023 but the amended GIDC letter is awaited.
- ✓ In flue gas matrix, PP has proposed 15 m stack height with coal fired HAG (2 Lakh Kcal/Hr) which is inadequate.
- ✓ PP presented the details of carbon foot print and carbon sequestration as a full chapter of EIA. PP has not made any brief note/ slide which can be presented before the committee which is not acceptable.
- ✓ Committee noted that there is a cyanation process, upon asking regarding product in which cyanation process takes place, separate water consumption, wastewater generation and treatment of cyanide stream, PP could not reply satisfactory.

10) Since the proposed project is located in notified industrial area, public consultation is not required as per paragraph 7(i) (III) (I) (b) of the Environment Impact Assessment Notification 2006.

11) **After detailed discussion, Committee unanimously decided to consider the project in one of upcoming meeting only after submission of following documents:**

- a) Notarized undertaking for not manufacturing dirty products as per GPCB Circular vide no: GPCB/P-1/99/474905 dated: 03/11/2018.
- b) GIDC letter for change of purpose from automobile engineering parts to dyes

and dyes intermediates.

- c) Details of product in which cyanation process takes place.
- d) Details of water consumption, wastewater generation and treatment of cyanide stream.
- e) SOP for handling of cyanide.
- f) Revised flue gas matrix mentioning adequate stack height with coal fired HAG (2 Lakh Kcal/Hr).
- g) Justification regarding low wastewater generation than water Consumption in industrial component.
- h) Details of mechanism of segregation of streams.
- i) Explore the possibility of treatment of surface and groundwater (lowering the TDS as TDS is found high in baseline study) as CER activity.
- j) Copy of GIDC water supply.
- k) Details of carbon sequestration along with prediction of future regarding carbon neutral project.
- l) Compliance of ToR No: 9(xiv): Provide the Cost-Benefit analysis with respect to the environment due to the project.
- m) Addendum EIA report incorporating above mentioned points.

12) **PP has submitted reply of above query generated on SEAC VC meeting, through Parivesh portal.**

13) This proposal is reconsidered in SEAC VC meeting dated: **17.10.2023**.

14) PP along with their technical expert/consultant, M/s. T. R. Associates remains present in the meeting and made presentation before Committee.

15) It came to notice of committee that presentation and details were not send well in advance, so it is difficult to verify the data by committee, so committee asked to come in next coming meeting.

16) **After detailed discussion, Committee unanimously decided to consider the project in one of upcoming meeting only after submission of above details point no. a to m:**

17) PP has submitted reply of above query generated on SEAC VC meeting, through Parivesh portal.

18) This proposal is reconsidered in SEAC VC meeting dated: **19.01.2024**.

19) PP along with their technical expert/consultant, M/s.T. R. Associates remains present in the meeting and made presentation before Committee.

20) During meeting, Committee noted that PP submitted following details:

- a) PP has submitted Notarized undertaking dated 01.09.2023 for not manufacturing

dirty products as per GPCB Circular.

- b) PP has submitted application to GIDC on 15.05.2023 for change of purpose from automobile engineering parts to dyes and dyes intermediates, and submitted its copy as proof. PP has submitted name of various units received EC from SEIAA in Gozaria estate.
- c) PP has presented Manufacturing Process and Process Flow Diagram for only "Vat Pink R" product having cyanation process.
- d) PP has submitted details of water consumption, wastewater generation and treatment of cyanide stream, it is mentioned as under:
 - **Total Water Consumption/day: Total 26.35 KLD** [Fresh water (16.95 KLD) + Recycled water (9.40 KLD)]
 - **Total Wastewater Generated/day: 10.76 KLD** [0.75 KLD (Domestic) + 10.02 KLD (Industrial)]
 - **Water Consumption in Cyanide stream** – 0.2 KLD in VAT Pink R Product
 - **Wastewater generation from Cyanide stream** – 0.49 KLD from VAT Pink R Product
 - **PP has also submitted Treatment of Cyanide Stream during presentation.**
- e) PP has submitted safe operating procedure (SoP) of Cyanide.
- f) PP has revised the stack height of Hot air generation (HAG) and submitted revised Flue gas details, the same details is mentioned at Sr. No. 24.
- g) PP has submitted justification regarding low wastewater generation than water Consumption in industrial component mentioned in format Sr. No. 16.
- h) PP has presented Mechanism of segregation of Streams which is mentioned in format Sr. No. 19.
- i) PP has informed that in ground water TDS concentration range is 220-1080 mg/L, which is within the permissible limit given in drinking water standard (i.e 2000 mg/L, IS 10500:2012), Surface water TDS concentration range is 200-1284 mg/L which is also below permissible limit of drinking water standard. However, unit will provide R.O. facility in Gozaria village as a part of CER activity.
- j) PP has submitted copy of Gozaria GIDC Industries Association Letter dated 31.08.2023 for water supply.
- k) PP has presented carbon sequestration along with prediction of future which is mentioned in format Sr. No. 3.

	l) PP has presented Cost-Benefit analysis with respect to the environment due to the project. m) PP has submitted Addendum EIA report. 21) Committee found presentation by PP was satisfactory.		
3)	EIA REPORT (BASELINE STUDIES AND RISK ANALYSIS)		
	Sr. no.	Particulars	Details (Give brief note / Conclusion of the particular subject)
	a	Ensure that there is no change in EIA report w. r. t. ToR i.e. Form-1 & PFR	Some minor changes have been changed due to project requirement: 1. Form-1 & PFR: Details of hazardous waste table had specified description of waste which was merged in Ch-2 details of hazardous waste management.
	b	Baseline environmental monitoring period	October 2022 to December 2022 (30-09-2022 to 27-12-2022)
	c	Whether baseline data is primary or secondary data? 1) If baseline data carried out by other NABL accredited laboratory then MoU between both. 2) If baseline data is taken from another EIA report, then MoU between NABET consultant and industry whose data used in preparing present EIA report and time period of baseline data shall be as per MoEF&CC's OM dated: 08.06.2022.	Primary data has been used for baseline data. The baseline monitoring was undertaken during October 2022 to December 2022 (30-09-2022 to 27-12-2022) by the members of T. R. Associates. T R Associates has own NABL Accredited laboratory vide Certificate No. TC-7896 dated 25/11/2022 valid up to 24/11/2024
	d	Baseline study area (Km)	Base line data of ambient air quality, water quality, soil quality, noise, land use & land cover, topography, hydrology, ecology as well as socio economic status was collected for study area of 10 km.
	AIR		
	e	No. of AAQM stations including project site	8

f	Parameters considered for AAQM including project specific parameters.	SO ₂ , NO _x , PM _{2.5} , PM ₁₀ , CO, VOC, HCl	
	-		
	Sr. no.	Parameters	Range of Concentrations (µg/m³)
	1	PM_{2.5}	28.15 µg/m ³ to 51.47 µg/m ³
	2	PM₁₀	54.45 µg/m ³ to 83.64 µg/m ³
	3	SO₂	B.D.L (DL=5) to 14.08 µg/m ³
	4	NO₂	16.11 µg/m ³ to 37.71 µg/m ³
	5	CO	Below Detectable limit (DL=1)
	6	VOC	Below Detectable limit (DL=0.1)
	7	HCl	Below Detectable limit (DL=5)
g	Whether the results of AAQM is within the norms prescribed in NAAQS ? If no, give reasons as per EIA report	All parameters are within limit of NAAQS standards	
h	Comments for AAQM results w. r. t. NAAQS	In a study area of 10 km, the highest concentrations of PM _{2.5} , PM ₁₀ , SO ₂ , and NO ₂ were found at the project site, with values of 51.47 µg/m ³ , 83.64 µg/m ³ , 14.08 µg/m ³ , and 37.71 µg/m ³ respectively. CO = Below Detectable limit (DL=1)	Table 3.8 Chapter-3 of EIA report (Page no. 3.13)
i	Software used for the mathematical Modelling for anticipated incremental GLCs (Ground Level Concentrations)	AERMOD view 10.0.1	Section 4.4 of Chapter-4 of EIA report (Page no. 4.15)
j	The resultant concentrations w. r. t. NAAQS and its conclusion.	After the establishment of the proposed project, these concentrations are found to be well below the permissible NAAQS norms for rural/residential zone and Industrial zone. Therefore, the proposed activity will not have any adverse impact on the air environment.	Section 4.4 of Chapter-4 of EIA report (Table No 4.12 to 4.19, Page no. 4.26 to 4.29 respectively)
WATER			
k	No. of monitoring stations including project site wrt water a) Groundwater b) Surface water	Ground water: 8 Surface water: 8	

I	Conclusion of the Monitoring during baseline study of water (ground water and surface water)	As below	Page No 3.38, Section 3.4.1.3& Page no. 3.43 Section 3.4.1.4 of Chapter-3
	<p>The baseline quality of water based on the results of the ground water quality monitoring within the study area, it is observed that</p> <ul style="list-style-type: none"> • pH is found between 7.01 to 7.81pH was found within acceptable limit at all locations. • Chloride is found between 65 mg/L to 312 mg/L which is well within acceptable limits at all locations except Harnahoda (312 mg/L) but within permissible limit. • Total hardness ranges between 100 mg/L to 400 mg/L and is higher than the acceptable limit at all locations except Kharna and Kukarwada, but within permissible limit. Magnesium ranges from 19.4 mg/L to 70.7 mg/L and is found on the higher then acceptable limit. Calcium ranges from 8 mg/L to 98 mg/L. It is found within acceptable limit at all location except Vasai, but within permissible limit. It may be due to geological formation, seepage and runoff from soil and from salts of Calcium & magnesium. • TDS ranges from 220 mg/L to 1080 mg/L. It is found to be higher than acceptable limit at all the locations except Kharna but well within permissible limits. It may be due to salts from soil and also domestic sewage may percolate into the groundwater. • Ground water is suitable for domestic and agricultural purpose after primary treatment and disinfection. <p>The baseline quality of water based on the results of the surface water quality monitoring within the study area, it is observed that</p> <ul style="list-style-type: none"> • pH is found between 7.28 to 9.14. It is within acceptable limit at all location except at Tintodan pond. It may be due to detergents/soaps and washing activities. • Chloride ranges from 50 mg/L to 264 mg/L. It is found to be higher than acceptable limit only at Kharna pond. • Total hardness ranges from 71 mg/L to 489 mg/L and it is found higher than acceptable limit only at Solaiya pond, Tintodan pond, Kharna pond and Vasai pond. It may be due to the presence of alkaline earths such as calcium and magnesium. • Magnesium as Mg is found in range of 10.4 mg/L to 67.5 mg/L. It is higher than acceptable limit at all locations except canal near project site, Kukarwada pond, canal between Solaiya & Kharna but well within permissible limit. • Calcium as Ca is found in range from 11.5 mg/L to 95.2 mg/L. It is higher than acceptable limit at Solaiya pond, Kharna pond and Tintodan pond but well within permissible limit. • TDS ranges from 200 mg/L to 1284 mg/L and is higher than acceptable limit at harnahoda, solaiya, Kharna pond, Tintodan and at Vasai pond. It may be due to sewage, urban and agricultural run-off, and industrial wastewater. • Dissolved oxygen is observed lowest i.e. 3.6 mg/l at Kharna pond and highest 5.1 mg/l at Canal near project site. • COD is observed lowest i.e. 8.1 mg/l at canal near project site and highest 52.5 mg/l at solaiya pond, Similarly, BOD is observed lowest i.e 2.5 mg/l at canal near project site and highest 19 mg/l at solaiya pond. The COD and BOD value found may be due to floating particles, religious debris, and algae rich water. • Total coliform was found in surface location except solaiya pond and kukarwada pond. And it may be due to the cattle washing, presence of algae, and use of water for domestic activities, which may impact on health of persons who will use this water. • Thus, surface water can be used for domestic and agricultural purpose after primary treatment as well as after disinfection. • Water quality of all 8 locations is found below E as per CPCB guidelines. 		

m	No. of monitoring stations including project site wrt soil	8	
n	Conclusion of the Monitoring during baseline study of land / soil	As below	Page No 3.47 Section 3.5.2 Chapter 3
	<ul style="list-style-type: none"> Based on pH values, soils of project area are neutral in reaction except soils of Harnahoda and Samau are slightly alkaline in nature. EC values are normal and organic carbon content of soils is low except soil of Kharna village has high organic carbon content. A possible reason may be that the farmers of sampling field would have added organic manures in soil. CEC values varied from medium to high indicating that soils of project area are having low to high fertility. Soils of project area possess low calcium salt (<25% of CEC) and slightly more of magnesium salt (>4% of CEC). NPK content of soil samples reveal that soils are low in nitrogen and phosphorus and high in potassium. SAR values ranged from low to medium and nitrate content varied from medium to good. By and large, soils of project area are sandy loam and hence WHC is found to be medium. As soil of Vasai village is sandy clay loam (medium black soil), WHC is found to be good. Bulk density of soils varied from 1.09 g/cm³ to 1.64 g/cm³. Soils are easily cultivable. <p>In sum up, soils of project area are in general, normal, low in organic carbon, low in nitrogen and phosphorus and medium WHC.</p>		
o	No. of monitoring stations including project site wrt Noise	8	
p	Conclusion of the Monitoring during baseline study of Noise	As below	Page No 3.22 Section 3.3.3 Chapter-3
	<ul style="list-style-type: none"> Sound levels had been recorded according to IS: 9989:1991 (Reaffirmed 2001). The maximum noise level measured in the study area was 74.4 dB (A) in day time and 63.4 dB (A) in night time at Project site, which is below the stipulated standards in day time as well as in Night time also the Leq value of the same is within stipulated norms. The noise levels (Leq) of the residential area within the impact zone varied from 46.5-49.9 dB (A) in the day time and 35.7-42.0 dB (A) in the night time that of industrial area is 61.4-70 dB(A) in the day time and 50.7-58.8 dB(A) in night time, commercial ranges from 53-53.5 dB (A) in the day time and 43.9-44.9 dB (A) in night time and in silence zone it is observed between 42.9-45.1 dB (A) in day time and 36.7-38.9 dB (A) in night time. 		
q	<p>Any other details:</p> <p>a) Details of carbon footprint: Net CO₂ emitted = 308.66 MT/year (Approx.) Production per year = 30 MT/year Net CO₂ emitted per ton of product = 10.28 MT or 1028 kg</p> <p>b) Details of water footprint: Total water – 26.35 KLD Blue water – 16.25 KLD Green water – 0.7 KLD Grey water – 9.40 KLD</p>		

	<p>c) Details of carbon sequestration:</p> <p>1st step towards carbon reduction/sequestration after the Plant Commencement (2024-2029): Installation of Solar Panel of 20 kW at rooftop of industrial shed inside the premises within 5 years – 20.22 MT – 6.551 % Installation of Solar Panel of 10 kW in Gram-panchayat of Harnahoda and school of Harnahoda village – 10.11 MT – 3.275 % Rain Water Harvesting – 0.15 MT – 0.049 % Plantation of 156 Nos. trees as part of greenbelt – 26 MT – 8.424 % Plantation of approx. 500 Nos. of trees as a part of conservation activities for Schedule-I species – 83.33 MT – 26.997 %</p> <p>2nd step towards carbon reduction/sequestration after the Plant Commencement (2025-2030): Plantation of approx. 250 Nos. of trees as a part social forestry during 2024-2029 in nearby villages- 41.66 MT- 13.497 %</p> <p>3rd step towards carbon reduction/sequestration after the Plant Commencement (2026-2031): Plantation of approx. 250 Nos. of trees as a part social forestry during 2025-2030 in nearby villages- 41.66 MT- 13.497 %</p> <p>4th step towards carbon reduction/sequestration after the Plant Commencement (2027-2032): Plantation of approx. 200 Nos. of trees as a part social forestry during 2025-2030 in nearby villages- 33.33 MT- 10.798 %</p> <p>5th step towards carbon reduction/sequestration after the Plant Commencement (2028-2033): Plantation of approx. 200 Nos. of trees as a part social forestry during 2025-2030 in nearby villages- 52.20 MT- 16.912 %</p> <p>Total carbon sequestration – 308.66 MT CO₂ per year– 100 %</p> <p>Net Zero CO₂ Emission will be achieved from the year 2033 through tree plantation, social forestry, rain water harvesting and Renewable source of energy.</p> <p>d) Details of roof top rain water harvesting and reuse within premises: Considering annual rainfall of 827 mm and 100 rainy days per year, total harvested rainwater will be 229.75 KL/year. The total volume of water that can be stored at a time is 32.17 KLD. Hence, one storage tank of 35 KL capacity will be provided.</p>	
r	Details of Schedule-I species and its conservation plan, if any	
	Schedule-I species Indian Peafowl was found during the baseline and a conservation plan has been submitted to Chief Wildlife Warden, Gujarat for approval dated 31/03/2023. Total budget allocated for conservation of Schedule-I species is 4 lakhs. This cost has been incorporated in the EMP cost.	
4)	<p>RISK ANALYSIS & ITS MITIGATION MEASURES IN GENERAL AS GIVEN IN EIA REPORT</p> <ul style="list-style-type: none"> • Wind indicator should be provided at the highest level of the plant to know the wind direction. • Automatic sprinkler system for the flammable material area may be provided as knock on effect in case of fire is possible. • Inspection of the storage drums as per prefixed inspection schedule for thickness measurement, joint and weld efficiency etc. • Provision of flameproof electrical fittings/equipment's. • Proper maintenance of earth pits. 	

- Strict compliance of security procedures like issue of identity badges for outsiders, gate passes system for vehicles, checking of spark arrestors fitted to the drums lorries etc.
- Strict enforcement of no smoking.
- Periodic training and refresher courses to train the staff in safety firefighting.
- Emergency drills should be carried out periodically to ensure preparedness must continue.
- Extensive training on use of Self-Contained Breathing Apparatus (SCBAs) must be ensured for emergency control.
- Many of the raw materials used for Dyes Manufacturing are either toxic or flammable. It is therefore important to ensure that these materials are stored in closed, well ventilated totally safe areas. A fire alarm system (heat and smoke detection) should be provided for the storage area where the material is stored as toxic fumes arise on combustion.
- Loose drums of waste materials, often solvent laden, must be removed from the working areas and close watch kept.
- Adequate number of caution boards highlighting the hazards of chemicals should be provided at critical locations.
- Good housekeeping, use of PPE, Engineering controls, Enclosure processes, scrubber system, display of safety boards, SOP of loading/unloading, local exhaust ventilation, safety shower etc. are important safety measures have taken to keep these chemicals within TLV.
- Reduce the level of physical activity by sharing workload with other or by using mechanical means.

5) **PRODUCT PROFILE AND BRIEF NOTE OF PRODUCT PROFILE**

Sr. No.	Product	CAS Number	Capacity , TPM	End use
1	Vat Golden Yellow RK	1324-11-4	2.5	Dyeing Cellulosic Fibers Such as Cotton Linen
2	Vat Golden Yellow GK	128-66-5		Textile Chemicals
3	Vat pink R	2379-74-0		Dyeing of High-Grade Cotton Fabrics
4	Vat Violet 2R	1324-55-6		For Cotton Fabric of Direct Dyeing, Color Discharge Dyeing and Resist Printing.
Total			2.5 MT/Month	

Brief Note of Product Profile:

1. No of Manufacturing Plants: 1
2. Brief Note regarding number of Products to be manufactured considering plant capacity: Total plant area is 1573.27m², which is sufficient to manufacture 4 no. of products in tune of 2.5 MT/Month. The detailed area adequacy is given in Section 11 of this SEAC format.

6) **PROJECT DETAILS (COST/LAND OWNERSHIP/NA PERMISSION ETC.)**

a) Total cost of Proposed Project (Rs. in Crores):

Existing	Proposed	Total
Not applicable as the unit is proposed project	2.81 Crore	2.81Crore

Break-up of proposed project Cost:

Details	Existing (Rs. In	Proposed (Rs. In Crores)	Total (Rs. In Crores)
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			Crores)			
		Land	Not applicable as the Unit is proposed project	0.3	2.81	
		Building		0.3		
		Plant & Machinery		1.5		
		EMP		0.71		
		Total	--	2.81 Crore	2.81 Crore	
<p>b) Details of Land / Plot ownership details: (Linking between Land ownership and PP is required.)</p> <p>i. Total Plot area (sq mt): 1573.27 m²</p> <p>ii. GIDC Plot Allotment letter/ NA documents: GIDC plot allotment letter no.: GIDC/RM/MEH/TRF/FTO/GOZ1/36 dated 19/10/2022.</p> <p>iii. Rent agreement, if any</p> <p>iv. Other Land Possession documents, if any</p>						
7)	IF IT IS EXPANSION WHETHER CCR/EARLIER EC COMPLIANCE GIVEN: ➤ Not applicable as the unit is proposed project.					
8)	PUBLIC HEARING APPLICABILITY AND ITS COMPLIANCE: ➤ Not applicable as the proposed unit is located in Gozaria GIDC.					
<p><u>Comments:</u></p> <p>The public consultation is not applicable as per paragraph 7(i) III (i) (b) of the Environment Impact Assessment Notification-2006.</p>						
9)	SITING CRITERIA DETAILS (OTHER THAN GIDC):					
	Sr. no.	Environmental Sensitivity	Name/Specific details	Siting criteria as per GPCB guidelines dated: 05.06.2022 & its amendment	Aerial Distance in Km	
	1	Habitat (Residential Area)	Gozaria town	Should not be within 500 m	1.48 km	
	2	Water Bodies		Should not be within 500 m		
		River	--		--	
		Natural Nallah/Drain	--		--	
		Lake/Pond/Wetlands	--		--	
		Water supply Tanks/Reservoirs	--		--	
		Canal	Narmada canal		0.724 km	
	3	Protected Monuments/Heritage sites/Public Buildings i.e School, colleges, etc.	Jasmalnathji Mahadev Temple	Should not be within 500 m	9.89 km	
			Harnahoda Primary School		1.19 km	

	4	National/State Highway OR Express way	SH-71	Should not be within 75 meters	1.43 km															
	5	Coastal Regulation Zone (CRZ) (In case of Coastal area projects)	Gulf of Khambhat	Should not be within 500 m	130 km															
-																				
<u>Comments:</u>																				
This unit is located in GIDC area, so siting criteria is not applicable.																				
10)	A. APPLICABILITY OF GENERAL CONDITIONS AND COMMENTS WITH SPECIFIC CLARIFICATION OF MOEF&CC GUIDELINES: Any project or activity specified in Category 'B' will be appraised at Central level as Category 'A' if located in whole or in part within 5 Km radius from the project boundary of:-																			
	<table border="1"> <thead> <tr> <th>Sr No</th><th>Particulars</th><th>Aerial Distance in Km</th></tr> </thead> <tbody> <tr> <td>1.</td><td>Protected Areas notified under the Wildlife (Protection) Act 1972 (53 of 1972)</td><td>Thol Bird Sanctuary at 42 km in SSW direction</td></tr> <tr> <td>2.</td><td>CPA/SPA (Critically Polluted Area/Severely Polluted Area) as identified by the CPCB</td><td>Narol CPA is at 55 km in South direction</td></tr> <tr> <td>3.</td><td>Eco sensitive areas as notified under sub-section (2) of section 3 of EPA-1986</td><td>ESZ of Thol Bird Sanctuary- 38.74km in SSW direction</td></tr> <tr> <td>4.</td><td>Interstate boundaries and international boundaries</td><td>Interstate boundaries (Gujarat -Rajasthan) - 85.65 km in ENE direction International Boundaries (India- Pakistan) -179.07 Km in NW Direction</td></tr> </tbody> </table>					Sr No	Particulars	Aerial Distance in Km	1.	Protected Areas notified under the Wildlife (Protection) Act 1972 (53 of 1972)	Thol Bird Sanctuary at 42 km in SSW direction	2.	CPA/SPA (Critically Polluted Area/Severely Polluted Area) as identified by the CPCB	Narol CPA is at 55 km in South direction	3.	Eco sensitive areas as notified under sub-section (2) of section 3 of EPA-1986	ESZ of Thol Bird Sanctuary- 38.74km in SSW direction	4.	Interstate boundaries and international boundaries	Interstate boundaries (Gujarat -Rajasthan) - 85.65 km in ENE direction International Boundaries (India- Pakistan) -179.07 Km in NW Direction
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<u>Comments:</u>																				
As per MoEF&CC's notification dated: 25.06.2014 and as per details submitted by PP, General condition is not applicable.																				
B. Ensure compliance of category as defined in the amendment to EIA Notification, 2006 vide SO 1599 (E) dated 25/06/2014. i.e. Conditions of small units: (in case of 5 (f) category units and outside the GIDC)																				
	<table border="1"> <thead> <tr> <th>Sr no.</th><th>Condition</th><th>Compliance with justification</th></tr> </thead> <tbody> <tr> <td>1</td><td>Water consumption less than 25 M3/day;</td><td>Not applicable as unit is located in Gozaria GIDC</td></tr> <tr> <td>2</td><td>Fuel consumption less than 25 TPD;</td><td>Not applicable as unit is located in Gozaria GIDC</td></tr> </tbody> </table>					Sr no.	Condition	Compliance with justification	1	Water consumption less than 25 M3/day;	Not applicable as unit is located in Gozaria GIDC	2	Fuel consumption less than 25 TPD;	Not applicable as unit is located in Gozaria GIDC						
Sr no.	Condition	Compliance with justification																		
1	Water consumption less than 25 M3/day;	Not applicable as unit is located in Gozaria GIDC																		
2	Fuel consumption less than 25 TPD;	Not applicable as unit is located in Gozaria GIDC																		

3	Not covered in the category of MAH units as per the Management, Storage, Import of Hazardous Chemical Rules (MSIHC Rules), 1989 as per the legal undertaking submitted with EIA report.	Not applicable as unit is located in Gozaria GIDC																																																																																
Comments: Unit is located within the GIDC so this small scale condition is not applicable.																																																																																		
11)	AREA ADEQUACY AND COMMENTS Total Land area: 1573.27 m ² Floor-wise land area break-up table Area Adequacy table: <table><tr><th>Sr No</th><th>Components</th><th>Area required (Sq m)</th><th>Area Provided (Sq m)</th><th>Percentage</th></tr><tr><td>1.</td><td>Office/Admin building/Lab Building</td><td>20.51</td><td>25.64</td><td>1.63</td></tr><tr><td>2.</td><td>Production Area*</td><td>180.07</td><td>225.09</td><td>14.31</td></tr><tr><td>3.</td><td>Finished Goods Storage Area*</td><td>--</td><td>--</td><td>--</td></tr><tr><td>4.</td><td>Raw Material Storage Area*</td><td>--</td><td>--</td><td>--</td></tr><tr><td>5.</td><td>Hazardous waste Storage</td><td>5.72</td><td>7.15</td><td>0.45</td></tr><tr><td>6.</td><td>ETP / STP/ MEE/ RO/ spray dryer/etc. area</td><td>16</td><td>20</td><td>1.27</td></tr><tr><td>7.</td><td>Green Belt Area</td><td>416.36</td><td>520.17</td><td>33.06</td></tr><tr><td>8.</td><td>Parking, Road Area and Margins</td><td>482.02</td><td>602.53</td><td>38.30</td></tr><tr><td>9.</td><td>Tank Farm</td><td>--</td><td>--</td><td>--</td></tr><tr><td>10.</td><td>Security Cabin</td><td>3.2</td><td>4</td><td>0.25</td></tr><tr><td>11.</td><td>Utility Block</td><td>16</td><td>20</td><td>1.27</td></tr><tr><td>12.</td><td>OHC</td><td>9.66</td><td>12.08</td><td>0.77</td></tr><tr><td>13.</td><td>Open area</td><td>98.98</td><td>123.73</td><td>7.86</td></tr><tr><td>14.</td><td>Solvent</td><td>10.30</td><td>12.88</td><td>0.82</td></tr><tr><td colspan="2">Total</td><td>1258.82</td><td>1573.27</td><td>100</td></tr></table> <p>Note: Total Built up area:852.46 Sq.mts. (Ground Floor Area: 326.84 Sq. mts.+ First Floor Area:262.81 Sq. mts. + Second Floor Area: 262.81 Sq. mts.) *First Floor Area: Production Area: 225.09Sq. mts.+ Finished Goods Storage 37.72 Sq. mts. *Second Floor Area: Raw Material Storage Area: 235.81 Sq. mts. + Cooling Tower: 27 Sq. mts.</p> <p>Area Adequacy:</p>		Sr No	Components	Area required (Sq m)	Area Provided (Sq m)	Percentage	1.	Office/Admin building/Lab Building	20.51	25.64	1.63	2.	Production Area*	180.07	225.09	14.31	3.	Finished Goods Storage Area*	--	--	--	4.	Raw Material Storage Area*	--	--	--	5.	Hazardous waste Storage	5.72	7.15	0.45	6.	ETP / STP/ MEE/ RO/ spray dryer/etc. area	16	20	1.27	7.	Green Belt Area	416.36	520.17	33.06	8.	Parking, Road Area and Margins	482.02	602.53	38.30	9.	Tank Farm	--	--	--	10.	Security Cabin	3.2	4	0.25	11.	Utility Block	16	20	1.27	12.	OHC	9.66	12.08	0.77	13.	Open area	98.98	123.73	7.86	14.	Solvent	10.30	12.88	0.82	Total		1258.82	1573.27	100
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NO. OF RAW MATERIALS	STORAGE IN	TOTAL NO.
10 Raw material	Stored in Drums	28
9 Raw material	Stored in Bags	41
1 Raw material	Stored Bottle	346
Total: 20 Raw Materials		

BAGS	SIZE OF BAG (M*M)	AREA OF 1 BAG (M ²)	TOTAL NO OF BAGS	NO. OF BAGS IN 1 STACK	NO OF STACKS REQUIRED	AREA REQUIRE D (M ²)
50 Kg Bags	0.8*0.4	0.32	40	3	14	4.48 (Approx 5 m ²)
50 Kg Bag	0.8*0.4	0.32	1	1	1	4 m ²
Total						9 m²

DRUM	SIZE OF DRUM (KG)	DIAMETE R OF 1 DRUM (M)	TOTAL NO OF DRUMS	AREA REQUIRE D FOR STORAG E OF THE 100 DRUMS	TOTAL AREA REQUIRED	LOCATIO N
Drums	220	0.58	28	45 m ² Including movement area	12.6 m ² (Approx. 13 m ²)	Raw Material storage area mentioned in plant layout

TOTAL AREA REQUIRED	TOTAL AREA PROVIDED
9 + 13 = 22 m ²	Total area provided is 257.81 m ²

NO. OF RAW MATERIALS	STORAGE IN	TOTAL NO.
3 Solvents	Stored in Drums	16

SOLV ENT DRU M	SIZE OF (KG)	DIAM ETER OF 1 DRUM	TOTAL NO OF DRUMS	NO OF DRUMS IN HORIZON	AREA REQUIR ED (M ²)	TOTAL AREA REQUIR ED (M ²)	AREA PROVID ED FOR DRUMS(ARE A REQ UIRE
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			(M)		TAL AND VERTICA L DIRECTI ON			M ²)	D (M ²)						
	Drum s	220	0.58	16	4*4 = 16	=(4*0.58))*(4*0.5 8) =2.32*2. 32	5.38 (Approx. 6 m ²)	12.88 m ²	In solven t Drums storag e area as mentio n in the plant layout						
<p><u>Comments:</u></p> <p>SEAC has examined it w.r.t.to total monthly production, maximum products, manufactured per month, the total raw material required, weekly storage requirement of each raw material, their mode of storage, their compatibility (flammability, corrosive, toxic), area needed by each raw material, one week storage of finished goods. Area adequacy, from overall safety perspective, has been provided in proposal and is satisfactory.</p>															
12)	<p>GREEN BELT CONDITIONS AND MEASURES ALONG WITH AREA:</p> <table><tr><td>Total Plot area (Sq meter)</td><td>Total Green belt area (Sq meter)</td><td>% of Greenbelt</td></tr><tr><td>1573.27 m²</td><td>Inside: 520.17 m² Outside:</td><td>33.06%</td></tr></table> <p>Details of copy of permission letter of concern GIDC/ Panchayat/etc. for greenbelt development (in case of greenbelt development outside the premises:</p> <p><u>Comments:</u></p> <p>➤ The PP shall develop green belt within premises (520.17 Sq. m i.e. 33.06 % of the total plot area) as submitted before SEAC. Green belt shall be developed with native plant species that are significant and used for the pollution abatement as per the CPCB guidelines. It shall be implemented within 3 years of operation phase in consultation with GPCB.</p>									Total Plot area (Sq meter)	Total Green belt area (Sq meter)	% of Greenbelt	1573.27 m ²	Inside: 520.17 m ² Outside:	33.06%
Total Plot area (Sq meter)	Total Green belt area (Sq meter)	% of Greenbelt													
1573.27 m ²	Inside: 520.17 m ² Outside:	33.06%													
13)	<p>EMPLOYMENT GENERATION:</p> <table><tr><td>Permanent</td><td>Contractual</td><td>Total</td></tr><tr><td>3</td><td>7</td><td>10</td></tr></table> <p>-</p>									Permanent	Contractual	Total	3	7	10
Permanent	Contractual	Total													
3	7	10													

14)

SOURCE OF WATER SUPPLY WITH QUANTITY AND PERMISSION (DETAILS OF CGWA IF BOREWELL)

a) Source of water supply: Gozaria GIDC

b) Total Fresh water quantity (KLD): 16.95 KLD

c) Permission of concerned authority (Name and quantity (in KLD):Total Water requirement will be **26.35 KLD** (Fresh 16.95 KLD + Reuse 9.40 KLD). Fresh water will be procured from Gozaria GIDC. Unit has obtained GIDC allotment letter with No.: GIDC/RM/MEH/TRF/FTO/GOZ1/36 dated 19/10/2022. Unit has also obtained No due certificate for water procurement from Gozaria GIDC vide no. 474 dated 31-8-2023.

Comments:

➤ PP has obtained permission from Gozaria GIDC for procurement of water of 16.87 KLD which is found satisfactory.

15)

WATER CONSUMPTION RELATED DETAILS WITH COMMENTS

Category	QuantityKLD	Remarks
(A) Domestic	0.8	Fresh
(B) Gardening	1.14 (0.54 KLD fresh + 0.6 KLD reuse)	Fresh + Reuse from STP
(C) Industrial		
Cooling tower	4.07	Fresh + Reuse
Flue gas scrubber	0.5	Fresh + Reuse
RO-1 (Boiler + Process)	17.82 (4 + 10.26)	Fresh + Reuse (Boiler + Process)
Washing	2	Fresh + Reuse
Process gas scrubber	0.03	Fresh + Reuse
Industrial Total	24.41 (15.61 KLD Fresh + 8.8 KLD Reuse)	Fresh + Reuse from ETP
Grand Total (A+B+C)	26.35 KLD	Fresh + Reuse

Comments:

PP has submitted the above water consumption which is calculated considering the worst case scenario and in no case the water requirement shall not exceed the same which is found satisfactory.

16)

WASTE WATER GENERATION AND DISPOSAL

Category	Waste water KLD	Remarks
(A) Domestic	0.75	To STP
(B) Industrial		
Process	3.13	To ETP
Washing	2.0	To ETP
Boiler	0.4	To ETP
Cooling	0.4	To ETP

Others (Flue gas Scrubber)	0.5	To ETP
Process gas Scrubber	0.03	To ETP
RO1	3.56	To ETP
Total Industrial waste water	10.02	
Total [A + B]	10.77KLD	

Justification in case of increase/ drastic reduction in wastewater generation than water Consumption:

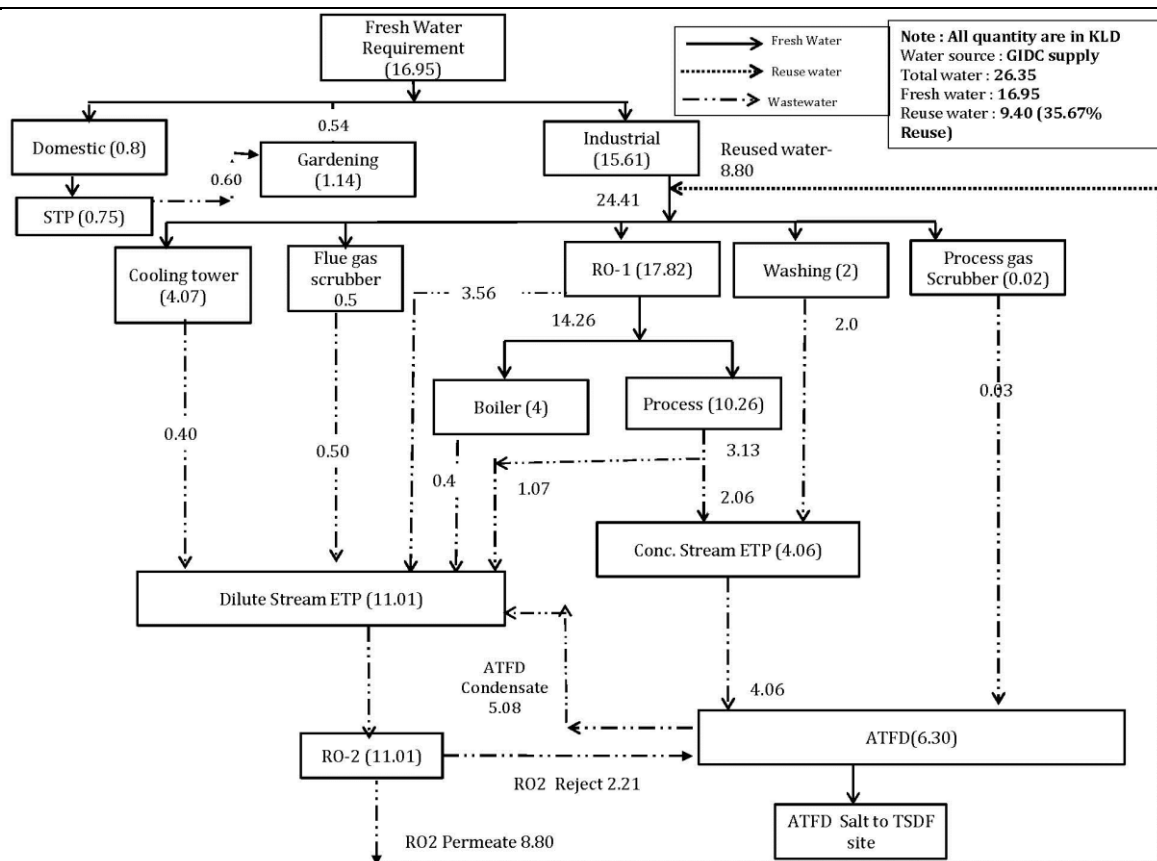
It is requested to note that we have considered worst case scenario for the grouping product for water consumption & wastewater generation also. Total Industrial water consumption: 24.41 KLD and Total Industrial wastewater generation: 10.02 KLD. There will be no increase/dramatic reduction in wastewater generation than water Consumption.

- The water consumption in domestic activity is 0.8 KLD and 0.75 KLD of wastewater will be generated which will be further treated in STP.
- Considering worst case scenario, the unit will utilize 10.26 KLD water in Process and 3.13 KLD wastewater will be generated which is less than the water consumption due to the drying loss which will be sent to concentrated and dilute stream ETP for further treatment.
- The unit will utilize 4 KLD water in Boiler and 0.4 KLD boiler blowdown will be generated which is less than the water consumption due to the heat loss which will be further treated in dilute stream ETP.
- The unit will utilize 4.07 KLD water in Cooling tower and 0.4 KLD cooling tower blowdown will be generated which is less than the water consumption due to the water loss which will be sent to dilute stream ETP for further treatment.
- The unit will utilize 0.52 KLD water in scrubber (Flue gas scrubber-0.5 KLD, Process gas scrubber-0.02) and 0.529 KLD wastewater (Flue gas scrubber-0.50 KLD, Process gas scrubber-0.03) will be generated which is slightly more than water consumption as the wastewater will also contain the scrubbed material. Flue gas scrubber wastewater will be treated in dilute stream ETP and Process gas scrubber wastewater will be treated in ATFD.
- The unit will utilize 17.82 KLD water in RO-1 and 14.26 KLD permeate will be generated which will be utilized in boiler and process (Boiler-4 KLD, Process- 10.26 KLD). 3.56 KLD RO reject will be treated in dilute stream ETP.
- The unit will collect 11.01 KLD wastewater in dilute stream of ETP followed by RO-2 and 8.80 KLD RO-2 permeate will be generated which will be reused in industrial process. The RO-2 reject of 2.21 KLD will be treated in ATFD.

Comments:

PP has submitted the above wastewater generation which is calculated considering the worst case scenario and in no case the wastewater generation shall not exceed the same which is found satisfactory.

17) SIMPLIFIED WATER BALANCE DIAGRAM



Note: Considering the worst-case scenario, the maximum wastewater generation from all processes is estimated to be 3.13 KLD. 2.06 KLD, forming a concentrated stream which will be treated in Concentrated stream ETP. The diluted stream forming 1.07 KLD wastewater will be treated in Dilute Stream ETP.

18) BREAKUP OF WASTE WATER DISPOSAL (DOMESTIC & INDUSTRIAL BOTH)

Sr.no.	Quantity KLD	Facility
1	2.06	Process wastewater will be treated in house primary ETP (concentration stream ETP) and sent in ATFD.
2	2.0	Washing wastewater will be treated in house primary ETP (concentration stream ETP) and sent in ATFD.
3	0.03	Process gas scrubber wastewater will be treated in house primary ETP (concentration stream ETP) and sent in ATFD.
4	0.75	Domestic wastewater will be treated in STP and treated water will be reused in greenbelt development.
5	0.40	Cooling tower blowdown wastewater will be treated in house primary ETP (Dilute stream ETP) and sent in RO-2.
6	0.50	Flue gas scrubber wastewater will be treated in house primary ETP (Dilute stream ETP) and sent in RO-2.
7	3.56	RO-1 Reject wastewater will be treated in house primary ETP (Dilute stream ETP) and sent in RO-2.
8	0.4	Boiler blowdown will be treated in dilute steam of ETP and sent in RO-2.
9	1.07	Process gas wastewater will be treated in house primary ETP

		(Dilute stream ETP) and sent in RO-2.
Total	10.77	
<p><u>Comments for Domestic Effluent:</u></p> <p>➤ Domestic wastewater generation shall not exceed 0.75 KL/day for proposed project and it shall be treated in STP. It shall not be disposed off through soak pit/ septic tank. Treated sewage shall be utilized for gardening and plantation purpose within premises after achieving on-land discharge norms prescribed by the GPCB</p> <p><u>Comments for Industrial Effluent:</u></p> <p>Management of Industrial effluent shall be as under:</p> <p><u>Concentrated Stream (4.09 KLD)</u></p> <p>➤ Total 4.06 KLD high concentrated stream shall be generated from process (2.06 KLD) & washing (2 KLD) shall be segregated and shall be treated in concentration Stream ETP-1 followed by ATFD alongwith Process gas scrubber (0.03 KLD) and ATFD condensate (5.08KLD) shall be treated alongwith with dilute stream ETP-2.</p> <p><u>Dilute Stream (5.93 KLD):</u></p> <p>➤ 11.01 KLD industrial effluent generated from cooling tower (0.4 KLD), Flue gas scrubber (0.5 KLD), RO-1 reject (3.56 KLD), Boiler (0.4 KLD), process (low COD) (1.07 KLD), alongwith ATFD Condensate (5.08 KLD) shall be treated in ETP-2 followed by RO-2. RO-2 reject (2.21 KLD) shall be sent to ATFD and RO-2 Permeate (8.8 KLD) shall be reused in industrial process.</p> <p>➤ Thus there shall be no discharge of any industrial effluent into an environment like drain, land etc and shall maintained Zero Liquid Discharge (ZLD).</p>		
19)	<p>MECHANISM AND METHODOLOGY OF STREAM SEGREGATION</p> <p>Segregation of streams will be carried out at the source itself. Wastewater will be segregated into low-concentrated streams including cyanide wastewater streams and high-concentrated streams.</p> <p>The stream segregation is done considering the worst-case scenario, where the maximum wastewater generation from all processes is estimated to be:</p> <p><u>For Concentrated stream:</u></p> <ul style="list-style-type: none"> • 3.13 KLD. Among this, the wastewater generated during the initial two product washing stages is expected to amount to 2.06 KLD, forming a concentrated stream. This concentrated stream will be treated in the Concentrated Stream Effluent Treatment Plant (ETP). Furthermore, the third product washing stage is likely to produce dilute wastewater, with a quantity of 1.07 KLD. This dilute effluent stream will be treated in the 	

Dilute Stream ETP.

- 2 KLD from washing and 2.06 KLD concentrated stream from the process will be collected in the collection tank. Then it will be taken to a neutralization tank where chemicals will be added to neutralize the stream and also to precipitate waste material from it. Then it will be taken to the settling tank where sludge separation will be done. The supernatant from the settling tank will be taken to a holding tank in which process scrubber wastewater 0.03 KLD and RO-2 reject 2.21 KLD will be added, then a total of 6.30 KLD wastewater will be fed to ATFD where it will be converted to solid form which will be disposed to TSDF site and condensate will be treated in dilute stream ETP.

For Cyanide wastewater stream:

- Whenever the unit manufactures Vat Pink R product having sodium cyanide as one of the raw materials, the wastewater generation will be 0.49 KLD only which contains traces of cyanide. For this, the unit will have provision to treat this wastewater first by oxidation with sodium hypochlorite in an alkaline condition in an Oxidation tank separately provided with the concentrated stream, thereafter the wastewater will be sent to ETP and maintain Zero liquid discharge.

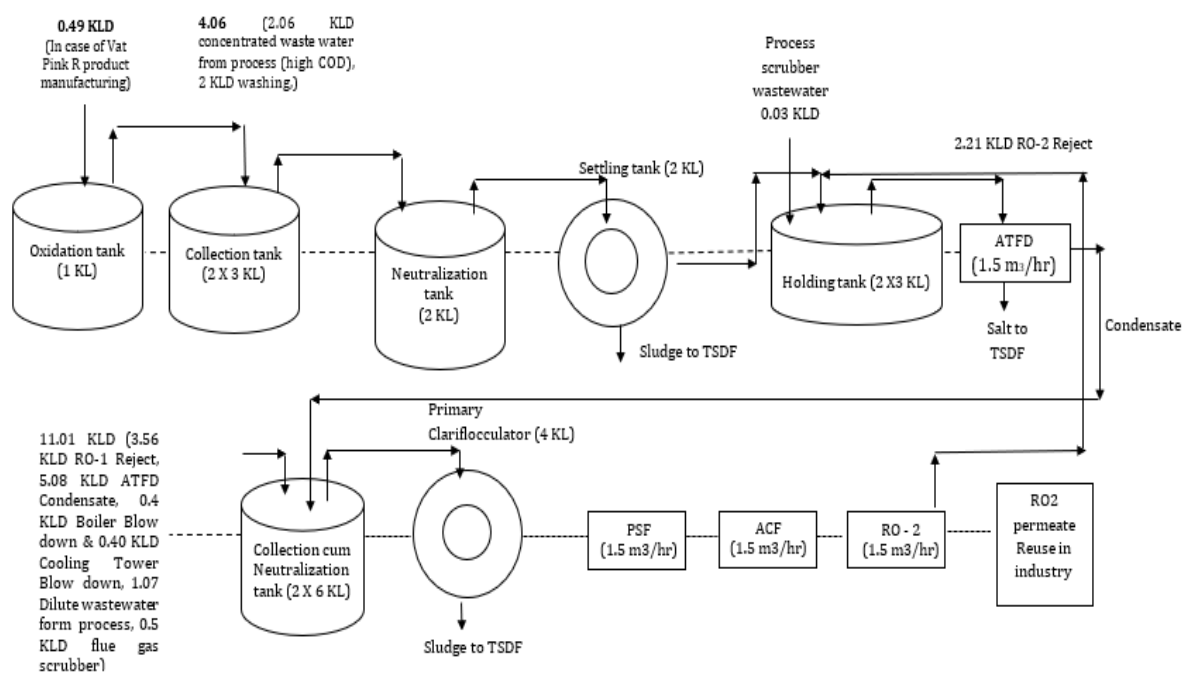
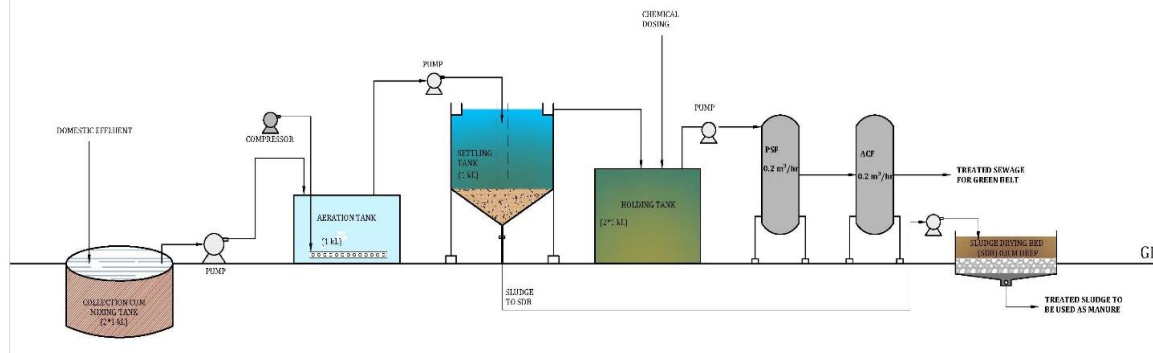
For Dilute stream

- 5.08 KLD condensate from ATFD, 1.07 KLD dilute stream from the process, 0.4 KLD boiler blow down, 0.4 KLD cooling tower blow down, 3.56 KLD RO-1 reject, 0.5 KLD from flue gas scrubber and 0.75 KLD domestic wastewater will be collected in collection cum neutralization tank where chemicals will be added to neutralize wastewater and to form precipitate of waste present in wastewater. Then after it will be taken to the primary Clariflocculator where the sludge will be separated. Supernatant from the primary settling tank will be taken to PSF and ACF. Effluent from ACF will be treated in RO-2. RO-2 permeate - 8.80 KLD will be reused in the industry. This unit will maintain Zero liquid discharge.

20) **STP AND/OR ETP SPECIFICATION AND DESIGN AND ITS CAPACITY**

Details of Sewage Treatment Plant Units

Sr. No.	Name of the units	No. of Unit	Capacity of unit
1.	Collection Tank	2	1 KL
2.	Aeration tank	1	1 KL
3.	Settling tank	1	1 KL
4.	Holding tank	2	1 KL
5.	Pressure sand filter	1	0.2 m ³ /hr
6.	Activated carbon filter	1	0.2 m ³ /hr



Name of the Units	Capacity	No. of Units
Collection tank	3 KL	2
Oxidation Tank*	1 KL	1
Neutralization tank	2 KL	1
Settling tank	2 KL	1
Holding tank	3 KL	2
Collection cum Neutralization tank	6 KL	2
Primary Clariflocculator	4 KL	1
Pressure sand filter	1.5 m³/hr	1
Activated carbon filter	1.5 m³/hr	1
ATFD	1.5 m³/hr	1
RO-2	1.5 m³/hr	1

Note: *The oxidation tank will be installed only in case when unit will manufacture Vat Pink R product in which oxidation will be carried out by Sodium Hypochlorite.

Particulars	Volume
-------------	--------

	Capacity				1.5 (m ³ /hr)					
	Quantity of Effluent to be evaporated				6.36 (kl/day)					
	Working hours per day				4.5 hrs					
	MOC				Mild steel					
	Heat requirement				20596055.24 Kcal. /Hr.					
21)	TREATABILITY OF WATER									
	w/w from	Quantity (KL/day)	pH		TSS (mg/l)		TDS (mg/l)		COD (mg/l)	
			Lower value	Higher value	Lower value	Higher value	Lower value	Higher value	Lower value	Higher value
	Process Wastewater r (To Conc. Stream ETP)	2.06	3	5	1000	1500	30000	40000	40000	5000 0
	Washing	2	6	7	250	300	15000	30000	20000	3000 0
	Composite of composite stream ETP	4.06	5	6	631	909	22611	35074	30148	4014 8
	w/w from	Quantity (KL/day)	pH		TSS (mg/l)		TDS (mg/l)		COD (mg/l)	
			Lower value	Higher value	Lower value	Higher value	Lower value	Higher value	Lower value	Higher value
	After Conc. Stream ETP	4.06	8	9	250	350	9000	15000	12000	1600 0
	Process gas Scrubber	0.03	8	9	100	200	4000	4500	1000	2000
	RO-2 Reject	2.21	7	9	50	100	6000	8000	250	500
	Composite to ATFD	6.3	7	9	178	260	7914	12464	7755	1040 2
	w/w from	Quantity (KL/day)	pH		TSS (mg/l)		TDS (mg/l)		COD (mg/l)	
			Lower value	Higher value	Lower value	Higher value	Lower value	Higher value	Lower value	Higher value
	ATFD Condensate e (To Dilute Stream ETP)	5.08	6.5	7.0	36	52	1583	2493	1551	2080

	Cooling Tower Blowdown	0.40	7.5	8.5	80	100	4000	5000	60	80
	Boiler Blowdown	0.4	7.5	8.5	40	50	4000	4500	60	80
	RO1 reject	3.56	6.0	7.0	300	400	3000	4000	100	200
	Flue gas Scrubber	0.50	6.0	7.0	800	1000	2500	3000	100	200
	Process	1.07	4.0	5.0	200	300	6000	8000	8000	10000
	Composite effluent	11.71	6.0	7.0	150	300	2000	4000	1000	2000
	After PST	11.71	6.0	7.0	90	180	1200	2400	600	1200
	After SST	11.71	6.0	7.0	75	150	800	1600	400	800
	RO Permeate	8.8	6.0	7.0		<10		<150		<250
22)	SUMMARY OF WATER USE AND REQUIREMENT OF FRESH/REUSED WATER									
	Summary of water requirement				Quantity KLD		Remarks			
	Total water requirement for the project (A)				26.35					
	Quantity to be recycled (B)				9.40					
	Total fresh water requirement (C)				16.95					
	Ensure Total water requirement = Recycled water + Fresh water i.e. A = B + C									
23)	REUSE, REDUCE, RECYCLE RECOVERY MEASURES ADOPTED									
	a) Reduce									
	Sr. No.	Item	Quantity	% percentage						
	--	--	--	--						
	b) Reuse									
	Sr. No.	Item	Quantity	% percentage						
	1	Water from ETP	8.80 KLD	33.39 %						
	2	Water from STP	0.6 KLD	2.27 %						
	c) Recycle									
	Sr. No.	Item	Quantity	% percentage						
	--	--	--	--						
24)	FLUE GAS EMISSION									
	Sr. no.	Source of emission With Capacity	Stack Height (meter)	Type of Fuel	Quantity of Fuel	Type of emissions i.e. Air Pollutants	Air Pollution Control Measures (APCM)			

1	Boiler (1 TPH)	30 m	Briquettes or Indonesian coal	4.43 MT/Day or 2.49 MT/Day	SPM SO ₂ NO _x	Multi-Cyclone separator followed by bag filter followed by water scrubber
2	HAG (2 lakh kcal/hr)	30 m	Briquettes or Indonesian coal	1 MT/Day or 0.72 MT/Day	SPM SO ₂ NO _x	Multi-Cyclone separator followed by water scrubber
3	D.G. Set (1X100 KVA)	11m	Diesel	25 Lit/hr	SPM NO _x CO ₂ HC	--
<u>Comments:</u> ➤ The proposed fuel to be used is approved fuel for the requirement of the heat energy and proposed the Air pollution Control measures and stack height so as to achieve the emission norms prescribed by the competent authorities are found satisfactory.						

25)

Sr No	Specific Source of emission (Name of the Product & Process)	Type of Emission	Stack/ Vent Height (meter)	Air Pollution Control Measures (APCM)
1	Reactor vessel of VAT Golden Yellow GK	HCl, VOC	11	Dual condenser system (water + brine) followed by common Dual scrubbing system (water + Alkali) followed by activated carbon column
2	Reactor vessel of VAT Golden Yellow RK	Br ₂ , VOC	11	Dual condenser system (water + brine) followed by common Dual scrubbing system (water + Alkali) followed by activated carbon column
3	Reactor vessel of Vat Pink R	SO, HCl, VOC	11	Dual condenser system (water + brine) followed by common Dual scrubbing system (water+ Alkali) followed by activated carbon column
4	Reactor vessel of Vat Violet 2R	Br ₂ , H ₂ SO ₄ , VOCs	11	Dual condenser system (water + brine) followed by common Dual scrubbing system (water + Alkali) followed by activated carbon column
5	Tray Dryer (2 Nos)	VOCs	11	Activated carbon column
6	Baby pulveriser (3 Nos)	SPM	11	Bag filter

Comments:

- The proposed Air pollution Control measures and stack height so as to achieve the emission norms prescribed by the competent authorities are found satisfactory.

26) **FUGITIVE GAS EMISSION**

S r. N o.	Source	Probable Pollutant Emission	Control Measures/ APCM
1	Handling of raw materials in storage area	Air pollutant (PM)	i) Provision of exhaust ventilation ii) Provision of PPE. iii) Provision of Job rotation to reduce exposure.
2	Flange joints of pipeline, pump & motors	Air pollutant (VOC)	i) Routine & periodic inspection to check leakage. ii) Preventive maintenance, Follow SOP for maintenance. iii) Pumps & motors will be mechanical seal type. iv) LDAR program will be followed. v) Provision of Flange guard.
3	Solid raw material transferring to reactor	Air pollutant (PM)	Hopper will be provided with powder transfer system.
4	Liquid raw material transferring to reactor	Air pollutant (VOC)	Feeding of liquid raw material will be carried out by closed pipeline and mechanical seal pump.
5	Loading /unloading at storage area	Air pollutant (VOC)	Unloading through pipeline to tank in a close system.

Comments:

The air pollution control measures proposed for fugitive gas emission are found satisfactory.

27) **HAZARDOUS PROCESSES AND ITS SAFETY MEASURES**

Types of process	Safety measures including Automation
Bromination	<ul style="list-style-type: none"> ➤ Bromination is exothermic reaction leads to runaway reaction. So, entire process of Bromination is to be followed as per standard operating procedure established by industry. ➤ All engineering controls w.r.t Bromination process i.e. temperature and pressure controller, jacket surrounding to reactor etc. will be provided. ➤ Chilled water to control exothermic reaction during Bromination. ➤ Only trained person will be allocated for handling Bromination process. ➤ Programmable Logic Controller (PLC) based control plan will be provided for Bromination ➤ Direct Contact with skin and eyes will be avoided. ➤ Appropriate personal protective equipment's like Safety Gloves, Goggles, shoes etc., will be provided to workers. ➤ Periodically inspection of scrubber system will be carried out.
Chlorination	<ul style="list-style-type: none"> ➤ Chlorine will be transfer from tonner to reactor through closed transfer

		<p>system, CPC Green is produced by Chlorination of Copper Phthalocyanine Blue (CPC).</p> <ul style="list-style-type: none"> ➤ All adequate engineering controls i.e. temperature and pressure controller, jacket surrounding to reactor etc. will be provided for reactor containing chlorine. ➤ Traces of un-reacted chlorine will be scrubbed in alkali scrubber followed by water scrubber system. ➤ SCBA will be made readily available to handle leak of chlorine gas. ➤ Wear personal protective equipment/face protection. Ensure adequate ventilation. Do not get in eyes, on skin, or on clothing. ➤ Avoid ingestion and inhalation. Keep away from open flames, hot surfaces and sources of ignition. Use only non-sparking tools. ➤ Accidental release measures: ➤ Chlorine gas is denser than air, thus it will tend to remain at ground level rather than dispersing. So, at the time of chlorine leakage, evacuate persons at assembly point (above ground level) ➤ Leaked Chlorine will be absorbed in Sodium hydroxide through closed hood system. ➤ Chlorine leak will be handled by trained experienced person wearing SCBA. ➤ Ammonia Torch will be provided for detection of Chlorine leak.
	Nitration	<ul style="list-style-type: none"> ➤ Nitration is exothermic reaction leads to runaway reaction. So, entire process of nitration is to be followed as per standard operating procedure established by industry. ➤ All engineering controls w.r.t nitration process i.e. temperature and pressure controller, jacket surrounding to reactor etc. will be provided. ➤ Chilled water to control exothermic reaction during nitration. ➤ NO_x fumes will be scrubbed in ventury Scrubber from the Nitration reactor. ➤ Only trained person will be allocated for handling nitration process. ➤ Programmable Logic Controller (PLC) based control plan will be provided for Nitration. ➤ Direct Contact with skin and eyes will be avoided. ➤ Appropriate personal protective equipment's like Safety Gloves, Goggles, shoes etc., will be provided to workers. ➤ Periodically inspection of scrubber system will be carried out.
	Sulphonation	<ul style="list-style-type: none"> ➤ Sulphonation is exothermic reaction leads to runaway reaction. So, entire process of Sulphonation is to be followed as per standard operating procedure established by industry. ➤ All engineering controls w.r.t Sulphonation process i.e. temperature and pressure controller, jacket surrounding to reactor etc. will be provided. ➤ Chilled water to control exothermic reaction during nitration. ➤ SO_x fumes will be scrubbed in venturi Scrubber from the Sulphonation reactor. ➤ Only trained person will be allocated for handling Sulphonation process. ➤ Programmable Logic Controller (PLC) based control plan will be provided for Sulphonation. ➤ Direct Contact with skin and eyes will be avoided. ➤ Appropriate personal protective equipment's like Safety Gloves, Goggles, shoes etc., will be provided to workers.

		<ul style="list-style-type: none">➤ Periodically inspection of scrubber system will be carried out.
	Cyanation	<ul style="list-style-type: none">➤ Separate stored in locked room.➤ Away from water sources.➤ Total body protection suite is provided to charging operator with airline respirator.➤ Safe operating (Charging) procedure is prepared and displayed in process and storage area.➤ Total close process for charging and handling.➤ Antidote kit for cyanide is kept ready in OHC.➤ Training is being provided to handle NACN.➤ SCBA sets are available in handling area.➤ Operator having cuts and sores should not use cyanides.➤ If a little poisoning, inhale cyanide antidote kit (amyl nitrite, sodium nitrite and sodium thiosulfate) and oxygen for 15-30 seconds as first aid measures.➤ Use sodium hypochlorite, calcium hypochlorite solution or potassium permanganate for washing balance, glass apparatus, spatula, workplace and in case of spillage.➤ Use Apron, eye protecting glass, Mask and gloves during transferring, work-up and decomposition of chemicals.➤ Issued quantity will be used fully for reactions cannot be stored in the process area.➤ Separate Log Book for issuing above cyanides and Manager has to sign on the register.
	-	

28)	SOLVENT MANAGEMENT										
	Sr. No.	Solvent	State of material	Type of Storage	Consumption MT/M	Recovered MT/M	Loss	No. of unit	Capacity of storage (MT/ KL)	Total storage (MT/ KL)	Inventory Days
	1	MCB	Liquid	Drum	20.75	19.19	0.06	5	0.22	0.89	3
	2	Nitrobenzene	Liquid	Drum	25.53	24.38	0.05	6	0.22	1.11	3
	3	IBA/PEG 400/Ethyl Cellosolve	Liquid	Drum	22.95	20.75	0.09	5	0.22	1.09	2

29)	VOC EMISSION AND MITIGATION MEASURES FOR ACHIEVING MAXIMUM SOLVENT RECOVERY AND MINIMUM VOC GENERATION			
	Sr. No.	Emission Source	Probable Pollutant Emission	Control measures
	1	Raw material Storage area	VOC (Air Pollutant)	i. Carry out work place area monitoring to find out concentration level in ambient air ii. Close handling system. iii. Provision of breather valve cum flame arrester.
	2	Liquid raw material transferring to	VOC, Acid fumes (Air	i. Solvent recovery system with steam condensation system. ii. Pumps and motors are mechanical seal type.

		reactor	Pollutant)	
3	Flange joints of pipeline, pump & motors	VOC	i. Provision of exhaust ventilation ii. Provision of PPE. iii. Provision of Job rotation to reduce exposure.	
4	Flange joints of pipeline, pump & motors	Air pollutant (VOC)	i. Routine & periodic inspection to check leakage. ii. Preventive maintenance, Follow SOP for maintenance. iii. Pumps & motors will be mechanical seal type. iv. LDAR program will be followed. v. Provision of Flange guard.	
5	Solid raw material transferring to reactor	Air pollutant (PM)	Hopper will be provided with powder transfer system.	
6	Liquid raw material transferring to reactor	Air pollutant (VOC)	Feeding of liquid raw material will be carried out by closed pipeline and mechanical seal pump.	
7	Loading/unloading at storage area	Air pollutant (VOC)	Unloading through pipeline to tank in a close system.	

Comments for Sr No: 27,28 and 29:

- Measures for achieving maximum solvent recovery and minimize VOC generation, inclusive of VOC detectors, pumps, maintenance of pipelines, proper ventilation etc., provided are as per requirement.
- Spent solvents shall be recovered by in-house distillation in such a manner that recovery shall be achieved to the maximum extent and recovered solvent shall be reused in the process. Solvent recovery system with adequate reflux condensers shall be provided for controlling escape of low boiling solvents (VOCs).

30) LDAR PROPOSED

Leakage/ Components	Source of equipment leaks	Detection method	Repair
Liquid leaks	Usually Pump seal failures	Visual Method	Tightening the packing gland
High pressure leaks	-	Audible method	
Odorous material leaks	-	By smell	

	Pumps	At seals	<p>Conduct a circumferential traverse at the outer surface of the pump or compressor shaft and seal interface.</p> <p>If the source is a rotating shaft, position the probe inlet within 1 cm of the shaft-seal interface for the survey.</p> <p>If the housing configuration prevents a complete traverse of the shaft periphery, sample all accessible portions</p>	<p>Use Spare pumps at the time of repair.</p> <p>Tightening the packing glands</p> <p>The pump should be flushed of VOC as much as possible before opening for seal replacement.</p>
	Valves	Usually occur at the stem or gland area of the valve body and are commonly caused by a failure of the valve packing or O-ring.	Place the probe inlet at approximately the center of the opening to the atmosphere.	<p>Plug type valves can be lubricated with grease to reduce emissions.</p> <p>Many valves have no means of in-service repair and must be isolated from the process.</p>
	Connectors	Gasket failure and improperly torqued bolts on flanges.	<p>For welded flanges, place the probe at the outer edge of the flange-gasket interface and sample the circumference of the flange.</p> <p>If the source is a rotating shaft, position the probe inlet within 1 cm of the shaft-seal interface for the survey.</p>	In some cases, leaks from flanges can be reduced by replacing the flange gaskets.
	Sampling Connections	At the outlet of the sampling valve when the sampling line is purged to obtain the sample.	Place the probe inlet at approximately the center of the opening to the atmosphere.	Sampling Connections
	Compressors	Most often occur from the seals.	Conduct a circumferential traverse at the outer surface of the pump or compressor shaft and seal interface.	Since most compressors do not normally have spares, repair or replacement of the seal would require a shutdown of the process.

	Pressure/ safety relief valves	Valve is not seated properly Operating too close to the set point, If the seal is worn or damaged.	Sampling at the sealing seat interface. Devices equipped with an enclosed extension, or horn, place the probe inlet at approximately the center of the exhaust area to the atmosphere.	Installation of a rupture disk in the line prior to relief valve Connection of the discharge port of the relief valve to a closed vent system use of Soft seat technology such as elastomer "O-rings.					
	Open ended lines (Pipes or hoses)	At the point of the line. Incorrect implementatio n of the block and bleed procedure.	Place the probe inlet at approximately the center of the opening to the atmosphere.	It can be controlled by using caps, plugs and flanges.					
<p>The Following methodology to be adopted during LDAR study:</p> <p>3) Identify the Chemical streams that must be monitored.</p> <p>4) Types of components (pumps, valves, connectors, etc.) to be monitored</p> <p>5) Frequency of monitoring.</p> <p>6) Actions to be taken if a leak is detected.</p> <p>7) Length of time in which an attempt to repair the leak must be performed.</p> <p>8) Actions that must be taken if a leak cannot be repaired within guidelines.</p> <p>9) Record-keeping and reporting requirements.</p>									
31)	LDAR FOR SPECIFIC SOLVENT (For example)								
	Sr. No.	Solvent Name	Type of Storage	Mode of Transfe r	Chargin g	Sources of Leakage	Mitigation Measure For find out leakages	Mitigation Measure (If leakages shall be occur)	Action taken for prevention of leakages
	1	MCB,N itroben zene, IBA/PE G400/ Ethyl Cellos olve	Drum	By Pump & Fix Pipe line	Direct Vessel Reacto r	<ul style="list-style-type: none">Leak from Valve (failure ofthe valve packing & O-ring)Leak from pump (Occur at seal)Leak from ConnectorLeak from open ended lines	<ul style="list-style-type: none">For using Gas Detector by PID Sensor technolo gy.	<ul style="list-style-type: none">If valve shall be leak stop pumping system and replace with new valve.When pump seal shall be leak immediat ely stop solvent transfer	<ul style="list-style-type: none">Check Thickness of drumUsing fix pipeline for solvent transferMinimum use of Connectors & JoinsProvided sufficient Space (Solvent Unloading area) for Solvent Drum

								and immediately repair or replace with new seal.	
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32)	HAZARDOUS WASTE MANAGEMENT MATRIX								
	Sr. no.	Type/Name of Hazardous waste	Specific Source of generation (Name of the Activity, Product etc.)	Category and Schedule as per HW Rules.	Quantity (MT/ Annum)	Management of HW			
	1	ETP sludge & ATFD residue	ETP	35.3	59d	Collection, storage and disposal at Approved TSDF site			
	2	Inorganic residue	process	26.1	2.84	Collection, storage and disposal at Approved TSDF site			
	3	Used oil	Plant and machineries	5.1	0.05	Collection, storage and used within premises as a lubricant / sold to registered recycler.			
	4	Discarded drums and bags	RM storage area	33.1	282.34	Collection, storage & sold to authorized vendor.			
	5	Bleed liquor	Scrubber	35.1	8.1	Collection, storage and treatment in ETP			
	6	Spent carbon	APCM	35.1	21.6	Collection, storage and disposal at Approved CHWIF site			
	7	Distillation residue	Process	26.1	15.48	Collection, storage and disposal at Approved CHWIF site			
	8	Spent solvent	process	26.4	771.84	Collection and reuse in process			
<u>Comments:</u>									
➤ Hazardous waste management includes collection, storage, transportation and disposal at TSDF, captive/ common incineration, co-processing/ pre-processing, sold to authorized actual users having Rule-9 permission and recycle/ reuse of waste. SEAC									

	examined the details provided and found it as per requirement.																																																																																					
33)	<p>NON-HAZARDOUS WASTE MANAGEMENT MATRIX</p> <p>Total Ash to be generated 160.29 MT/Annum will be stored with proper care and sold to cement/ RMC/ paver blocks/ building bricks manufacturer units and also will be supplied to the other companies for land leveling, conditioning, road construction, etc.</p> <p>STP sludge 45 MT/Annum will be generated and it will be reused as manure in gardening.</p> <p><u>Comments:</u></p> <p>➤ Other wastes management includes collection, storage, transportation and disposal by selling to actual users and recycle / reuse of waste. SEAC examined the details provided and found it as per requirement.</p>																																																																																					
34)	<p>STORAGE SAFETY MEASURES</p> <p>a) <u>Storage of Hazardous chemicals in Tanks</u></p> <table><tr><th>Sr. no</th><th>Name of Chemical</th><th>Capacity of Tank</th><th>Number of Tanks</th><th>Hazardous Characteristics of Chemical</th></tr><tr><td colspan="5">TANK FARM (NON-PESO)</td></tr><tr><td>1</td><td colspan="4">Not any</td></tr><tr><td colspan="5">TANK FARM (PESO)</td></tr><tr><td>2</td><td colspan="4">Not any</td></tr></table> <p>Safety Measures for PESO Underground storage tank farm:</p> <p>b) <u>Storage of Hazardous chemicals other than Tanks i.e. Drum, Barrels, Carboys, Bags etc.</u></p> <table><tr><th>Sr. no</th><th>Name of Chemical</th><th>Capacity of Drum/Bag/ Cylinder/ Glass Bottle</th><th>Number of Drum/Bag/ Cylinder/ Glass Bottle</th><th>Hazardous Characteristics of Chemical</th></tr><tr><td>1</td><td>Caustic lye</td><td>0.22</td><td>9</td><td>Hazardous, Corrosive</td></tr><tr><td>2</td><td>Sulfuric acid (H₂SO₄)</td><td>0.22</td><td>1</td><td>Extremely toxic, Hazardous, Corrosive</td></tr><tr><td>3</td><td>Hydrochloric acid (HCl)</td><td>0.22</td><td>3</td><td>Highly Toxic Hazardous Corrosive</td></tr><tr><td>4</td><td>Monochloroacetic Acid (MCAA)</td><td>0.22</td><td>2</td><td>Toxic Hazardous</td></tr><tr><td>5</td><td>Bromine</td><td>0.005</td><td>346</td><td>Hazardous</td></tr><tr><td>6</td><td>Caustic soda</td><td>0.05</td><td>19</td><td>Highly, Toxic, Hazardous Corrosive</td></tr><tr><td>7</td><td>Iodine</td><td>0.05</td><td>1</td><td>Toxic Hazardous</td></tr><tr><td>8</td><td>Sodium Cyanide</td><td>0.05</td><td>1</td><td>Extremely Toxic</td></tr><tr><td>9</td><td>Sodium Sulfide</td><td>0.05</td><td>4</td><td>Highly Toxic</td></tr><tr><td>10</td><td>Mono Chloro Benzene (MCB)</td><td>0.22</td><td>5</td><td>Hazardous Extremely Flammable</td></tr><tr><td>11</td><td>Nitrobenzene</td><td>0.22</td><td>6</td><td>Highly</td></tr></table>	Sr. no	Name of Chemical	Capacity of Tank	Number of Tanks	Hazardous Characteristics of Chemical	TANK FARM (NON-PESO)					1	Not any				TANK FARM (PESO)					2	Not any				Sr. no	Name of Chemical	Capacity of Drum/Bag/ Cylinder/ Glass Bottle	Number of Drum/Bag/ Cylinder/ Glass Bottle	Hazardous Characteristics of Chemical	1	Caustic lye	0.22	9	Hazardous, Corrosive	2	Sulfuric acid (H ₂ SO ₄)	0.22	1	Extremely toxic, Hazardous, Corrosive	3	Hydrochloric acid (HCl)	0.22	3	Highly Toxic Hazardous Corrosive	4	Monochloroacetic Acid (MCAA)	0.22	2	Toxic Hazardous	5	Bromine	0.005	346	Hazardous	6	Caustic soda	0.05	19	Highly, Toxic, Hazardous Corrosive	7	Iodine	0.05	1	Toxic Hazardous	8	Sodium Cyanide	0.05	1	Extremely Toxic	9	Sodium Sulfide	0.05	4	Highly Toxic	10	Mono Chloro Benzene (MCB)	0.22	5	Hazardous Extremely Flammable	11	Nitrobenzene	0.22	6	Highly
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				Toxic Hazardous Flammable
<u>Safety measures for Hazardous Chemicals:</u>				
Type of Hazardous Chemicals	Safety measures			
FLAMMABLE & EXPLOSIVE CHEMICALS	<p>Handling and storage:</p> <ul style="list-style-type: none"> ➤ Mono Chloro Benzene will be stored in 0.22 KL drums and will be transfer to reactor through close system. ➤ Good ventilation will be provided in Mono Chloro Benzene storage area. ➤ Appropriate personal protective equipment will be provided to workers. ➤ Adequate ventilation will be provided in the Mono Chloro Benzene storage area. <p>Accidental release measures:</p> <ul style="list-style-type: none"> ➤ Safety shower and eye washer will be installed near storage area. ➤ Evacuate personnel to safe areas. ➤ Do not flush into surface water or sanitary sewer system. <p>Fire Fighting Measures:</p> <ul style="list-style-type: none"> ➤ Spark-proof tools and explosion-proof equipment will be provided. ➤ Flame proof Electrical fittings will be provided at flammable storage area. ➤ Flame proof Electrical fittings will be provided at flammable storage area ➤ Earthing/bonding will be provided for static charges. ➤ CO₂, dry chemical, Water spray or alcohol-resistant foam will be used as fire extinguishing media in case of fire. 			
CORROSIVE CHEMICALS	<p>Handling and storage:</p> <ul style="list-style-type: none"> ➤ Sulphuric Acid will be stored in 0.22 KL Drum and will be transfer to reactor through close system. ➤ All other materials will be stored separate from Sulphuric Acid. ➤ Good ventilation will be provided in Sulphuric Acid storage area. ➤ Avoid dust formation ➤ Appropriate personal protective equipment will be provided to workers. ➤ Keep container tightly closed. <p>Accidental release measures:</p> <ul style="list-style-type: none"> ➤ Safety shower and eye washer will be installed near storage area. ➤ Evacuate personnel to safe areas. ➤ Do not flush into surface water or sanitary sewer system. <p>Fire Fighting Measures:</p> <ul style="list-style-type: none"> ➤ Water spray, carbon dioxide (CO₂), dry chemical and foam. 			
TOXIC CHEMICALS	<p>Storage Facility:</p> <ul style="list-style-type: none"> ➤ Sodium cyanide will be stored in a dedicated, well-ventilated, and secure storage area that is separate from incompatible chemicals (e.g., acids, strong bases, and oxidizing agents) and stored in locker room. ➤ Storage area will be equipped with appropriate signage, warning labels, and safety equipment. 			

		<ul style="list-style-type: none"> ➤ We will ensure that the storage facility is locked and accessible only to authorized personnel. ➤ Sodium cyanide will be store in corrosive resistant polypropylene bag with a resistant inliner. ➤ Separate Logbook for issuing above cyanides and Manager must sign on the register. <p>Packaging:</p> <ul style="list-style-type: none"> ➤ Sodium cyanide is typically supplied in solid form as granules or pellets, often in plastic or metal bags. The bags should be tightly sealed and intact. ➤ Inspect the packaging for any signs of damage, leakage, or deterioration. ➤ If any issues are detected, will not use the product and contact the supplier immediately. <p>Handling Precautions:</p> <ul style="list-style-type: none"> ➤ Personnel handling sodium cyanide will be properly trained in its safe handling and wear appropriate personal protective equipment (PPE), including gloves, goggles, and a lab coat. ➤ We will avoid inhalation, ingestion, and skin contact with sodium cyanide. ➤ In case of accidental exposure, we will follow established emergency procedures and seek medical attention immediately. ➤ Label all storage containers with clear and conspicuous warning labels indicating the presence of sodium cyanide and its hazards. ➤ Amyl nitrite, sodium nitrite, and sodium thiosulfate are antidotes for cyanide toxicity, however, amyl nitrite and sodium nitrite should not be administered to patient/victims suffering from smoke inhalation. In these cases, only administer sodium thiosulfate. <p>Ventilation:</p> <ul style="list-style-type: none"> ➤ Ensuring adequate ventilation in the storage area to disperse any potential cyanide gas emissions. ➤ We will install ventilation systems as needed. <p>Fire-fighting measures:</p> <ul style="list-style-type: none"> ➤ NaCN decomposes in the presence of moisture, damp air, or carbon dioxide, producing highly toxic and flammable hydrogen cyanide gas and oxides of nitrogen. ➤ NO acidic dry chemical extinguishers, NO hydrous agents, NO water, NO carbon dioxide will be used directly on material. ➤ We will use alcohol or polymer foam extinguishers on a fire and also not use water or poisonous gases are producing the fire. <p>Emergency Equipment:</p> <ul style="list-style-type: none"> ➤ We will definitely provide emergency equipment readily available, such as eye wash stations, safety showers, and spill containment materials, in case of accidental spills or exposures at work area. <p>Spill Response:</p> <ul style="list-style-type: none"> ➤ We will establish a spill response plan and provide training to employees on how to respond to sodium cyanide spills safely and we will clean up
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	<p>spills promptly and safely.</p> <p>Security:</p> <ul style="list-style-type: none"> ➤ We will implement strict security measures to prevent unauthorized access to the storage area, including surveillance cameras and access controls. <p>Regulatory Compliance:</p> <ul style="list-style-type: none"> ➤ We will ensure compliance with all local, regional, and national regulations governing the storage and handling of sodium cyanide. ➤ We will consult with our organization's safety officer and follow the specific guidelines and safety protocols provided by the supplier and relevant regulatory authorities when handling and storing sodium cyanide. ➤ Additionally, regular safety audits and inspections of the storage area can help maintain a safe working environment. ➤ The unit will obtain Poison license for sodium cyanide when it will manufacture Vat Pink R product.
REACTIVE CHEMICALS	<p>Handling and storage:</p> <ul style="list-style-type: none"> ➤ Caustic Lye will be stored in 0.22 KL drum and will be transfer to reactor through close system. ➤ Caustic Lye will be stored in a well-ventilated area on a hard-dry surface. ➤ Contact with skin and eyes will be avoided. <p>Accidental release measures:</p> <ul style="list-style-type: none"> ➤ Contaminated clothing will be removed immediately. ➤ Appropriate Gloves, Protective goggles, Protective clothing will be provided to workers during handling of Caustic Lye. <p>Fire Fighting Measures:</p> <ul style="list-style-type: none"> ➤ CO₂, dry chemical, dry sand and foam. ➤ Spark-/explosion proof appliances and lighting system will be used.
Others, if any	--

35)	<p>FIRE LOAD CALCULATION</p> <table> <tr> <td>Total Plot Area:</td><td>1573.27 m²</td></tr> <tr> <td>Area utilized for plant activity:</td><td>395.56 m²</td></tr> <tr> <td>Area utilized for Hazardous Chemicals Storage:</td><td>320.62 m²</td></tr> <tr> <td>Number of Floors:</td><td>G + 2</td></tr> <tr> <td>Water requirement for firefighting in KLD:</td><td>3.12 KL</td></tr> <tr> <td>Water storage tank provided for firefighting in KL:</td><td>150 KL</td></tr> <tr> <td>Details of Hydrant Pumps:</td><td>4</td></tr> <tr> <td>Nearest Fire Station :</td><td>Mansa Fire station at 11.15 km in SE direction</td></tr> <tr> <td>Applicability of Off Site Emergency Plan:</td><td>-</td></tr> </table> <p><u>Comments:</u></p> <p>The project proponent has proposed fire safety plan which includes fire hydrant line, sprinkler system, fire extinguishers, fire suits, covering the project area and provides for fire</p>	Total Plot Area:	1573.27 m ²	Area utilized for plant activity:	395.56 m ²	Area utilized for Hazardous Chemicals Storage:	320.62 m ²	Number of Floors:	G + 2	Water requirement for firefighting in KLD:	3.12 KL	Water storage tank provided for firefighting in KL:	150 KL	Details of Hydrant Pumps:	4	Nearest Fire Station :	Mansa Fire station at 11.15 km in SE direction	Applicability of Off Site Emergency Plan:	-
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Applicability of Off Site Emergency Plan:	-																		

	water storage tank of 150 KL. SEAC found it as per the requirement.																																	
36)	<div>WORKERS SAFETY AND OCCUPATIONAL HEALTH MANAGEMENT</div> <table><tr><td>Number of permanent Employee:</td><td>3</td></tr><tr><td>Number of Contractual person/Labour:</td><td>7</td></tr><tr><td>Area provided for OHC:</td><td>18.12 m²</td></tr><tr><td>Number of First Aid Boxes:</td><td>3</td></tr><tr><td>Nearest General Hospital:</td><td>Darsh Hospital at 2.47 km in SW direction</td></tr><tr><td>Name of Antidotes to be store in plant:</td><td>4</td></tr></table> <p><u>Comments:</u></p> <p>Project proponent has provided PPEs, Occupational health center (OHC) with adequate provision of manpower, equipment and operational cost. SEAC finds it as per the provisions of Gujarat Factory Rules 1963.</p>	Number of permanent Employee:	3	Number of Contractual person/Labour:	7	Area provided for OHC:	18.12 m ²	Number of First Aid Boxes:	3	Nearest General Hospital:	Darsh Hospital at 2.47 km in SW direction	Name of Antidotes to be store in plant:	4																					
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37)	<div>DETAILS OF MEMBERSHIP OF COMMON FACILITIES:</div> <table><tr><th>Sr. No</th><th>Membership for Common Facility</th><th>Membership Certificate issuing agency along with Date of Issue and validity of membership</th></tr><tr><td>1</td><td>CETP</td><td>Not applicable</td></tr><tr><td>2</td><td>TSDF site</td><td>Name of TSDF: Eco Care Infrastructures Private Limited Provisional reg no. ECIPL-2378 Date of registration: 13.05.2023</td></tr><tr><td>3</td><td>Common Hazardous Waste Incineration Facility</td><td>Name of CHWIF: Saurashtra Enviro Projects Private Limited - Kutch REF no. SEPPL/1200005250/2023/73 Date of registration: 12.05.2023</td></tr><tr><td>4</td><td>Common Spray Drying Facility</td><td>Not applicable</td></tr><tr><td>5</td><td>Common MEE Facility</td><td>Not applicable</td></tr><tr><td>6</td><td>Common Conveyance System</td><td>Not applicable</td></tr><tr><td>7</td><td>PESO permission</td><td>Not applicable</td></tr><tr><td>8</td><td>FIRE permission</td><td>Will be obtained.</td></tr><tr><td>9</td><td>Health Certificate</td><td>Will be obtained.</td></tr><tr><td colspan="3">-</td></tr></table>	Sr. No	Membership for Common Facility	Membership Certificate issuing agency along with Date of Issue and validity of membership	1	CETP	Not applicable	2	TSDF site	Name of TSDF: Eco Care Infrastructures Private Limited Provisional reg no. ECIPL-2378 Date of registration: 13.05.2023	3	Common Hazardous Waste Incineration Facility	Name of CHWIF: Saurashtra Enviro Projects Private Limited - Kutch REF no. SEPPL/1200005250/2023/73 Date of registration: 12.05.2023	4	Common Spray Drying Facility	Not applicable	5	Common MEE Facility	Not applicable	6	Common Conveyance System	Not applicable	7	PESO permission	Not applicable	8	FIRE permission	Will be obtained.	9	Health Certificate	Will be obtained.	-		
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38)	<div>EMERGENCY MEASURES PROPOSED AND PREPAREDNESS ACTION PLAN</div> <div><p>- The main aspects, which will be included in the emergency plan, are:</p><p><u>Organization:</u> Detail of command structure, warning systems, and implementation procedures, emergency control centers. Names and appointments of incident controller, site main controller, their deputies and other key personnel.</p><p><u>Communications:</u> Identification of personnel involved, communication centre, call signs,</p></div>																																	

network, list of telephone numbers.

Specialized Knowledge: Details of specialist bodies, firms and people upon whom it may be necessary to call e.g. those with specialized fuel knowledge, laboratories.

Voluntary Organizations: Details of organizers, telephone numbers, resources etc.

Fuel Information: Details of the hazardous substances stored and a summary of the risk associated with them.

Meteorological Information: Arrangements for obtaining details of weather forecasts and weather conditions prevailing at that time.

Humanitarian Arrangements: Transport, evacuation centers, emergency feeding, treatment of injured, first aid, ambulances and temporary mortuaries.

Public Information: Arrangements for (a) Dealing with the media press office; (b) Informing relatives Assessment of Emergency Plan

Arrangements for: Collecting information on the causes of the emergency; and Reviewing the efficiency and effectiveness of all aspects of the emergency plan.

39) **CER ACTIVITIES PROPOSED YEAR WISE/ IN CASE OF EXPANSION ANY ADDITIONALITY SUGGESTED AND ITS COMPLIANCE (AS PER THE MOEF & CC GUIDELINES)**

Total cost of Project (Rs in Crores)	Total Cost of CER (Rs in Lakhs)	Percentage (%)
2.81 Crore	5.51 Lakhs	2%

PP shall carry out CER activities as below:

Sr. No.	Type of Activities	Yearly amount to be spent in CER activities(Rs. In Lakhs)			Total Amount to be spent (Rs. In Lakhs)
		1 st Year	2 nd Year	3 rd Year	
1.	Installation of R.O. in Gozaria village	0.5	0.5	0.15 (Maintenance)	1.15
2.	Installation of solar panel (10 KW) in Gram-panchayat of Harnahoda and school of Harnahoda village.	2	2	0.36	4.36
	Total	2.5	2.5	0.51	5.51 Lakhs

- **Comments:**

	As per MoEF&CC's OM dated: 01.05.2018 and 30.09.2020, SEAC examined that the proposed cost of CER i.e 2% (Rs 5.51 Lakhs) which is as per the requirement.				
40)	ENVIRONMENT MANAGEMENT PLAN (ESPECIALLY WITH CEPI AND NON CEPI GUIDELINES, AS MAY BE APPLICABLE)				
	Sr. No.	Unit	Detail	Capital Cost (Rs. In Lakhs)	Total Recurring Cost (Rs. In Lakhs Annum)
	1	Wastewater	Capital cost would include cost of ETP, STP and ATFD, while recurring cost would include operation charges, treatment of effluent, manpower salary.	8.3	33.28
	2	Air	Capital cost would include air pollution control devices and the recurring cost would include operation and maintenance of pollution control devices.	21	2
	3	Hazardous Management	Capital cost would include expense for providing storage area for hazardous waste and membership charges of TSDF site (M/s. Ecocare Infrastructures Pvt. Ltd. - Surendranagar) and CHWIF site(M/s. Saurashtra Enviro Projects Private Limited- Kutch). Recurring cost would include management, and disposal charges of ETP sludge, ATFD residue, Inorganic Residue, Distillation residue, Spent Carbon and Off specification.	0.68	9.13
	4.	Fire & Safety VOC Control & LDAR	Capital cost would include cost of water monitor, Foam, Fire Hydrant line, SCADA/PLC, LDAR, Sprinkler system and recurring cost would include maintenance charges and training, audit & health check-up.	30.33	2.5
	5	Green Belt Development	Capital cost would include development of green belt within the project premises and recurring cost would include maintenance charges and manpower	0.93	0.88

		salary.		
6.	Occupational Health	Capital cost would include cost of OHS center, PPEs and recurring cost would include maintenance charges and training, audit & health check-up, Mock drill.	1.08	3.65
7.	Noise Control	Capital cost would include providing adequate sound enclosures and recurring cost would include monitoring of noise level.	0.12	0.36
8.	Environment Monitoring Program	Risk analysis, safety audit, maintenance expenses details, etc.	--	11.82
9	CER Activity	Capital cost would include cost of CER activities such as ground water recharge activities in Hrnahoda village & water deepening activities in Kharna village	5.51	--
10	Cost of conservation plan of Schedule-I species, if any	Recurring cost would include cost of conservation plan for schedule -1 species	--	4
11	Miscellaneous	Miscellaneous activity such as development of rain water harvesting system & solar lights and solar panel within premises and recurring cost would include cost of hiring of EHS manager	3.32	5
Total			71.27 Lakhs	72.62 Lakhs
<p><u>Comments:</u></p> <p>The overall environment management plan (EMP) provided for capital and recurring cost for wastewater treatment, air emission control, noise control, hazardous waste disposal, fire & safety, occupational health, environment monitoring program, green belt and corporate environmental responsibility was deliberated and found satisfactory.</p>				
41)	<p>RECOMMENDATIONS OF SEAC</p> <p>"On the basis of information provided to SEAC on project, its location, technical, physical and environmental infrastructure, products, quantity to be manufactured, its raw material, storage, waste disposal, water treatment, safety measures, green belt development planning, regulatory compliance assured of related statutory provisions, necessary documents of requisite permissions provided from concerned departments and overall</p>			

	<p>environmental management planning for the project, along with financial resources committed for operation and maintenance, and on the basis of presentation made before SEAC, modification suggested by SEAC and incorporated by project proponent, SEAC finds the project as per the requirement and unanimously recommends the same to SEIAA for environmental clearance."</p> <p>Conditions with which Environment Clearance is recommended:</p>
42)	<p>GENERAL CONDITIONS</p> <p><u>Construction Phase</u></p> <ol style="list-style-type: none"> "Wind – breaker of appropriate height i.e. 1/3rd of the building height and maximum up to 10 meters shall be provided. Individual building within the project site shall also be provided with barricades. "No uncovered vehicles carrying construction material and waste shall be permitted." "No loose soil or sand or construction & demolition waste or any other construction material that cause dust shall be left uncovered. Uniform piling and proper storage of sand to avoid fugitive emissions shall be ensured." Roads leading to or at construction site must be paved and blacktopped (i.e. – metallic roads). No excavation of soil shall be carried out without adequate dust mitigation measures in place. Dust mitigation measure shall be displayed prominently at the construction site for easy public viewing. Grinding and cutting of building materials in open area shall be prohibited. Construction material and waste should be stored only within earmarked area and road side storage of construction material and waste shall be prohibited. Construction and demolition waste processing and disposal site shall be identified and required dust mitigation measures be notified at the site. (If applicable). <p><u>SPECIFIC CONDITIONS:</u></p> <ol style="list-style-type: none"> Unit shall install CEMS [Continuous Emission Monitoring System] in line to CPCB directions to all SPCB vide letter no. B-29016/04/06PCI-1/5401 dated 05/02/2014 for effluent discharge and air emission as per pollutants discharge/emission from respective project and an arrangement shall also be done for reflecting the online monitoring results on the company's server, which can be assessable by the GPCB/CPCB on real time basis. [For Small/Large/Medium (Red Category) & Whichever (Air emission & Effluent discharge) is applicable]. The National Ambient Air Quality Emission Standards issued by the Ministry vide G. S. R. No. 826 (E) dated 16th November, 2009 shall be complied with.

3. National Emission Standards for Dye and dye intermediates Industry issued by the Ministry vide G. S. R. 325 (E) dated 07/05/2014 and amended from time to time shall be followed. (In case of Dyes)
4. Unit shall have to adhere to the prevailing area specific policies of GPCB with respect to the discharge of pollutants, and shall carry out the project development in accordance & consistence with the same.
5. All measures shall be taken to avoid soil and ground water contamination within premises.
- 6. Safety & Health:**
 - a) PP shall obtain PESO permission for the storage and handling of hazardous chemicals. (If applicable).
 - b) PP shall provide Occupational Health Centre (OHC) as per the provisions under the Gujarat Factories Rule 68-U.
 - c) PP shall obtain fire safety certificate / Fire No-Objection certificate (NOC) from the concern authority as per the prevailing Rules / Gujarat Fire Prevention and Life Safety Measures Act, 2016.
 - d) Unit shall adopt functional operations/process automation system including emergency response to eliminate risk associated with the hazardous processes.
 - e) PP shall carry out mock drill within the premises as per the prevailing guidelines of safety and display proper evacuation plan in the manufacturing area in case of any emergency or accident.
 - f) PP shall install adequate fire hydrant system with foam trolley attachment within premises and separate storage of water for the same shall be ensured by PP.
 - g) PP shall take all the necessary steps for control of storage hazards within premises ensuring incompatibility of storage raw material and ensure the storage keeping safe distance as per the prevailing guidelines of the concerned authority.
 - h) PP shall take all the necessary steps for human safety within premises to ensure that no any harm is caused to any worker/employee or labour within premises.
 - i) Flame proof electrical fittings shall be provided in the plant premises, wherever applicable.
 - j) Unit shall never store drum/barrels/carboys of incompatible material/chemical together.
 - k) Unit shall provide effective Isolation for Process area and storage of hazardous chemicals.
 - l) The project management shall prepare a detailed Disaster Management Plan (DMP) for the project as per the guidelines from Directorate of Industrial Safety and

Health.

- m) Unit shall obtain all required permissions from the Narcotics Control Bureau for manufacturing, storage and handling of Acetic Anhydride & any such chemicals.
- n) Unit shall never store drum/barrels/carboys of incompatible material/chemical together.
- o) Unit shall Store Bromine Bottle in cool dry separate area, out of direct sunlight.
- p) Unit shall provide chlorine leakage control emergency kit and FRP hood with scrubber system for chlorine safety.
- q) Unit shall provide safety valve and rupture disc, as well as auto dump or auto quench/, suppress system for nitration vessel safety.
- r) Unit shall provide safety valve and rupture disc, as well as auto dump or auto quench/, suppress system for exothermic reaction vessel safety.

WATER

- 7. Total water requirement for the project shall not exceed 26.35 KLD. Unit shall reuse 9.40 KLD of treated effluent within premises. Hence, fresh water requirement shall not exceed 16.95 KLD and it shall be met through Gozaria GIDC water supply only. Prior permission from concerned authority shall be obtained for procurement of water.
- 8. The industrial effluent generation from the project shall not exceed 10.02 KLD.
- 9. Management of Industrial effluent shall be as under:

Concentrated Stream (4.09 KLD)

- Total 4.06 KLD high concentrated stream shall be generated from process (2.06 KLD) & washing (2 KLD) shall be segregated and shall be treated in concentration Stream ETP-1 followed by ATFD alongwith Process gas scrubber (0.03 KLD) and ATFD condensate (5.08KLD) shall be treated alongwith with dilute stream ETP-2.

Dilute Stream (5.93 KLD):

- 11.01 KLD industrial effluent generated from cooling tower (0.4 KLD), Flue gas scrubber (0.5 KLD), RO-1 reject (3.56 KLD), Boiler (0.4 KLD), process (low COD) (1.07 KLD), alongwith ATFD Condensate (5.08 KLD) shall be treated in ETP-2 followed by RO-2. RO-2 reject (2.21 KLD) shall be sent to ATFD and RO-2 Permeate (8.8 KLD) shall be reused in industrial process.
- Thus there shall be no discharge of any industrial effluent into an environment like drain, land etc and shall maintained Zero Liquid Discharge (ZLD).

- 10. Domestic wastewater generation shall not exceed 0.75 KL/day for proposed project

and it shall be treated in STP. It shall not be disposed off into soak pit. Treated sewage shall be utilized for gardening and plantation purpose within premises after achieving on-land discharge norms prescribed by the GPCB.

11. During monsoon season when treated sewage may not be required for the plantation / Gardening / Green belt purpose, it shall be stored within premises. There shall be no discharge of waste water outside the premises in any case.
12. Unit shall provide buffer water storage tank of adequate capacity for storage of treated waste water during rainy days.
13. Complete Zero Liquid Discharge [ZLD] status shall be maintained all the time and there shall be no drainage connection from the premises.
14. Unit shall feed wastewater to in-house ATFD only after ensuring content of effluent for COD/VOC so as not to get air borne during evaporation in order to achieve no adverse impacts on Environment and Human Health.
15. Unit shall provide STP and ETP with adequate capacity.
16. The unit shall provide metering facility at the inlet and outlet of ETP and maintain records for the same.
17. Proper logbooks of ETP; reuse/ recycle of treated/ untreated effluent; chemical consumption in effluent treatment; quantity & quality of treated effluent; power consumption etc. shall be maintained and shall be furnished to the GPCB from time to time.

AIR:

18. Unit shall not exceed fuel consumption for Boiler, HAG and D G Set as per the point no. 24 as mentioned above.
19. PP shall use approved fuels only as fuel in Boiler, HAG and D G Set.
20. Unit shall provide adequate APCM with flue gas generation sources to achieve the norms prescribed by GPCB.
21. Unit shall provide adequate APCM with process gas generation sources as the point no. 25 as mentioned above.
22. The fugitive emission in the work zone environment shall be monitored. The emission shall conform to the standards prescribed by the concerned authorities from time to time (e.g. Directors of Industrial Safety & Health). Following indicative guidelines shall also be followed to reduce the fugitive emission.
 - Internal roads shall be either concreted or asphalted or paved properly to reduce the fugitive emission during vehicular movement.
 - Air borne dust shall be controlled with water sprinklers at suitable locations in the plant.

- A green belt shall be developed all around the plant boundary and also along the roads to mitigate fugitive & transport dust emission.
23. Regular monitoring of Volatile Organic Compounds (VOCs) shall be carried out in the work zone area and ambient air.
24. For control of fugitive emission, VOCs, following steps shall be followed :
- a. Closed handling and charging system shall be provided for chemicals.
 - b. Reflux condenser shall be provided over Reactors / Vessels.
 - c. Pumps shall be provided with mechanical seals to prevent leakages.
 - d. Air borne dust at all transfers operations/ points shall be controlled either by spraying water or providing enclosures.
25. Solvent management shall be carried out as follows:
- ✓ Measures shall be taken to reduce the process vapors emissions as far as possible. Use of toxic solvents shall be minimum. All venting equipment shall have vapour recovery system
 - ✓ Reactor shall be connected to adequate chilling system to condensate solvent vapors and reduce solvent losses.
 - ✓ Reactor and solvent handling pump shall have mechanical seals to prevent leakages.
 - ✓ The condensers shall be provided with sufficient HTA and residence time so as to achieve maximum solvent recovery.
 - ✓ Solvents shall be stored in a separate space specified with all safety measures.
 - ✓ Proper earthing shall be provided in all the electrical equipment wherever solvent handling is done.
 - ✓ Solvent storage and handling area shall be flame proof. The solvent storage tanks shall be provided with breather valve to prevent losses.
26. Close loop solvent recovery system with adequate condenser system shall be provided to recover solvent vapours in such a manner that recovery shall be maximum and recovered solvent shall be reused in the process within premises.
27. Leak Detection and Repair (LDAR) program shall be prepared and implemented as per the CPCB guidelines. LDAR Logbooks shall be maintained.
28. Regular monitoring of ground level concentration of PM₁₀, PM_{2.5}, SO₂, NO_x, HCl, Br₂, SO, H₂SO₄ and VOCs shall be carried out in the impact zone and its records shall be maintained. Ambient air quality levels shall not exceed the standards stipulated by the GPCB. If at any stage these levels are found to exceed the prescribed limits, necessary additional control measures shall be taken immediately. The location of the stations and frequency of monitoring shall be decided in consultation with the GPCB.

HAZARDOUS / SOLID WASTES:

29. All the hazardous/ solid waste management shall be taken care as per the point no. 32 and 33 as mentioned above.
30. Authorized end-users shall have permissions from the concerned authorities under the Rule 9 of the Hazardous and Other Wastes (Management and Transboundary Movement) Rules 2016.
31. Unit shall explore the possibilities for environment friendly methods like co-processing of hazardous waste for disposal of Incinerable & land fillable wastes before sending to CHWIF & TSDF sites respectively.
32. The project proponent has to obtain membership of TSDF site & CHWIF before obtaining CTO of GPCB.
33. STP sludge shall be collected and used as manure in gardening activity or send to TSDF site for landfilling.
34. Management of fly ash shall be as per the Fly ash Notification 2009 & its amendment time to time and it shall be ensured that there is 100% utilization of fly ash to be generated from the unit.
35. The unit shall submit the list of authorized end users of hazardous wastes along with MoU signed with them at least two months in advance prior to the commencement of production. In the absence of potential buyers of these items, the unit shall restrict the production of the respective items.

GREENBELT AREA

36. The PP shall develop green belt within premises (520.17 Sq. m i.e. 33.06 % of the total plot area) as submitted before SEAC. Green belt shall be developed with native plant species that are significant and used for the pollution abatement as per the CPCB guidelines. It shall be implemented within 3 years of operation phase in consultation with GPCB.

OTHERS:

37. The project proponent shall carry out the activities of amount of Rs.5.51 Lakhs (Installation of R.O. in Gozaria village and Installation of solar panel (10 KW) in Gram-panchayat of Harnahoda and school of Harnahoda village.) proposed under CER and it shall be part of the Environment Management Plan (EMP) as per the MoEF&CC's OM no. F. No. 22-65/2017-IA.III dated 30.09.2020. This shall be monitored and the monitoring report shall be submitted to the regional office of MoEF&CC as a part of half-yearly compliance report and to the District Collector. The monitoring report shall be posted on the website of the project proponent.

	38. As proposed, at least Rs. 4 lakhs shall be allocated for the conservation plan Schedule-I species. (MoEF&CC) (In case of Sch-I species)		
	39. All the recommendations, mitigation measures, environmental protection measures and safeguards proposed in the EIA report of the project prepared by M/s. T. R. Associates and submitted by the project proponent and commitments made during presentation before SEAC and proposed In the EIA report shall be strictly adhered to in letter and spirit.		
43)	COMPLIANCE AND ADMINISTRATION/APEAL OF EC ORDERS <ol style="list-style-type: none"> 1. Project proponent shall inform to all the concerned authorities including Municipal Corporation and District Collector and shall also give wide publicity through advertisement in minimum two local newspapers within seven days, about the Environment Clearance order accorded. 2. Project proponent shall appoint a key person in the organization who shall be responsible for compliance of above condition fully on behalf of the proponent. It will not mean that appointing a key person will exempt the project proponent from the responsibility of compliance. Any change in key person shall immediately be informed to SEIAA and all concerned authorities. 3. Designated key person shall submit six monthly compliance report to SEIAA/SEAC, MOEF&CC, GPCB and Nodal Department of the Government. 4. The Nodal Department or any authority or officer authorized by MOEF&CC/SEIAA can inspect the site of the project and all the facilities, for verification of compliances of environment clearance conditions. 5. In case of violation reported upon, the project proponent shall be responsible for all the legal actions as per Environment Protection Act, 1986 including SEIAA may cancel, withdraw or keep in abeyance, the Environment Clearance accorded. 6. Any person including the project proponent affected by this Environment Clearance order may file appeal to Honorable National Green Tribunal West Zone branch, Pune, preferably within a period of thirty days from the date of issue of Environment Clearance as prescribe under section 16 of National Green Tribunal Act 2010. 7. All complains and public grievance or representations may be addressed to SEIAA/SEAC in the email addresses (a) msseiaagj@gmail.com& (b) seacgujarat@gmail.com 		
4.	SIA/GJ/IND3/427104/2023	M/s. Dishman Carbogen Amcis Limited Plot No. 1216/20 to 27, Phase No: IV,	EC – Reconsideration

		GIDC Estate, Naroda, Ahmedabad-382330	
Category of the unit: 5 (f) – B1 Project status: Expansion Project located either in CEPI or non CEPI : non CEPI			
PP submitted salient features of the project including Water, Air and Hazardous waste management are as under from Sr. No. 1, 3 to 40. And in Sr. No. 2 detailed deliberation of Committee is mentioned. Comments of SEAC is given in relevant points.			
1)	DETAILS OF APPLICATION:		
	1.1. Type of application:	EC expansion	
	1.2. Proposal no.	SIA/GJ/IND3/427104/2023	
	1.3. Category of Project:	B1	
	1.4. Date of application:	27/04/2023	
	1.5. Date of EDS by SEIAA a) EDS Raised b) Reply by PP	a) EDS Raised:03/05/2023 Reply by PP:04/05/2023	
	1.6. Date of EDS by SEAC a) EDS Raised b) Reply by PP c) Accepted by SEAC	a) EDS Raised:09/05/2023 b) Reply by PP:22/05/2023 Accepted by SEAC:26/05/2023	
	1.7. TOR No. & Date:	ToR issued vide no. SIA/GJ/IND/46404/2023 date: 14 th April 2023	
	1.8. Date and place of Public Hearing	NA	
	1.9. Name of accredited Environmental Consultant & address along with Accreditation No. & Validity	Shree Green Consultants NABET/EIA/2124/IA0072 Validity : 24/02/2024	
	1.10. SEAC Meeting No. and Date:	668 th meeting of the State Level Expert Appraisal Committee, to be held on 4 th August 2023.	
	1.11. ADS raised by SEAC meeting No & date:	ADS raised in 668 th meeting of the State Level Expert Appraisal Committee dated on 4 th August 2023.	
	1.12. Reply Submitted by PP dated:	16 th October, 2023	
	1.13. Revised Consideration SEAC Meeting No. and Date:	730 th meeting of the State Level Expert Appraisal Committee to be held on 29 th November 2023	
	1.14. ADS raised by SEAC meeting No & date:	ADS raised in 730 th meeting of the State Level Expert Appraisal Committee dated on 29 th November 2023.	
	1.15. Reply Submitted by PP dated:	05 th January, 2024	
	1.16. Revised Consideration SEAC Meeting No. and Date:	764 th meeting of the State Level Expert Appraisal Committee to be	

		held on 19 th January, 2024
2)	<p>DELIBERATIONS OF SEAC:</p> <ol style="list-style-type: none"> 1) This is an existing unit and proposed for manufacturing of synthetic organic chemicals. 2) The project falls under B1 category of project activity 5(f) as per the schedule of EIA Notification 2006. 3) The proposal was considered in the SEAC video conference meeting dated 04.08.2023. 4) Project proponent (PP) and their Technical Expert M/s Shree Green Consultants remain present during video conference meeting. 5) Committee noted that as per MoEF&CC's OM dated: 18.05.2023 regarding NABET accreditation, NABET accreditation valid up to dated: 24.02.2024 and NABL Accredited Testing Laboratory issued on dated: 14.02.2023 valid up to dated: 13.02.2025. 6) Committee deliberated on Product profile, Layout plan, Storage details, Process safety, Fire safety, water balance & waste water management, Flue gas and process gas emission & Air Pollution Control System, Hazardous waste matrix, EMP, CER, Green belt, etc. 7) Risk assessment including prediction of the worst-case scenario and maximum credible accident scenarios has been carried out. The detailed proposed safeguard measures including On-Site / Off-Site Emergency Plan has been covered in the RA report. 8) This is an existing unit involved in manufacturing of EC products for which EC was obtained from MoEF&CC on dated: 31.10.2003 for setting up expansion of bulk drug manufacturing unit. Upon asking clarification regarding obtaining earlier EC dated: 31.10.2003 from MoEF&CC, PP could not reply satisfactory. 9) PP presented that latest CCA was obtained on dated: 31.05.2019 valid upto dated: 30.06.2023. PP submitted that there is one SCN issued by GPCB on dated: 22.10.2021, no litigation pending and no public complaint against unit. 10) Committee noted that as per MoEF&CC's OM dated: 08.06.2022, PP has applied for CCR of EC at IRO-MoEF&CC and officer visited our site dated 17/07/2023 but the report is awaited. 11) During meeting, PP presented and Committee noted and suggested the following: <ul style="list-style-type: none"> ✓ In product profile development product-5 MT/M is proposed but justification for the same is not presented. ✓ Details of general conditions as per MoEF&CC's notification dated: 25.06.2014 not presented. ✓ In layout, there is no provision of raw material storage area within premises and PP informed that they have provision of warehouse outside the premises which is within 5 Kms which is not acceptable. Also area adequacy for existing and proposed project 	

is not presented.

- ✓ Justification for low wastewater generation in industrial than water consumption is not presented.
- ✓ Water scrubber is not proposed as APCM in boiler and TFH though agro waste is proposed as fuel.
- ✓ Details of quantity of generation and mode of disposal of spent solvent and bleed liquor are not presented.
- ✓ Compliance of ToR-9: Additional measures are not presented.
- ✓ Details of carbon sequestration, carbon footprint, water footprint and roof top rain water harvesting are not presented.
- ✓ Details of storage of raw material along with compatability chart and safety measures are not presented.
- ✓ For development of greenbelt 1126.39 Sq m (20%) within premises and 6000 Sq m (106.53%) green belt development already done outside our premises in collaboration with another plant facility situated at Bavla, inside the GIDC estate is not acceptable as it is already carried out by PP and also the location of greenbelt is not within the industrial estate of project site.

12) Since the proposed project is located in notified industrial area, public consultation is not required as per paragraph 7(i) (III) (I) (b) of the Environment Impact Assessment Notification 2006.

13) **After detailed discussion, Committee unanimously decided to consider the project in one of upcoming meeting only after submission of following documents,**

1. Notarized undertaking regarding NABET accreditation as per MoEF&CC's OM dated: 18.05.2023.
2. Justification regarding obtaining EC dated: 31.10.2003 from MoEF&CC and for proposed expansion PP is applying at State level.
3. Copy of Certified Compliance report of IRO-MoEF&CC for existing EC dated: 31.10.2003. Also submit time bound action plan/ action taken report of partially complied/ non-complied conditions if any.
4. Detailed justification regarding proposing development product as 5 MT/M.
5. Revised layout mentioning storage of raw materials within premises along with details of area adequacy.
6. Details of storage of raw materials along with compatability chart and safety measures.
7. Details of general conditions as per MoEF&CC's notification dated: 25.06.2014.
8. Compliance of ToR-6 (x)-Action plan for rainwater harvesting measures at plant site

shall be submitted to harvest rainwater from the roof tops and storm water drains to recharge the ground water and also to use for the various activities at the project site to conserve fresh water and reduce the water requirement from other sources.

9. Compliance of specific ToR-15-Details of carbon footprints and carbon sequestration.
10. Copy of GIDC water supply letter for proposed project.
11. Justification regarding low wastewater generation than water consumption in industrial component.
12. Revised hazardous waste matrix mentioning quantity of generation and mode of disposal of spent solvent and bleed liquor.
13. Revised flue gas matrix with adequate APCM with boiler and TFH as agro waste is proposed as fuel.
14. Copy of permission of GIDC Naroda for development of balance greenbelt within industrial estate along with location for the same.
15. Addendum EIA report incorporating above details.

14) PP has submitted reply of above query generated on SEAC VC meeting, through Parivesh portal.

15) This proposal is reconsidered in SEAC VC meeting dated: **29.11.2023**.

16) PP along with their technical expert/consultant, M/s. Shree Green Consultants remains present in the meeting and made presentation before Committee.

17) During meeting, Committee noted that PP has submitted following details:

1. Consultant has shown their undertaking regarding NABET but still not as per the SEAC minutes dated 23.06.2023 w.r.t MoEF&CC's OM dated 18.05.2023.
2. We have obtained the existing EC issued vide letter no J-11011/85/2002.IA(II)-I dated 23/10/2003 from the MoEF& CC. We have also obtained the EC transfer issued vide letter File No. J-1101/85/2002-IA II (I) dated 02.03.2023 from MoEF&CC. Further, please note that earlier we have applied for EC expansion in MoEF& CC (Proposal no IA/GJ/IND3/420619/2023)

On 11.04.2023 MoEF& CC raised EDS that “ *The synthetic organic chemical project located in a notified industrial area/estate fall under Category 'B' and to be submitted to SEIAA. Please submit the Gazette Notification of the industrial area so as to transfer the proposal to SEIAA. Else, the proposal will be considered at the Centre, with Public Hearing.*”

Here committee noted that PP has simply shown screenshot of query but not shown reply that they have submitted to MoEF&CC and then after what MoEF&CC has told to PP.

3. We have obtained the certified EC Compliance (J-11/83-2023-IROG NR dated 06th October 2023) from IRO Gandhinagar, Certified EC compliance report is submitted. As per Certified EC compliance report, There are 26 conditions, 16 are complied, 07 are partly complied, 2 are agree to comply and 01 is noted out of this 7 conditions are partly complied. PP has submitted Action taken report for the partially complied conditions. In Action plan regarding greenbelt, PP has informed that Unit has already developed approximately 6000 sq. m area as greenbelt outside our premises in collaboration with another plant facility situated at Bavla, inside the factory premises.

Here, Committee asked to submit the land acquired by you for greenbelt for compliance of EC condition and submit undertaking that this land is used for greenbelt purpose and it will not claim by any other proponent.

4. Submitted revised product list mentioning the Development product : 1 MT/month instead of earlier shown 5 MT/month.

Here committee noted that still PP has mentioned name as Development product instead of R&D name. Under Development products PP has not mentioned the name of products.

5. Submitted Revised layout mentioning storage of raw materials within premises along with details of area adequacy.

Here committee noted that in area adequacy the area required and area provided both are same which it should not be like that. So PP has to rework the same.

6. Submitted details of storage of raw materials along with compatibility chart and safety measures

Here committee noted that PP has not shown compatibility chart. And in raw materials they have not mentioned how many bags, drums etc will be stored, its size etc.

7. PP has mentioned that it is medium scale. Water consumption and fuel consumption is more than 25 KLD and 25 TPD respectively, hence MoEF&CC's Notification dated 25.06.2014 is not applicable.

Here committee noted that PP has still not submitted the details "General Conditions" as per MoEF&CC's OM dated 25.06.2014 instead submitted details of "small unit" as per MoEF&CC's OM dated 25.06.2014 which is not applicable to their project as project is located within GIDC estate.

8. In Compliance of ToR-6 (x)-Action plan for rainwater harvesting measures, PP has shown guard pond and underground sump.

Here committee informed PP that guard pond and underground sump is not allowed as this is chemical industry so rainwater may get contaminated and spoil the groundwater.

9. Submitted details of carbon footprints and carbon sequestration.
10. Submitted letter of Naroda utilities service letter dated 13.07.2023 for payment of charges instead of water supply connection.
11. PP has justified regarding low wastewater generation than water consumption in industrial component is due to Evaporation loss in Boiler & cooling tower bring this change. Out of total 96.5 water consumption in industrial component 34 KLD water is lost due to evaporation losses .
12. We have incorporated the quantity & disposal mode of spent solvent and bleed liquor in hazardous waste matrix. Revised Hazardous waste matrix is submitted.
13. Revised flue gas matrix with adequate APCM is submitted
14. Regarding Copy of permission of GIDC Naroda for development of balance greenbelt within industrial estate along with location is not submitted instead submitted undertaking which is not readable.
15. PP has not submitted addendum EIA report incorporating all above details.

18) After detailed discussion, Committee unanimously decided to consider the project in one of upcoming meeting only after submission of following documents:

- a) Still not submitted notarized undertaking regarding NABET accreditation and as per SEAC minutes dated 23.06.2023.
- b) Regarding query no. 2 PP has simply shown screenshot of query but not shown

reply which they submitted to MoEF&CC and then after what MoEF&CC has asked to PP whether PP has to apply for EC expansion at Central level or at State level.

- c) submit the land acquired in another plant situated at Bavla by you for greenbelt for compliance of EC condition and submit undertaking that this land is used for greenbelt purpose and it will not claim by any other proponent.
- d) PP has mentioned name as Development product instead of R&D name. Under Development products which are the products you will manufacture.
- e) In area adequacy the area required and area provided both are same which is not convencing, so rework it and submit the same.
- f) PP has not shown compatibility chart. And in raw materials they have not mentioned how many bags, drums etc will be stored, its size etc.
- g) PP has still not submitted the details "General Conditions" as per MoEF&CC's OM dated 25.06.2014 instead submitted details of "small unit" as per MoEF&CC's OM dated 25.06.2014 which is not applicable to their project as project is located within GIDC estate.
- h) Guard pond and underground sump is not allowed for rainwater harvesting as this is chemical industry so rainwater may gets contaminated and spoil the groundwater.
- i) Submit water supply connection letter of GIDC/Naroda utilites service.
- j) Submit Copy of permission of GIDC Naroda for development of balance greenbelt within industrial estate along with location is not submitted.
- k) Submit addemdum EIA report incorporating all above details.

19) PP has submitted reply of above query generated on SEAC VC meeting, through Parivesh portal.

20) This proposal is reconsidered in SEAC VC meeting dated: **19.01.2024**.

21) PP along with their technical expert/consultant, M/s. Shree Green Consultants remains present in the meeting and made presentation before Committee.

22) During meeting, Committee noted that PP submitted following details:

- a) PP has submitted Technical Expert/Consultant M/s. Shree Green Consultants has submitted undertaking dated 08.12.2023 stating that they valid NABET accreditation certificate and entire EIA/EMP work including field study, data collection, data analysis and report preparation is been carried out by them and their staff. Baseline data carried out by M/s. Shree Green Environmental Laboratory (NABL accrdiated laboratory).
- b) PP has presented that they have obtained the existing EC issued vide letter no J-

11011/85/2002 IA(II)-I dated 23/10/2003 from the MoEF & CC. We have also obtained the EC transfer issued vide letter File No. J-1101/85/2002-IA II (I) dated 02.03.2023 from MoEF&CC. Earlier we have applied for EC expansion in MoEF & CC (Proposal no SIA/GJ/IND3/420619/2023). But, MoEF & CC raised EDS that "The synthetic organic chemical project located in a notified industrial area/estate fall under Category 'B' and to be submitted to SEIAA. Please submit the Gazette Notification of the industrial area so as to transfer the proposal to SEIAA." Immediately on receipt of the query, we requested to EAC for transfer of our File from EAC to SEIAA. Hence, we have applied EC application on Parivesh portal for B1 category as per the guidance received from EAC.

- c) Approximately 6000 m² area green belt developed outside at Bavla Facility (Survey No.47 & 48 paiki sub plot no.1 village Lodriyal, Taluka-Sanand, Ahmedabad). MoU of this is submitted. Also undertaken that this land will be use for only greenbelt purpose.
- d) we have mentioned the R&D name instead of Development product and also submitted justification of R&D. Revised product list is submitted which is mentioned at Sr. No. 5 of format.
- e) Submitted Revised area adequacy which is mentioned at Sr. No. 11 of format.
- f) The revised compatibility chart of raw material is submitted.
- g) Unit has submitted distance of each particulars of "General Conditions" as per MoEF&CC's Notification dated 25.06.2014 which is mentioned at Sr. No. 10 A in format.
- h) PP has submitted revised rain water harvesting details.
- i) Submitted letter dated: 12.07.2023 of Naroda Utilities Services for water supply connection.
- j) Out of 5631.95 sq. meter we have already developed land 1126.39 sq. meter (20 %) inside premises and approx. 6000 sq. m area as greenbelt outside our premises. Further, As part of CER activity, we have issued the green belt development certificate 1000 m² from the Naroda Industry association and we will grow 300 Nos. of tress as avenue plantation in 1000 m² . The Acknowledgement copy of the same is as belowIn this regard PP has submitted letter dated 13.09.2023 of Narod Industrial Association for greenbelt development.
- k) Submitted addendum EIA report.

23) During meeting committee asked for following details:

- ✓ Submit the undertaking of R & D products.
- ✓ Area adequacy for raw material storage area & finished goods storage area.

			on page No. 7 of Chapter-3																													
F	Parameters considered for AAQM including project specific parameters.	AQM including PM ₁₀ , PM _{2.5} , SO ₂ , NO _x , CO, Cl ₂ , NH ₃ , HCl, HBr has been incorporated in EIA Report. The monitoring stations are based on CPCB guidelines and pre-dominant wind direction, population zone and sensitive receptors including reserved forests are taken into account.	Please refer Section 3.5.5, Table No. 3.3 on page No. 3-8 of Chapter-3																													
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	<table border="1"> <thead> <tr> <th>Sr. no.</th><th>Parameters</th><th>Range of Concentrations (µg/m³)</th><th>Remarks</th></tr> </thead> <tbody> <tr><td>1</td><td>PM10</td><td>51.53 to 86.06</td><td rowspan="8">-</td></tr> <tr><td>2</td><td>PM2.5</td><td>22.73 to 43.99</td></tr> <tr><td>3</td><td>SO2</td><td>14.13 to 37.55</td></tr> <tr><td>4</td><td>NOx</td><td>23.06 to 41.83</td></tr> <tr><td>5</td><td>CO</td><td>0.32 to 1.65 mg/m³</td></tr> <tr><td>6</td><td>VOC</td><td>BDL</td></tr> <tr><td>7</td><td>HCL</td><td>BDL</td></tr> <tr><td>8</td><td>CL₂</td><td>BDL</td></tr> </tbody> </table>	Sr. no.	Parameters	Range of Concentrations (µg/m ³)	Remarks	1	PM10	51.53 to 86.06	-	2	PM2.5	22.73 to 43.99	3	SO2	14.13 to 37.55	4	NOx	23.06 to 41.83	5	CO	0.32 to 1.65 mg/m ³	6	VOC	BDL	7	HCL	BDL	8	CL ₂	BDL		
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G	Whether the results of AAQM is within the norms prescribed in NAAQS? If no, give reasons as per EIA report	All the results were found to be below the NAAQS limits.	Please refer Section 3.5.5, Table No. 3.3 on page No. 3-8 of Chapter-3																													
H	Comments for AAQM results w. r. t. NAAQS	All the results of ambient air quality parameters have been found within the limit as per NAAQS standards. Based on comparison study of results for tested parameters with NAAQS, it is interpreted that current ambient air quality of studied locations is well within the NAAQS limits and it can be considered satisfactory based on AQI index calculated.	Please refer Section 3.5.5, Table No. 3.3 on page No. 3-8 of Chapter-3																													
I	Software used for the mathematical Modelling for anticipated incremental GLCs (Ground Level Concentrations)	AERMOD View Gaussian Plume Dispersion model is being used. The air quality contours are plotted on a location map showing the location of project site and maximum incremental GLC of pollutant	Please refer Section 4.5, page No. 4-15 of Chapter-4																													
j	The resultant concentrations w. r. t.	Range of Base line Concentrations	Please refer Section 3.5.5,																													

NAAQS and its conclusion.		(µg/m3)								Table No. 3.3 on page No. 3-8 of Chapter-3				
	Sr. No.	Locations	Concentration in µg/m³											
			Baseline				Predicted				Resultant			
	PM ₁₀	SO ₂	NO _x	CO	PM ₁₀	SO ₂	NO _x	CO	PM ₁₀	SO ₂	NO _x	CO		
	1	AQ1-Project site	86.06	37.55	41.83	0.37	0.021	0.037	0.013	0.002	86.081	37.587	41.843	0.372
	2	AQ2- Lions Clun HS School	71.50	26.72	34.18	1.65	0.020	0.034	0.012	0.002	71.52	26.754	34.192	1.652
	3	AQ3- Naroda Gam	68.49	17.94	28.01	0.32	0.019	0.032	0.012	0.002	68.509	17.972	28.022	0.322
	4	AQ4- Ranasan	54.41	14.13	22.06	0.46	0.018	0.031	0.011	0.002	54.428	14.161	22.071	0.462
	5	AQ5- Enasan	55.66	32.42	41.06	0.53	0.017	0.029	0.011	0.002	55.677	32.449	41.071	0.532
	6	AQ-6 Bilasiya	51.53	17.35	23.57	0.46	0.016	0.028	0.010	0.002	51.546	17.378	23.588	0.462
	7	AQ7- Limabdiya	58.66	17.22	22.27	0.56	0.016	0.027	0.010	0.001	58.676	17.247	22.288	0.561
8	AQ8- Bhat	64.10	33.39	39.69	0.42	0.015	0.026	0.09	0.001	64.115	33.416	39.788	0.421	
WATER														
k	No. of monitoring stations including project site wrt water a) Groundwater b) Surface water				a) Groundwater: 8 b) Surface water: 8					Please refer Section 3.11, Table No. 3.13 on page No. 3-23 of Chapter-3				
l	Conclusion of the Monitoring during baseline study of water (ground water and surface water)				a) Groundwater Based on comparison study of test results and summary report with drinking water norms as per Drinking Water Specification IS 10500: 2012,it is interpreted that ground water sample collected from all the locations are meet with the permissible range expect TDS, Total Hardness, Magnesium, Chloride, Iron and turbidity. The pH varied in the range of 7.17-7.84. Total hardness varied in the range of 189-479 mg/l. TDS varied in the range of 1098-2145 mg/l. Hardness and TDS level reduction to desirable limit is necessary to use water for drinking purpose. b) Surface water Based on test result data comparison study with CPCB standard for inland surface water classification, it is interpreted surface water quality meet with the criteria “E”- (Irrigation, industrial cooling or controlled waste					Please refer Section 3.11, Table No. 3.14 on page No. 3-25 & 3-26 of Chapter-3				

		disposal) for locations.. The pH varied in the range of 7.01-7.93, Total hardness varied in the range of 110-195 mg/l and TDS varied in the range of 634-926 mg/l. All the heavy metals measured in collected samples of the surface water were BDL at all the locations.	
M	No. of monitoring stations including project site wrt soil	8	Please refer Section 3.10, Table No. 3.11 on page No. 3-21 of Chapter-3
N	Conclusion of the Monitoring during baseline study of land / soil	In order to establish the baseline status of soil characteristics, soil samples were collected from 8 sampling locations. Based on the study, the pH of soil is slightly alkaline in nature. The electrical conductivity of samples varied from 0.305 to 0.851 mS/cm which indicates, no salinity ingress in the soil of study area. The concentration of available Nitrogen, Phosphorous and Potassium in the soil samples signifies that the soil of the area is moderately fertile.	Please refer Section 3.10, Table No. 3.12 on page No. 3-22 of Chapter-3
O	No. of monitoring stations including project site wrt. Noise	8	Please refer Section 3.6, Table No. 3.10 on page No. 3-22 of Chapter-3
P	Conclusion of the Monitoring during baseline study of Noise	Ambient noise levels were measured at 8 locations around the existing project site and also on the project site location. Noise levels monitoring was done during the day as well as night time. Near the Industrial area the maximum and minimum noise levels recorded during the day time was 65.4 Leq dB(A) and during night time was 38.3 Leq dB(A). It was observed that the noise levels in the study area are	Please refer Section 3.6, Table No. 3.11 on page No. 3-11 of Chapter-3

		well within the prescribed limits as prescribed by the CPCB.																																																																																				
q	Any other details: a) Details of carbon footprint: <table border="1"> <thead> <tr> <th>Sr. no.</th> <th>Category</th> <th>Unit</th> <th>Quantity</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>NaturalGas</td> <td>SCM/Year</td> <td>561000</td> </tr> <tr> <td>2</td> <td>Agro waste</td> <td>MT/year</td> <td>6732</td> </tr> <tr> <td>3</td> <td>Electricity</td> <td>kWh/year</td> <td>495000</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th>Scope</th> <th>Description</th> <th>Applicability</th> </tr> </thead> <tbody> <tr> <td colspan="3">DIRECTGHGEMISSIONS</td> </tr> <tr> <td rowspan="2">1</td> <td>Directemissionsfromstationarycombustion</td> <td>Yes</td> </tr> <tr> <td>Directemissionsfrommobilecombustion</td> <td>Yes</td> </tr> <tr> <td colspan="3">INDIRECTGHGEMISSIONSFROMIMPORTEDENERGY</td> </tr> <tr> <td rowspan="2">2</td> <td>Indirectemissionsfromimported electricity</td> <td>Yes</td> </tr> <tr> <td>Indirectemissionsfromimported energy</td> <td>NA</td> </tr> </tbody> </table> AnticipatedCarbonEmission <table border="1"> <thead> <tr> <th colspan="5">DirectCarbon emission</th> </tr> <tr> <th>Utility</th> <th>Consumption</th> <th>CO2Factor</th> <th>tCO2 perDay</th> <th>tCO2 perYear</th> </tr> </thead> <tbody> <tr> <td>NaturalGas</td> <td>1700 SCM/day</td> <td>1.86Kg CO2perSCM</td> <td>3.16</td> <td>1043.46</td> </tr> <tr> <td>Agro waste</td> <td>20.4 MT/Day</td> <td>975Kg CO2perMT</td> <td>19.89</td> <td>6563.7</td> </tr> <tr> <th colspan="5">IndirectCarbonemission</th> </tr> <tr> <th></th> <th>Consumption KWH/Day</th> <th>Kg CO2perKWHof Power</th> <th>tCO2 perDay</th> <th>tCO2 perYear</th> </tr> <tr> <td>Electricity</td> <td>1500</td> <td>0.820</td> <td>1.23</td> <td>405.9</td> </tr> <tr> <td colspan="4">TotaltCO2emissionperyear</td> <td>8013.06</td> </tr> </tbody> </table> Totalemission <table border="1"> <thead> <tr> <th>Scope</th> <th>GrossEmissions(tCO2 eq./year)</th> </tr> </thead> <tbody> <tr> <td>Scope-1</td> <td>7607.16</td> </tr> <tr> <td>Scope-2</td> <td>405.9</td> </tr> <tr> <td>Totalemissions(tCO2eq./year)</td> <td>8013.06</td> </tr> </tbody> </table> <p>NOTE:Scope1-Stationary Combustion,Mobile Combustion,andFugitiveEmissionsfrom Air Conditioning</p> <p>Scope2-PurchasedElectricityandPurchased Heat/SteamCommuting</p> b) Details of water footprint: Unit will be reused 16.4 % treated water back into the plant. Detailed disposal mode of effluent is as below; <ul style="list-style-type: none"> ➤ Total waste water will be 54.82 KLD (Industrial 41 KLD + Domestic 13.82 KLD). ➤ Total HTDS 15.22 (Process waste water 13 KLD + RO reject 2.22 KLD) will be treated in MEE followed by stripper and MEE condensate (13.69 KLD) will be sent to ETP. ➤ Total LTDS waste water 55.51 KLD (MEE condensate 13.69 KLD +Washing 12 KLD + Boiler 3.5 KLD + cooling 5 KLD + Scrubber 5 KLD + others 2.5 KLD + Domestic 			Sr. no.	Category	Unit	Quantity	1	NaturalGas	SCM/Year	561000	2	Agro waste	MT/year	6732	3	Electricity	kWh/year	495000	Scope	Description	Applicability	DIRECTGHGEMISSIONS			1	Directemissionsfromstationarycombustion	Yes	Directemissionsfrommobilecombustion	Yes	INDIRECTGHGEMISSIONSFROMIMPORTEDENERGY			2	Indirectemissionsfromimported electricity	Yes	Indirectemissionsfromimported energy	NA	DirectCarbon emission					Utility	Consumption	CO2Factor	tCO2 perDay	tCO2 perYear	NaturalGas	1700 SCM/day	1.86Kg CO2perSCM	3.16	1043.46	Agro waste	20.4 MT/Day	975Kg CO2perMT	19.89	6563.7	IndirectCarbonemission						Consumption KWH/Day	Kg CO2perKWHof Power	tCO2 perDay	tCO2 perYear	Electricity	1500	0.820	1.23	405.9	TotaltCO2emissionperyear				8013.06	Scope	GrossEmissions(tCO2 eq./year)	Scope-1	7607.16	Scope-2	405.9	Totalemissions(tCO2eq./year)	8013.06
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13.82 KLD) will be treated in ETP.

- Treated waste water (32 KLD) will be sent to CETP of M/s. Naroda Enviro Project Ltd. for further treatment and final disposal into deep sea. And remaining treated waste water 18.05 KLD will be sent to RO.
- RO permeate (15.83 KLD) will be reused in utilities & washing and RO Reject (2.22 KLD) will be sent to MEE.
- Domestic Effluent will be treated into ETP along with industrial effluent.

c) Details of carbon sequestration:

S R N O	Trees name	Green Weight of Tree above ground level	Green weight (including root)	Dry Weight of tree	Weight of carbon in the tree	Weight of CO2	Weight of CO2 Seques tered in tree per year	No of tree propose d	lbs/year	Ton/Yea r
1	Neem	900	1080	783	391.5	1435.356	2343.3 3	155	363216.15	164.57
2	Gulmohar	1575.00	1890.00	1370.0 0	685.00	2514.00	2751.4 0	161	442975.40	200.71
3	Champa	570	684	495.9	247.95	909.98	2515.9 9	15	37739.85	17.10
4	Gauva	1015	1219	883.85	441.92 5	1621	2062.1	166	342308.60	155.10
5	Shevga	2283	2740	1986.9 7	993.48	3646.1	2034.3	314	638770.20	289.43
6	Ghaneri	1230	1476.13	1070.2	535.1	1963.81	2026.3 8	192	389064.96	176.29
7	Jangli Badam	570	685.16	496.74	248.37	911.52	2114.2	362	765340.40	346.78
8	Jamun	365.42	438.5	317.91	158.95	583.37	2282.1	119	271569.90	123.05
9	Mango	255.88	307.05	222.61	111.3	408.5	2609.5	115	300092.50	135.97
10	Pipal	905.81	1086.97	788.05	394.02	1446.08	2929.9	183	536171.70	242.94
TOTAL								1782	4087249.66	1851.93 3

The total carbon sequestered through trees (1682trees)=1851.9t CO2 eq. /year

Totalemissionsreductionduetocar bon sequestration	1851.9t CO2eq. /year
Netemissions(grossemisions– emission reduction)	8013.06-1851.9tCO2eq. /year =6161.16 tCO2 eq. /year
Theemissionreductionpercentage	23.11 %

- M/s. Dishman Carbogen Amcis Ltd. is used natural gas or Agro waste as fuel in utilities.
- We have phasing out traditional light bulbs with LED lights. Resulting into a reduction 3/4th of the total energy consumption.
- The cooling tower fans are connected to temperature sensor, as soon as the sump temperature reaches the desired value the cooling tower switches off.
- The chillers and brine plants are installed with VFD's whereby there is huge savings during startup.
- Further, when the chilling load reduces, the power drawn for operating automatically reduces power saving devices installed in Boilers also.
- Use of solar energy for street lights, lifts, common area lights etc. in entire complex.
- The selection of appropriate sustainable building materials for construction of factory buildings.
- A motion sensor light will be installed in Admin building, canteen wherever possible.
- Computers installed are with a system which will make sure to put it into hibernation

mode when not in use.

- M/s. Dishman Carbogen Amcis Ltd. will be used Hybrid power supply i.e., solar and wind energy as an alternative to GEB power.
- We are collecting the canteen waste and decompose it to manure.
- Provision of common transport facility to employees to reduce carbon foot print.
- We will shift to electrical vehicles for senior executive's travel.
- Total plot area is 5631.95 m²; out of this 7126.39m² (i.e., 126.53 % of total area) will be developed as greenbelt inside and outside of the premises.
- We will use "cyanobacteria", a microbial species which converts CO₂ content waste containing CO₂ like Paper, Carboards, etc. into a material, which can be used as raw material for the production of bio plastics and cosmetic items.
- Energy efficient electric appliances will further help save energy.
- More trees sequestering maximum carbon should be planted.
- Energy efficient appliances should be used to reduce CO₂ emissions. For instance, CO₂ emissions from traditional incandescent bulb is 8 times more than that of LED bulb. Similarly, refrigerators and ACs with better 'Star Ratings' can help bring down the emissions.
- Products with loads of unnecessary plastic packaging should be discouraged as the waste generated fills the landfill sites and pollutes the environment.
- Carpooling and public transportation should be encouraged to reduce CO₂ emissions
- For short distances, one should either walk or ride bicycle to avoid carbon emissions completely.
- The use of renewable sources of electricity generation like solar plant, wind mill will help reduce the emissions.
- Carbon footprint study should be done every year to track greenhouse gases emission and to set target of GHG gases reduction for next year
- Steam condensate will be recycled to reduce the fresh water load.
- Energy efficient equipment's will be utilized to reduce the energy consumption.
- Fly ash generated from the coal consumption is sent to brick manufacturers to reduce the load on landfills.
- Switching off lights and other appliances when not required is the least we can do to contribute towards environment.

d) Details of roof top rain water harvesting and reuse within premises:

Rain Water Harvesting

Rain water harvesting means arresting rainwater during monsoon and storing it in natural reservoirs and artificial tanks. The rain is available everywhere in India and the end user can store this water at marginal cost. The harvested rainwater can be used for flushing, washing, gardening, irrigation, firefighting and even consumption with necessary treatment. Rainwater is the purest form of water available to us. Experts opine that the major source of water, rain must be saved to solve the problem of water scarcity.

To reduce ground water pollution

- To argument the ground water storage and decline of water level
- To improve the quality of ground water
- To reduce the soil erosion

Method of rain water harvesting:

In Rooftop rain water harvesting the rain water is collected from roof of the buildings i.e Admin, Fire water tank & Security and stored in rain water collection tank (Capacity : **50 KL**) The size of the catchment area and tank should be enough to supply sufficient water for the users.

Rainwater Harvesting Calculation

Particular	Details	
	Rooftop area	Green belt area

		Annual Rainfall (m)			0.782	
		No. rainy days per year			30	
		Catchment area available m2			510	1126.39
		co-efficient of runoff (as per CGWA guideline)			0.85	0.15
		Area wise volume of rain water can be harvested (KL/year)			339	132.13
		Total volume of rainwater can be harvested (KL/year)			471.13	
		Average volume of rainwater can be harvested (KL/Month) during 30 rainy days			117.8	
		Volume of storage tank to be provided by unit for rain water storage (KL)			3.9x4 days=15.6 KL~50 KL will be provided	
		Rainwater Harvesting Calculation Run off from the proposed project site is calculated using rational formula $Q = C \times I \times A$ Q = Run-off in m ³ /annum A = Catchment Area (sq.mt) C = Coefficient of Run-off I = Intensity of Rainfall in m/annum				
		R	Details of Schedule-I species and its conservation plan, if any			
	Sr. No.	Scientific Name	Local Name	IUCN status	Schedule As Per (WPA, 1972 & Its Amendment 2022)	
	Not applicable, our project site is located in industrial Estate.					
	-					
4)	RISK ANALYSIS & ITS MITIGATION MEASURES IN GENERAL AS GIVEN IN EIA REPORT					

S.NO	HAZCHEN NAME	TPQ/ STORAGE	FLAMMA RADIANT HEAT	BLAST FORCE	TOXIC VAPOUR CLOUD	RISK SCENARIO ILLUSTRATION	MITIGATION MEASURE
UNDERGROUND STORAGE: TANKFARM							
1	ACETONE CAS: 67-64-1	30 KL	FLAMMABLE	NO	NO	Decanting Hosepipe Loosened And Leakage Of Hazchem 3000 Liters Near The Tankfarm .Flammable Vapors And Fire Accident	<ol style="list-style-type: none"> 1) Wear chemical safety goggles and face shield when contact is possible. 2) While handling where safety gloves. 3) Were gas mask for protection from gas 4) Were protective clothing. 5) Avoid repeated or prolonged skin contact. Wear chemical protective clothing
2	Acetonitrile CAS: 107-13-1	10 KL	FLAMMABLE	NO	TOXIC TLV : 4.6 ppm	Toppling Of Drums While Handling On Forklift. 800 Litres Spillage On Road. Flammable Vapour Cloud, Toxic Valpours Spread Possible	<ol style="list-style-type: none"> 1) Avoid repeated or prolonged skin contact. Wear chemical protective clothing e.g., gloves, aprons, boots. 2) Wear chemical safety goggles and face shield when contact is possible. 3) Were protective clothing. 4) While handling where safety gloves.
3	Acetic Acid	10 KL	FLAMMABLE		TOXIC TLV 4 ppm	Decanting Hosepipe Loosened And Leakage Of Hazchem 2000 Liters Near The Tankfarm .Flammable Vapors And Fire Accident.	<ol style="list-style-type: none"> 1) Where chemical protective clothing selected as per its property and its usage 2) Where the gloves while handling the toxic chemical. 3) Where the safety goggles for protection of the eyes.
4	Hexane CAS: 110-54-3	20 KL	FLAMMABLE	NO	NO	Decanting Hosepipe Loosened And Leakage Of Hazchem 2000 Liters Near The Tankfarm .Flammable Vapors And Fire Accident	<ol style="list-style-type: none"> 1) Wear chemical safety goggles and face shield when contact is possible. 2) While handling where safety gloves. 3) Were gas mask for protection from gas 4) Were protective clothing. 5) Avoid repeated or prolonged skin contact. Wear chemical protective clothing
5	Methanol CAS: 67-56-1	20 KL	FLAMMABLE	NO	NO	Decanting Hosepipe Loosened And	<ol style="list-style-type: none"> 1) To keep air-borne concentration of toxic and

						Leakage Of Hazchem 2000 Liters Near The Tankfarm .Flammable Vapors And Fire Accident	<p>hazardous chemicals below PEL and TLV.</p> <ol style="list-style-type: none"> 2) To keep air-borne concentration of toxic and hazardous chemicals below PEL and TLV. 3) Providing training, guidelines, resources and facilities to concerned department for occupational health hazards. 4) Proposed EMP will be incorporated in Standard Operating Procedure also. 5) It is proposed that this EMP be formulated on the guidelines issued by Bureau of Indian Standards on OH&S Management Systems: IS 18001:2000 Occupational Health and Safety Management Systems.
6	Toluene CAS: 108-88-3	25 KL	FLAMMABLE	NO	NO	Decanting Hosepipe Loosened And Leakage Of Hazchem 3000 Liters Near The Tankfarm .Flammable Vapors And Fire Accident	<ol style="list-style-type: none"> 1) Use safety goggle with side protection 2) Use hand gloves and proper wash hand with soap or handwash to minimize the skin infection. 3) Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374 4) Respiratory protection necessary at: Aerosol or mist formation.
7	Iso Propyl Alcohol CAS: 67-63-0:	15 KL	FLAMMABLE	NO	NO	Decanting Hosepipe Loosened And Leakage Of Hazchem 3000 Liters Near The Tankfarm .Flammable Vapors And Fire Accident	<ol style="list-style-type: none"> 1) Use PPE For the protection from the risk from any accident. 2) Use safety glass for protection of the eyes from the spillage or any flammable gas. 3) Use respiratory mask from protection of the nose from toxic gas. 4) Avoid repeated or prolonged skin contact. Wear chemical protective clothing

	8	Ethyl Acetate CAS 141-78-6	45 KL	FLAMMABLE	NO	NO	Decanting Hosepipe Loosened And Leakage Of Hazchem 2000 Liters Near The Tankfarm .Flammable Vapors And Fire Accident	1) Wear chemical safety goggles and face shield when contact is possible. 2) While handling where safety gloves. 3) Were gas mask for protection from gas 4) Were protective clothing. 5) Avoid repeated or prolonged skin contact. Wear chemical protective clothing
	9	Methyl Chloride GAS CAS: 74-87-3	15 KL DRUMS	FLAMMABLE	NO	NO	Toppling Of Drums While Handling On Forklift. 800 Litres Spillage On Road. Flammable Vapour Cloud, Toxic Valpours Spread Possible	1) EYE CONTACT • Immediately flush with large amounts of water for at least 15 minutes, occasionally lifting upper and lower lids. Seek medical attention immediately. 2) Skin Contact • Quickly remove contaminated clothing. Immediately wash area with large amounts of soap and water. Seek medical attention immediately. • Immerse affected part in warm water. Seek medical attention. 3) Breathing • Remove the person from exposure. • Begin rescue breathing (using universal precautions) if breathing has stopped and CPR if heart action has stopped. • Transfer promptly to a medical facility.
	10	Benzyl Chloride CAS 98-88-4	FLAMMABLE 10 15 KL DRUMS	NO	NO	TLV 0.3 PPM	Toppling Of Drums While Handling On Forklift. 800 Litres Spillage On Road. Flammable Vapour Cloud, Toxic Valpours Spread Possible	1) Eye Exposure: Wear safety goggles with full side cover of the shield. 2) Skin Exposure: Wear Full PPE suit for protecting the skin from any toxic chemical. Wear gloves for protection of hands
	11	Try Butyl Amine CAS 102-82-9	40 KL DRUMS	NO	NO	TLV 0.0071 PPM	Toppling Of Drums While Handling On Forklift. 800 Litres Spillage On Road.	1) Hand protection: protective gloves 2) Eye protection: Chemical goggles or safety glasses
5)	REVISED PRODUCT PROFILE AND BRIEF NOTE OF PRODUCT PROFILE IS AS UNDER							
	Sr. No.	Products	Production Capacity (MT/M)			CAS No	End Use	
			Existing	Proposed	Total			
	1	Cetrimide Powder	20	-5	15	8044-71-1	It is an antiseptic, mixture of three quaternary ammonium compounds.	
	2	Cetrimide solution	-	40	40	1119-97-7		

						Cetrimide is used in various applications such as antiseptic agents, diagnostic test and analysis, topical formulations, and dental treatment
3	Bisacodyl	1	0.6	1.6	603-50-9	It is laxative, it relieves constipation.
4	Benzalkonium Chloride	14	-02	12	8001-54-5	Benzalkonium chloride is a quaternary ammonium antiseptic and disinfectant with actions and uses similar to those of other cationic surfactants. It is used prior to surgical procedures or for minor wound care to reduce risks of infection. It may be used for cold sore care. It is also used as an antimicrobial preservative for pharmaceutical products.
5	Benzal konium chloride 14 power	0	16	16	63449-41-2	
6	Benzal konium chloride 16 power	0	1	1	63449-41-2	
Quaternary Ammonium salts						
7	Cetyl trimethylal Ammonium bromide	-	16	16	57-09-0	Cetyl trimethylal Ammonium bromide widely used in the pharmaceutical industry as an active ingredient (API).
8	Benzyl triethyl Ammonium chloride (TEBA) solution	15	0	15	56-37-1	Used to relax muscles and relieve pain caused by strains, sprains, and other musculoskeletal conditions.
9	Tetra butyl Ammonium Bromide	20	15	35	1643-19-2	Tetra butyl ammonium bromide (TBAB) is a quaternary ammonium salt with a bromide commonly used as a phase transfer catalyst
10	Methyl tributyl ammonium chloride solution	0	40	40	56375-79-2	It is Quaternary Ammonium Salt, used as a phase transfer catalyst.
11	Methyl trioctyl ammonium chloride	15	-5	10	5137-55-3	Methyl trioctyl ammonium chloride can be used: As a catalyst in the synthesis of acridine dione derivatives from aromatic aldehyde, dimedone and amines under ultrasonic irradiations. As a catalyst in the synthesis of extended π-systems using aromatic aldehydes and methylamines.
12	Phenyl trimethyl Ammonium chloride	0	10.0	10.0	138-24-9	It is used as a phase transfer catalyst.
13	Tetra butyl ammonium hydrogen sulphate	2	0	2	32503-27-8	Tetrabutylammonium bromide is used in pharma, dyes & chemical industries

14	Dodecyl trimethyl ammonium chloride	2	0	2	112-00-5	Dodecyltrimethylammonium Chloride is useful as a paint stripper, a foaming stabilizer, and a bactericidal lotion. It is used in coating, plastics, paints, rubber and ink production, as anti-static agent, catalyst.
15	Tetra butyl ammonium hexafluoro phosphate	-	0.5	0.5	3109-63-5	Tetra butyl ammonium hexafluoro phosphate is used as a phase transfer catalyst.
16	Tetra butyl ammonium nitrite	-	0.4	0.4	1941-27-1	Tetra butyl ammonium nitrite is a quaternary ammonium compound used as phase transfer catalyst in many organic synthesis under mild conditions. Tetra butyl ammonium nitrite is easy to handle and thermally stable.
17	Benzyl trimethyl ammonium iodide	-	0.725	0.725	4525-46-6	It is Quaternary Ammonium Salt, used as a phase transfer catalyst.
18	Cetyl tri methyl ammonium 4 – toluene sulphonate	-	0.400	0.400	138-32-9	Cetyltrimethylammonium p-Toluenesulfonate is a cosmetic chemical. It is also used in pharmaceutical as antiseptic skin cleansers and local Anti-Infectives.
19	Na-Pico Sulphate	-	0.8	0.8	1307301-38-7	Na-Pico Sulphate, is used in adults and children 9 years of age and older to empty the colon (large intestine, bowel) before a colonoscopy
20	Benzothonium Chloride	-	12	12	121-54-0	Benzethonium is a medication used as to clean hands and clean minor cuts and scrapes.
21	Di Acetone Fructose	-	10	10	20880-92-6	The Diacetone-β-Fructose (DAF) is an intermediate in the synthesis process of Topiramate, an antiepileptic drug which can block the spread of seizures. It is used to treat other ailments, such as Lennox-Gastaut syndrome, the bipolar disorder and migraine.
22	2 methyl mercapto phenothiazine	-	0.5	0.5	7643-08-5	2-methylmercaptophenothiazine is an intermediate in organic synthesis and a pharmaceutical intermediate, can be used in laboratory research and development process and chemical synthesis process
23	Cetyle pyridine chloride	-	15	15	6004-24-6	Cetyle pyridinium chloride is a pyridinium

						salt that has N-hexadecyl pyridinium as the cation and chloride as the anion. It has antiseptic properties and is used in solutions or lozenges for the treatment of minor infections of the mouth and throat.
Quaternary phosphonium salts						
24	Benzyl triphenyl phosphonium bromide	-	2.5	2.5	1449-46-3	Phosphonium bromides, such as ethyltriphenylphosphonium bromide and tetrabutylphosphonium bromide, are employed as phase transfer catalysts (PTC) in the production of epoxy resins and powder coatings. They are also useful as pharmaceutical intermediates in several synthetic processes.
25	Eethyl triphenyl phosphonium bromide	-	2	2	1530-32-1	It is used as a phase-transfer catalyst in the production of epoxy resins and powder coatings and as a pharmaceutical intermediate.
26	Methyl triphenyl phosphonium bromide	-	1	1	1779-49-3	It is used as a phase transfer catalyst.
27	Tetra butyle ammonium fluoride tri hydrate	-	0.6	0.6	87749-50-6	It is used as a phase transfer catalyst.
28	CHG solution	-	20	20	18472-51-0	Chlorhexidine is an antiseptic used to sterilize for surgeries and in healthcare practice, to reduce pocket depth in periodontitis, and to treat gingivitis.
29	D- Alanine Methyl Ester Hydrochloride	-	3	3	14316-06-4	D-Alanine methyl ester hydrochloride is used as building block for the preparation of peptides.
30	Intermediate 269I (3 – Dimethyl amino-1- propionphathone hydrochloride)	-	2	2	5409-58-5	Bulk drugs intermediate
31	Intermediate 270I (3 – benzyl 6 – Bromo 2 methoxy quinoline)	-	2	2	654655-69-3	Bulk drugs intermediate
32	N -ethyl 4 Picolyamine	-	0.5	0.5	3731-53-1	It is intermediate, can be used in drugs or foods.
33	Tropic acid	-	0.5	0.5	529-64-6	Tropic acid (DL-Tropic acid) is a laboratory reagent used in the chemical synthesis of Atropine and Hyoscyamine.
34	R & D products	-	1	1	-	-

	(New Development products)					
	Total	89	202.025	291.025		

Brief Note of Product Profile:

- No of Manufacturing Plants: 2
- Brief Note regarding number of Products to be manufactured considering plant capacity:
Individual plants

6) **PROJECT DETAILS (COST/LAND OWNERSHIP/NA PERMISSION ETC.)**

a) Total **cost of Proposed** Project (Rs. in Crores):

Existing	Proposed	Total
42.82	12.01	54.83

Break-up of proposed project Cost:

Sr. No.	Description	Cost (Rs. in Crores)		
		Existing	Proposed	Total
1	Land Cost	24.59	-	24.59
2	Building & Civil works	5.11	0.10	5.21
3	Plant and machineries	9.22	8.17	17.39
4	Capital Cost for EPCM	3.20	3.04	6.24
5	Miscellaneous cost	0.70	0.70	1.4
Total Cost		42.82	12.01	54.83

b) **Details of Land / Plot ownership details:** (Linking between Land ownership and PP is required.)

- Total Plot area (sq mt):** Plot No. 1216/20 to 27(Total area 5631.95 Sq. m.) is procured from GIDC Notified Industrial Estate, Naroda for proposed expansion.
- GIDC Plot Allotment letter/ NA documents:** Yes
- Rent agreement, if any:** None
- Other Land Possession documents, if any:** None

7) **IF IT IS EXPANSION WHETHER CCR/EARLIER EC COMPLIANCE GIVEN:**

Sr. no.	Particulars	Brief Information/Details	Remarks
1	Earlier Environmental Clearance (EC) details [EC letter no. and date & obtained from MoEF&CC/SEIAA.]	Unit had obtained EC from the Ministry vide letter no.J-11011/85/2002 1A(II)-1 No. dated 23 rd October, 2003 for setting up expansion of bulk drug manufacturing unit located at Plot No. 1216/20 to 27, Phase No: IV, GIDC	Please refer Annexure-3

		Estate, Naroda, Ahmedabad, Gujarat.	
2	In case EC not obtained for existing project: Copy of first CTE (NOC) & CCA obtained from GPCB i.e. before 14/09/2006. (For justification that you have not obtained EC for existing project).	Not Applicable	-
3	Certified Compliance Report (CCR) from the concern authority (IRO-MoEF&CC/MS-GPCB) for existing EC/ CCA as per the MoEFCC's OM no.F.No: IA3-22/10/2022-IA.III [E 177258] dated: 08/06/2022.	Certified EC Compliance report issued vide no. J-11/83-2023-IROG NR from IRO- Gandhinagar dated 06 th October 2023.	Please refer Annexure-22
4	Summary of CCR and Time bound action taken report/ plan of conditions i.e partly complied/ non-complied	As per Certified EC Compliance report issued vide no. J-11/83-2023-IROG NR from IRO- Gandhinagar, There are 26 conditions, out of this 7 conditions are partly complied. Action taken report submitted to IRO - Gandhinagar dated 19/10/2023.	Please refer Annexure-22
5	Details of latest Consent to Operate (CTO/CC&A) obtained from GPCB along with date of issue and validity	M/s. Dishman Pharmaceutical & Chemicals Pvt Ltd obtained valid CCA amendment No. AWH-100111 issued vide Letter No: GPCB/ABD/ND/CCA-45(15)/ID-11178/508627 dated 31/05/2019 valid up to 30/06/2023 from the state pollution control board.	Please refer Annexure-5
6	Details of Improvement notice, Show- cause notice, Notice of direction, Directions, Closure direction etc. issued by the GPCB to the existing unit in last 3 years. Details in	SCN-604238 dated 22/10/2021	-

	tabular format comprise issues, actions taken and current status. As per the latest XGN screen shot.				
7	Details of Public Complaints (If any)	No Public complaints against the project. Undertaking enclosed here as Annexure-I.	-		
8	Details of litigation pending before any court of Law against the Project (If any)	No litigation pending against the project.Undertaking enclosed here as Annexure-I.	-		
<u>Comments:</u> As per MoEF&CC's OM dated: 08.06.2022, PP has submitted CCR from concerned authority with action taken report of non-complied/ partly complied conditions which is found satisfactory. Also, PP has submitted that one show cause notice was issued by GPCB in last three years. Further mentioned that no litigation pending and public complaints against the unit.					
8)	PUBLIC HEARING APPLICABILITY AND ITS COMPLIANCE:				
	Main Issues raised by stake holders	Commitments by Project proponent and Action Plan	Action Plan		
	Not applicable				
<u>Comments:</u> The public consultation is not applicable as per paragraph 7(i) III (i) (b) of the Environment Impact Assessment Notification-2006.					
9)	SITING CRITERIA DETAILS (OTHER THAN GIDC):				
	Sr. no.	Environmental Sensitivity	Name/Specific details	Siting criteria as per GPCB guidelines dated: 05.06.2022 & its amendment	Aerial Distance in Km
	1	Habitat (Residential Area)	Naroda	500 m	4.5 km
	2	Water Bodies			
		River	Sabarmati River	500 m	3.4 km
		Natural Nallah/Drain	Not Applicable	-	-
		Lake/Pond/Wetlands	Not applicable	-	-
		Water supply Tanks/Reservoirs	Devanshi Water Supply	500 m	2.49 km
		Canal	Narmada Canal	500 m	2.11 km
	3	Protected Monuments/Heritage sites/Public Buildings i.e	Vidyasagar School	500 m	1.57 km

		School, colleges, etc.			
	4	National/State Highway OR Express way	NH-48	500 m	0.45 km
	5	Coastal Regulation Zone (CRZ) (In case of Coastal area projects)	Not Applicable	-	-
-					
<u>Comments:</u>					
This unit is located in GIDC area, so siting criteria is not applicable.					

10)

A. APPLICABILITY OF GENERAL CONDITIONS AND COMMENTS WITH SPECIFIC CLARIFICATION OF MOEF&CC GUIDELINES: Any project or activity specified in Category ‘B’ will be appraised at Central level as Category ‘A’ if located in whole or in part within 5 Km radius from the project boundary of:-

Sr No	Particulars	Aerial Distance in Km
1.	Protected Areas notified under the Wildlife (Protection) Act 1972 (53 of 1972)	The project site is located at 28.40 Km form the Thol Bird Sanctuary
2.	CPA/SPA (Critically Polluted Area/Severely Polluted Area) as identified by the CPCB	The project site is located at 16.20 Km form Vatva-CEPI area.
3	Eco sensitive areas as notified under sub-section (2) of section 3 of EPA-1986	The project site is located at 23 km from the eco-sensitive area.
4	Interstate boundaries and international boundaries	Nearest Interstate boundaries (Gujarat-Rajasthan)- 105 Km and International Boundaries (India-Pakistan) around 260 Km away from the projected site.

Comments:

As per MoEF&CC’s notification dated: 25.06.2014 and as per details submitted by PP, General condition is not applicable.

B. Ensure compliance of category as defined in the amendment to EIA Notification, 2006 vide SO 1599 (E) dated 25/06/2014. i.e.

Conditions of small units: (in case of 5 (f) category units and outside the GIDC)

Sr no.	Condition	Compliance with justification
1	Water consumption less than 25 M3/day;	Not applicable, As per SPCB circular, our unit fall under medium scale industry and total Water consumption is 96.5 KLD (Fresh water 80.67 KLD+ Treated water 15.83 KLD)after proposed expansion.

		which is more than 25 KLD.
2	Fuel consumption less than 25 TPD;	Not applicable As per SPCB circular, our unit fall under medium scale industry and fuel consumption is (Natural gas: 1700 SCM /Day or Agro waste: 0.85 MT/Hr, HSD: 150 Litre/Hr & LDO: 160 Litre/hr) more than 25 TPD after proposed expansion.
3	Not covered in the category of MAH units as per the Management, Storage, Import of Hazardous Chemical Rules (MSIHC Rules), 1989 as per the legal undertaking submitted with EIA report.	Not applicable, Our unit handle hazardous chemicals as per Management, Storage, Import of Hazardous Chemical Rules (MSIHC Rules), 1989.

Comments:

Unit is located within the GIDC so this small scale condition is not applicable

11) AREA ADEQUACY AND COMMENTS

Total Land area: 5631.95 Sq. m.

Area Adequacy table:

Sr. No	Components	Area required (Sq m)	Area Provided(Sq m)	Percentage(%)
1	Admin Building	185	200	3.55
2	OHC	50	55	0.98
3	Unit-1	715.3	785	13.94
4	Unit-2	600	642.11	11.40
5	Raw Material Ware House	340	370.5	6.58
6	Drying Area	345	371.8	6.60
7	Finished Goods	280.7	303.6	5.39
8	Solvent Tank Farm	293	321.25	5.70
9	U.G water tank & pump House for GIDC water & Fire Hydrant	97	106	1.88
10	Internal Roads, Parking & Margin	306	360	6.39
11	Green Belt	1408	1126.39	20
12	ETP & Hazardous waste storage area	423	460	8.18
13	Utility Area	300	326.3	5.79
14	Security	200	204	3.62
Total		5543	5631.95	100

Area provided for the Raw materials Storage :- 370.5 Sq Meter

Area required for RM storage Room :- 210 sq Meter

Install Storage rack area details in RM storage room :-

Rack size for one rack	Total Storage capacity in one rack	Total number of Rack	Total area require for racks	Total storage capacity
3 Mt x 7 Mtr	18 MT	06	126 Sq Mtr	108 MT

Bags	Size of Bags & Drums	Area require for 1 number	Total no storage maximum at a time	Total quantity storage maximum	No of racks required	Area required (m ²)
50 Kg bags	0.8 * 0.4	0.32	20 bags	1000kg	02	42
200 ltr Drums	0.87x 0.58	0.50	50 Drum	10 Mt	02	42

Area provided for the solvent tank farm :- 321.25 Sq Meter

Area required for solvent tank farm allocated :- 293 Sq Meter

Area Adequacy of solvent Tank Farm :-

Solve nt drum	Size of 1 tank sq Meter	Volum e of tank	Total Volum e of tank	No of Tank vertical direction	Area require d (m ²)	Total area required (m ²)	Area provided For Tank (m ²)	Location
Tank	3.2x4.0	20 Mt	100Mt	05	12.8 Sq meter	62.5+ 50 Sq mt additional as per peso norms total area required 112.5Sq meter	293 Sq meter	In solvent Drums storage area as mention ed in the plant layout

Maximum storage at a time :- 80 MT

Area Adequacy of finish Goods

Area provided for the Finish good Storage :- 303.6 Sq Meter

Area required for Finish good Storage :- 273 sq Meter

Install Storage rack area details in RM storage room :-

Rack size for one rack	Total Storage capacity in one rack	Total number of Rack	Total area require for racks	Total storage capacity
3 Mt x 7 Mtr	18 Mt	08	168 Sq Mtr	144 MT

Item details	Size o	Area (m ²)	Total no storage maximum one time	Total quantity storage maximum at time	Storage in one rack	No of stacks required	Area required (m ²)
50 Kg Pvc drum	0.5 * 0.4	0.20	100 drum	5 MT	5 MT	02	42 Sq Meter

	50 kg Cardboard drum	0.6x0.9	0.54	150 drum	7.5 MT	7.5 MT	03	63 Sq meter						
	200 ltr Tank	0.87x0.58	0.50	75 drum	15 MT	18 MT	02	42 Sq meter						
	<p><u>Comments:</u></p> <p>SEAC has examined it w.r.t.to total monthly production, maximum products, manufactured per month, the total raw material required, weekly storage requirement of each raw material, their mode of storage, their compatibility (flammability, corrosive, toxic), area needed by each raw material, one week storage of finished goods. Area adequacy, from overall safety perspective, has been provided in proposal and is satisfactory.</p>													
12)	<p>GREEN BELT CONDITIONS AND MEASURES ALONG WITH AREA:</p> <table><tr><th>Total Plot area (Sq meter)</th><th>Total Green belt area (Sq meter)</th><th>% of Greenbelt</th></tr><tr><td>5631.95</td><td>Inside: 1126.39 Sq.m Outside: 6000 sq.m</td><td>Inside: 20% Outside: 106.53</td></tr></table> <p>Details of copy of permission letter of concern GIDC/ Panchayat/etc. for greenbelt development (in case of greenbelt development outside the premises:</p> <p>Approximately 6000 m² area green belt development already done outside our premises in collaboration with another plant facility situated at Bavla(Survey No.47 & 48 paiki sub plot no.1 village Lodriyal, Taluka-Sanad, Ahmedabad) inside the GIDC estate.</p> <p><u>Comments:</u></p> <p>➤ The PP shall develop green belt [1126.39 Sq m (20 %) inside plant premises + 6000 Sq m (106.53 %) at Bavla (Outside plant premises) = Total: 7126.39 Sq. m.) i.e. 126.83 % of total plot area] as submitted before SEAC. Green belt shall be developed with native plant species that are significant and used for the pollution abatement as per the CPCB guidelines. It shall be implemented within 3 years of operation phase in consultation with GPCB.</p>								Total Plot area (Sq meter)	Total Green belt area (Sq meter)	% of Greenbelt	5631.95	Inside: 1126.39 Sq.m Outside: 6000 sq.m	Inside: 20% Outside: 106.53
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13)	<p>EMPLOYMENT GENERATION:</p> <table><tr><th>Permanent</th><th>Contractual</th><th>Total</th></tr><tr><td>200</td><td>220</td><td>420</td></tr></table>								Permanent	Contractual	Total	200	220	420
Permanent	Contractual	Total												
200	220	420												
14)	<p>SOURCE OF WATER SUPPLY WITH QUANTITY AND PERMISSION (DETAILS OF CGWA IF BOREWELL</p> <p>a) Source of water supply: GIDC Supply</p> <p>b) Total Fresh water quantity (KLD): 80.67 KLD</p>													

c) **Permission of concerned authority (Name and quantity (in KLD): we have obtained the fresh water supply permission from GIDC Naroda.**

Comments:

PP has obtained permission from GIDC Supply for procurement of water which is found satisfactory.

15) **WATER CONSUMPTION RELATED DETAILS WITH COMMENTS**

Sr. No.	Particulars	Water consumption Quantity (KLD)			Remark
		Existing*	Proposed	Total	
1	Domestic	2.5	14.5	17	FW 17 KLD
2	Gardening	-	4	4	FW 4 KLD
3	Industrial				
	a) Process	2.5	10.5	13.0	FW 13 KLD
	b) Cooling & Chilling	2.5	10	12.5	FW 8.67 + TW 3.83KLD
	c) Boiler	5.0	25	30.0	FW 30 KLD
	d) Scrubber Media	0	5	5	FW 5KLD
	e) Washing	12.5	-	12.5	TW 12.5 KLD
	f) Other	0	2.5	2.5	FW 2.5 KLD
Sub Total (a + b + c +d+e+f)		22.5	53	75.5	FW 59.67 + TW 15.83 KLD
Total (1 +2+3)		25	71.5	96.5	FW 80.67 + TW 15.83 KLD

Note: *Existing water consumption quantity is as per CCA issued vide letter no. GPCB/ABD/ND/CCA-45(15)/ID- 11178/508627 dated 31/05/2019

Comments:

PP has submitted the above water consumption which is calculated considering the worst case scenario and in no case the water requirement shall not exceed the same which is found satisfactory.

16) **WASTE WATER GENERATION AND DISPOSAL**

Sr. No	Particulars	Waste water generation Quantity (KLD)		
		Existing*	Proposed	Total
1	Domestic	1.5	12.32	13.82
2	Industrial			
	a) Process	2.5	10.5	13.0
	b) Cooling & Chilling	00	5	5
	c) Boiler	1.5	2	3.5
	d) Scrubber	0	5	5
	e) Washing	12	-	12

	f) Other	0	2.5	2.5
	Sub Total (a + b + c +d+ e)	16	25	41
	Total (1 +2+3)	17.5	37.32	54.82

Note: Existing Waste water generation quantity is as per CCA issued vide letter no. GPCB/ABD/ND/CCA-45(15)/ID- 11178/508627 dated 31/05/201

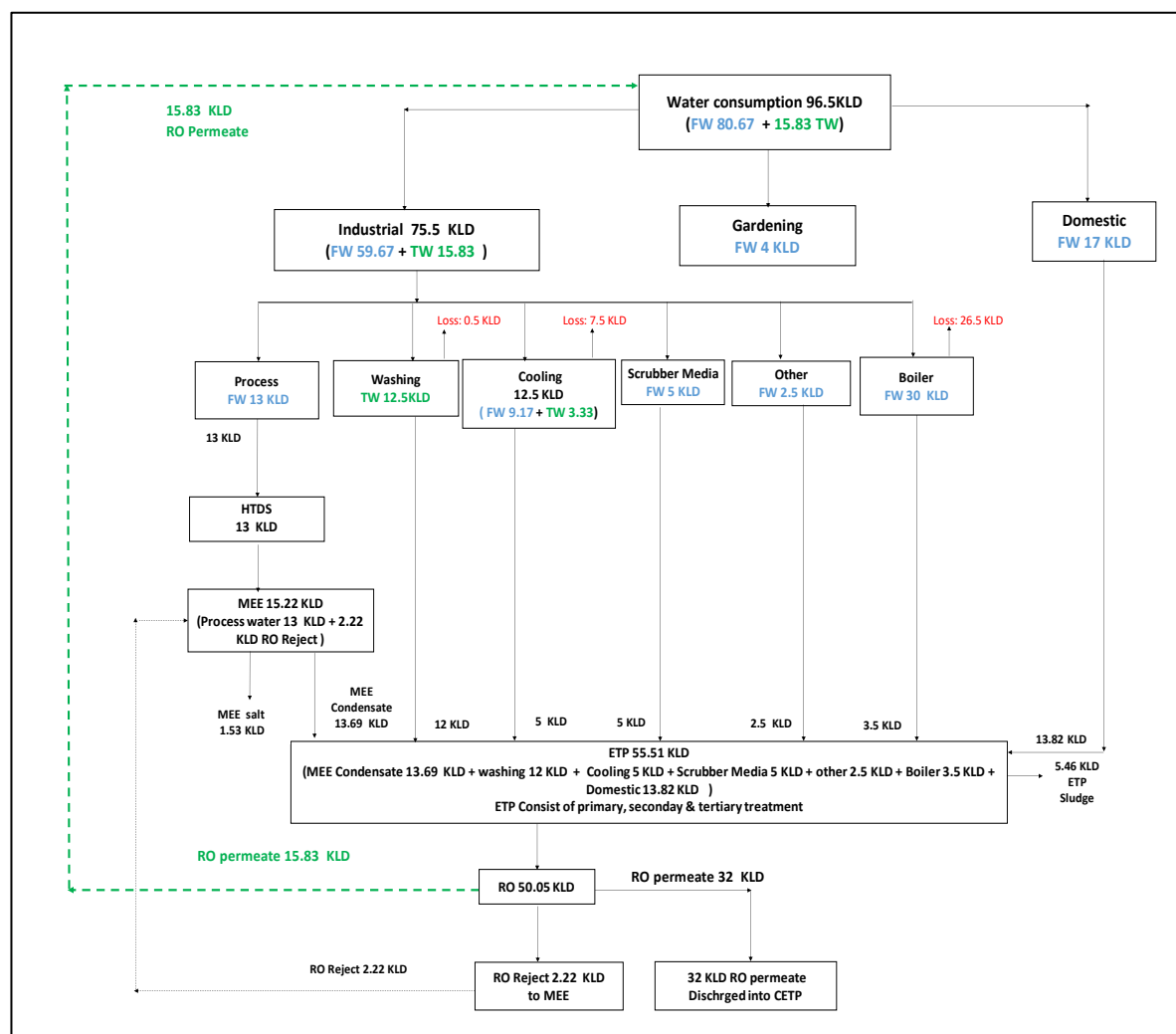
Justification in case of increase/ drastic reduction in wastewater generation than water Consumption:

Evaporation loss in Boiler & cooling tower bring this change. Out of total 96.5 water consumption in industrial component 34 KLD water is lost due to evaporation losses .

Comments:

PP has submitted the above wastewater generation which is calculated considering the worst case scenario and in no case the wastewater generation shall not exceed the same which is found satisfactory.

17)	SIMPLIFIED WATER BALANCE DIAGRAM
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18)	BREAKUP OF WASTE WATER DISPOSAL (DOMESTIC & INDUSTRIAL BOTH)
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Sr.	Quantity	Facility
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no.	KLD	
1	13.82	Domestic Effluent will be treated into ETP along with industrial effluent.
2	41	<ul style="list-style-type: none"> ➤ Total HTDS 15.22 (Process waste water 13 KLD + RO reject 2.22 KLD) will be treated in MEE followed by stripper and MEE condensate (13.69 KLD) will be sent to ETP. ➤ Total LTDS waste water 55.51 KLD (MEE condensate 13.69 KLD + Washing 12 KLD + Boiler 3.5 KLD + cooling 5 KLD + Scrubber 5 KLD + others 2.5 KLD + Domestic 13.82 KLD) will be treated in ETP. ➤ ETP treated water sent to RO for further treatment. 32 KLD RO permeate will be sent to CETP of M/s. Naroda Enviro Project Ltd. for further treatment and final disposal into deep sea. And remaining RO permeate (15.83 KLD) will be reused in utilities & washing and RO Reject (2.22 KLD) will be sent to MEE.

Comments for Domestic Effluent:

Domestic wastewater generation shall not exceed 13.82 KL/day for proposed project and it shall be treated in ETP. It shall not be disposed off through soak pit/ septic tank.

Comments for Industrial Effluent:

1. Management of Industrial effluent shall be as under:

✓ **Concentrated Stream (13 KLD)**

- 13 KLD, High TDS stream generated from process shall be treated in-house MEE and MEE condensate shall be further treated in ETP alongwith dilute stream.

✓ **Dilute Stream (41.82 KLD):**

- 55.51 KLD industrial effluent from generated from washing (12 KLD), cooling (5 KLD), scrubbing media (5 KLD), other (2.5 KLD), boiler blow down (3.5 KLD) alongwith domestic wastewater (13.82KLD) and shall be treated into ETP followed by RO and RO reject shall be treated in in-house MEE and RO permeate (32 KLD) shall be discharged into CETP- NEPL, Naroda only after complying with the inlet norms of CETP prescribed by GPCB to ensure no adverse impact on Human Health and Environment

- 19) **MECHANISM AND METHODOLOGY OF STREAM SEGREGATION**
Segregation and evaporation of High TDS effluent in Multiple Effect Evaporation (MEE & VTFD):
 High TDS effluent is collected separately thought oil grease in neutralization tank. Neutral with caustic lye or Sulphuric acid. Neutralized effluent transfer to equalization tank through settling tank. Dedicatedly Collected High COD effluent will be fed to the solvent stripper. The

solvent will get distilled, condensed & collected. The solvent recovered from the stripper shall be sold to approve vendors.

The dilute stream with low COD & High TDS fed in to the MEE. The output Low COD (<6000 ppm COD) from MEE will be sent to the existing ETP for further biological treatment followed by RO system.

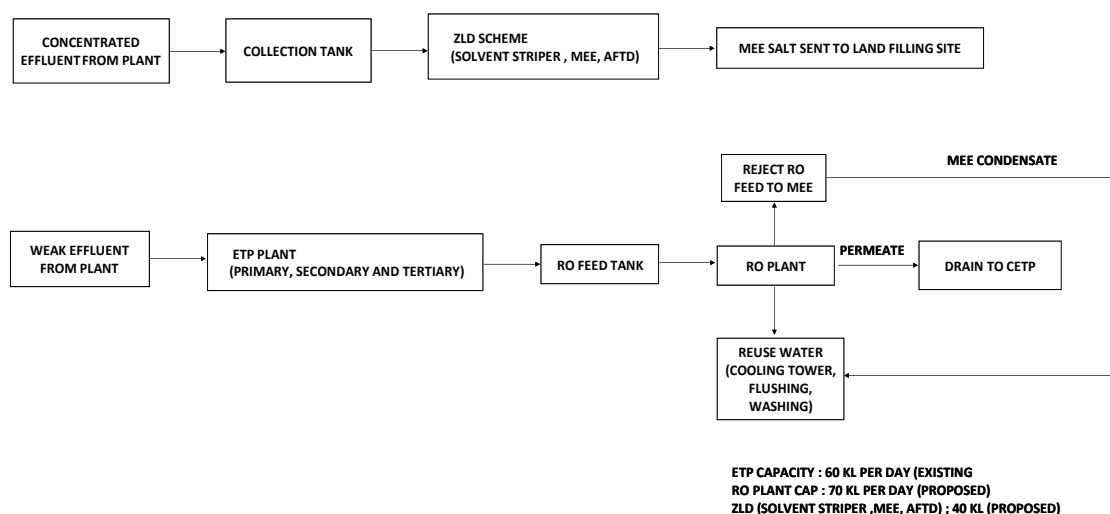
The Concentrated stream will be fed to the Agitated Thin Film Dryer to get the Solid Powder. The concentrated effluent coming from Multi effect evaporator will be fed in to Agitated Thin Film Dryer where total TDS will concentrate to dry Powder.

The low conc. stream of effluent from the plants is collected in Main Collection Tank through underground pipeline/tanker. The collected effluent is pumped to Oil and Grease Trap for the removal oil and grease as emulsion. The water from oil and grease tank is collected in Equalization cum Neutralization Tank. The water is equalized with diffused air and neutralized with caustic Lye & Sulphuric acid. The Alum, Lime & polyelectrolyte solution is added as a coagulant & flocculating agent and water is pumped to Primary Settling Tank. The solids separated in the Primary Settling Tank are removed from the bottom and collected in Sludge Sump & dried in Filter press.

The supernatant water from Primary Settling Tank goes to Aeration Tank for Biological Degradation. The aeration tank is having activated sludge process with having the diffusers. There is COD reduction is approx. 80% in Aeration Tank. The treated effluent is sent to the Secondary Settling Tank. There is a provision of recycling of sludge and wasting of sludge in Sludge Sump from Secondary Settling Tank.

The supernatant water is collected in Intermediate Storage Tank for tertiary treatment. The tertiary treatments consist of Pressure sand Filter and Activated Carbon Filter. The water from tertiary treatment is collected in underground final discharge tank and pumped to common effluent treatment plant (CETP-NEPL)

High TDS effluent is collected separately thought oil grease in neutralization tank. Neutral with caustic lye or Sulphuric acid. Neutralized effluent transfer to equalization tank through settling tank. From equalization tank feed to a seven effect MEE having first two stages as falling film evaporator and final five stages as forced circulation stages. The Calendria for these stages is filled with Titanium Tubes to enhance life of the equipment. After evaporation of water from the effluent the suspended solids from the final stage are feed to VTFD (vertical thin film dryer) to separate salts. MEE salt stored in hazardous waste storage area. After dry MEE Salt will be sent to TSDF sites through dumper. Evaporation MEE/VTFD condensate will be sent to conventional biological treatment system for further treatment.



20) **STP AND/OR ETP SPECIFICATION AND DESIGN AND ITS CAPACITY**

Sr. No.	Description	Nos.	Size (m x m x m)	Capacity (m ³)
1	Inlet Chamber	02	1.0 x 1.0 x 1.3 (0.3 F.B.)	2.0
2	Collection Tank-1	01	1.88 x 1.81 x 3.65	12.49
3	Collection tank-2	01	2.49 x 2.16 x 3.0	16.13
4	Collection Tank-Etp	01	5.25 X 3.3 X 1.87	27
5	Equalization Tank Cum Neutralization Tank	02	2.5 x 2.5 x 3.0	15
6	Oil & Grease Chamber	03	1.0 x 1.0 x 1.0	3
7	Flash Mixer	01	1.0 X 1.0 X 1.0	1
8	Flocculation Tank	01	1.5 X 1.5 X 2.0	3.4
9	Primary Settling Tank	01	2.5 X 2.5 X 3.7	20
10	Aeration Tank	01	8.5 X 8.7 X 5.5	370
11	Secondary Settling Tank	01	3.8 X 3.8 X 3.7	46
12	Intermediate Holding Tank	01	4.0 X 2.0 X 3.5	24
13	Dual Media Filter	01	0.75 Dia X 1.5	5 m ³ /hr
14	Final Discharge Tank	01	10.5 x 4.6 x 3.0 8.0 x 3.0 x 3.0	120 60
15	Sludge Sump	01	2.0 x 1.5 x 3.0	7.5
16	Filter Press	01	-	21 plates

21) **TREATABILITY OF WATER**

Sr. No.	Parameters	ETP Inlet	Outlet of ETP	Inlet Norms (CETP)
1.	pH	5.0-9.0	6.0-8.0	6.5 -8.5
2.	COD (mg/l)	40000	2000	2000
4.	TDS (mg/l)	120000	10000	10000
5.	TSS (mg/l)	5000	120	150
6.	NH ₄ -N (mg/l)	600	45	50

22) **SUMMARY OF WATER USE AND REQUIREMENT OF FRESH/REUSED WATER**

Summary of water requirement	Quantity KLD	Remarks
Total water requirement for the project (A)	96.5	
Quantity to be recycled (B)	15.83	12.5 KLD treated water is reused washing, 3.83 KLD treated water is reused in Cooling.
Total fresh water requirement (C)	80.67	
Ensure Total water requirement = Recycled water + Fresh water i.e. A = B + C		

23) **REUSE, REDUCE, RECYCLE RECOVERY MEASURES ADOPTED**

a) Reduce

Sr. No.	Item	Quantity	% percentage
-	-	-	-

b) Reuse

Sr. No.	Item	Quantity	% percentage
1	Water reused	15.83	16.40

c) Recycle

Sr. No.	Item	Quantity	% percentage
-	-	-	-

-

24) **FLUE GAS EMISSION**

Sr. No.	Plant	Fuel	Stack Height (m)	APCM	Type of Pollutant	Permissible
Existing*						
1	Boiler-I (3 TPH)	Agro waste	40(Comm on Stack)	Multi Cyclone+ Bag Filter	PM SO ₂ NO _x	150 mg/Nm ³ 100 ppm 50 ppm
2	Boiler-II (2.5 TPH)	Natural gas				
3	Thermic Fluid Heater (2 Lac K Cal/Hr)	LDO	12	Adequate stack height		
4	D.G. Set (1250 KVA x 1 Nos)	HSD	11	Acoustic enclosure and Adequate Stack Height		
Proposed						
4	D.G. Set (1250 KVAX 1 Nos)	HSD	11	Acoustic enclosure and Adequate Stack Height	PM SO ₂ NO _x	150 mg/Nm ³ 100 ppm 50 ppm

Note: * Existing flue gas emission stacks is as per CCA issued vide letter no. GPCB/ABD/ND/CCA-45(15)/ID- 1178/508627 dated 31/05/201

Comments:

- The proposed fuel to be used is approved fuel for the requirement of the heat energy and proposed the Air pollution Control measures and stack height so as to achieve the emission norms prescribed by the competent authorities are found satisfactory.

25) **PROCESS GAS EMISSION**

Sr. No.	Stack Attached To	Stack Height (m)	Type of Pollutant	Permissible Limit	APCM
Existing					
1	Incinerator (500 Lit/Hr) **	30	PM SO ₂ NO _x	150 mg/Nm ³ 40 mg/Nm ³ 25 mg/Nm ³	Alkali Scrubber

Note: ** We have removed the Incinerator.

We have already intimated the same in our vide letter no: - DCAL/CCA/2020 did: - 20/01/2020 & DCAL/CPCB -GPCB /2020 Did: -27/01/2020 at SPCB Offices.

After Proposed expansion

	<table><tr><th>Sr. No.</th><th>Stack Attached To</th><th>Stack Height (m)</th><th>Type of Pollutant</th><th>Permissible Limit</th><th>APCM</th></tr><tr><td>1</td><td>MPP-1</td><td>15</td><td>VOCs</td><td>-</td><td>Central Exhaust Alkali/ HCL scrubber system with Activated granular carbon tower</td></tr><tr><td>2</td><td>MPP-2</td><td>15</td><td>VOCs</td><td>-</td><td>Central Exhaust Alkali /HCL scrubber system with Activated granular carbon tower</td></tr><tr><td>3</td><td>MPP-3</td><td>15</td><td>H₂S HCl Cl₂</td><td>20 mg/Nm³ 20 mg/Nm³ 5 mg/Nm³</td><td>Central Exhaust Alkali scrubber system with Activated granular carbon tower</td></tr></table>	Sr. No.	Stack Attached To	Stack Height (m)	Type of Pollutant	Permissible Limit	APCM	1	MPP-1	15	VOCs	-	Central Exhaust Alkali/ HCL scrubber system with Activated granular carbon tower	2	MPP-2	15	VOCs	-	Central Exhaust Alkali /HCL scrubber system with Activated granular carbon tower	3	MPP-3	15	H ₂ S HCl Cl ₂	20 mg/Nm ³ 20 mg/Nm ³ 5 mg/Nm ³	Central Exhaust Alkali scrubber system with Activated granular carbon tower
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3	MPP-3	15	H ₂ S HCl Cl ₂	20 mg/Nm ³ 20 mg/Nm ³ 5 mg/Nm ³	Central Exhaust Alkali scrubber system with Activated granular carbon tower																				
	<p><u>Comments:</u></p> <p>➤ The proposed Air pollution Control measures and stack height so as to achieve the emission norms prescribed by the competent authorities are found satisfactory.</p>																								
26)	<table><tr><th colspan="4">FUGITIVE GAS EMISSION</th></tr><tr><th>Sr. No.</th><th>Source</th><th>Probable Pollutant Emission</th><th>Control Measures/ APCM</th></tr><tr><td colspan="4">As example given below.</td></tr><tr><td>1</td><td>Solvent storage tank</td><td>Air pollutant (VOC)</td><td>➤ Carry out work place area monitoring to find out concentration level in ambient air ➤ Provision of breather valve cum flame arrester.</td></tr><tr><td>2</td><td>Solvent recovery system</td><td>Air pollutant (VOC)</td><td>➤ Solvent recovery system with steam condensation system ➤ Pumps & motors are Mechanical seal type.</td></tr><tr><td>3</td><td>Handling of raw material bags in storage area</td><td>Air pollutant (PM)</td><td>➤ Provision of exhaust ventilation ➤ Provision of PPE. ➤ Provision of Job rotation to reduce exposure.</td></tr></table>	FUGITIVE GAS EMISSION				Sr. No.	Source	Probable Pollutant Emission	Control Measures/ APCM	As example given below.				1	Solvent storage tank	Air pollutant (VOC)	➤ Carry out work place area monitoring to find out concentration level in ambient air ➤ Provision of breather valve cum flame arrester.	2	Solvent recovery system	Air pollutant (VOC)	➤ Solvent recovery system with steam condensation system ➤ Pumps & motors are Mechanical seal type.	3	Handling of raw material bags in storage area	Air pollutant (PM)	➤ Provision of exhaust ventilation ➤ Provision of PPE. ➤ Provision of Job rotation to reduce exposure.
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4	Flange joints of pipeline, pump & motors	Air pollutant (VOC)	<ul style="list-style-type: none"> ➤ Routine&periodic inspection to check leakage. ➤ Preventive maintenance, Follow SOP for maintenance. ➤ Pumps & motors will be mechanical seal type. ➤ LDAR program will be followed. ➤ Provision of Flange guard.
5	Solid raw material transferring to reactor	Air pollutant (PM)	<ul style="list-style-type: none"> ➤ Hopper will be provided with powder transfer system.
6	Liquid raw material transferring to reactor	Air pollutant (VOC)	<ul style="list-style-type: none"> ➤ Feeding of liquid raw material will be carried out by closed pipeline and mechanical seal pump.
7	Loading /unloading at storage area	Air pollutant (VOC)	<ul style="list-style-type: none"> ➤ Unloading through pipeline to tank in a close system.

Comments:

The air pollution control measures proposed for fugitive gas emission are found satisfactory.

27) **HAZARDOUS PROCESSES AND ITS SAFETY MEASURES**

Types of process	Safety measures including Automation
Chlorination	<ul style="list-style-type: none"> ➤ Chlorine Emergency Kit will be procured and kept ready at process site. ➤ Safety Shower and eye wash will be provided in process area ➤ HCl Detectors will be placed at suitable locations. Vacuum system will be in place to capture HCl and transferred to water scrubber. Regular work place monitoring will be carried out. ➤ Do not touch damaged containers or spilled material unless wearing appropriate protective clothing ➤ Circulation of cooling water / chilling water in jacket of reactor. ➤ Provision of pressure gauge and pressure release valve having capacity 2.0 bar which will be below than reactor hydraulic pressure. ➤ Provision of rupture disk. ➤ Dosing of chemicals will be controlled by flow meters and its value. ➤ End of Toxic vapour release line will be connected with alkali tank ➤ A provision of life save kit containing oxygen mask is mandatory requirement to person whom are working near process area. So in case of any emergency first aid treatment shall be given immediately.

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28)

SOLVENT MANAGEMENT

Sr. No.	Solvent	Input	Recovery	Loss	Solvent Recover (%)
1	Iso Propyl Alcohol (IPA)	42.1	38.9	3.2	92.42
2	Acetone	104.5	95.6	8.9	91.46
3	Methanol	19.0	16.6	2.5	86.94
4	Acetonitrile	20.4	17.9	2.5	87.60
5	Methylene Di Chloride (MDC)	6.6	4.7	1.9	71.47
6	MIBK	3.3	2.2	1.1	67.67
7	Methyl Ethyl Ketone (MEK)	38.8	37.4	1.3	96.62
8	Hexane	32.5	24.4	8.1	75.00

29)

VOC EMISSION AND MITIGATION MEASURES FOR ACHIEVING MAXIMUM SOLVENT RECOVERY AND MINIMUM VOC GENERATION

➤ Adequate dust collector will be installed for control of fugitive emission during loading of raw material and product. Condensers will be provided to trap VOC.

➤ All the rotating equipment like pumps will be installed with Mechanical Seals to arrest any sort of emissions VOC detectors will be installed at various places to identify any fugitive emissions.

➤ Proper gland packing will be always maintained for pumps and valves and to the extent possible pumps will be with mechanical seal.

➤ A regular preventive maintenance schedule is in place to replace or rectify all gaskets and joints etc., as a part of ISO systems to ensure no fugitive emissions takes place

Sr. No.	Emission Source	Probable Pollutant Emission	Control measures
1	Solvent Storage are	VOC (Air Pollutant)	Carry out work place area monitoring to find out concentration level in ambient air. Connected with vent condensers with chld brine circulation. Close handling system. Provision of breather valve cum flame arrester
2	Solvent Recovery System	VOC (Air Pollutant)	Vacuum distillation Close handling system. There will be recovery of more than 95-98% solvent.
3	Solvents & Liquid raw material transferring to reactor	VOC, Acid fumes (Air Pollutant)	Feeding of Solvents & liquid raw materials will be carried out by closed pipeline and mechanical seal pump

	4	Flange joints of pipeline, pump & motors	VOC	<p>Routine & periodic inspection to check leakage. Preventive.</p> <p>MSW Gaskets in solvent pipelines to prevent leakage from flanges.</p> <p>Leak Free Pumps for transfer of solvents.</p>

Comments for Sr No: 27,28 and 29:

- Measures for achieving maximum solvent recovery and minimize VOC generation, inclusive of VOC detectors, pumps, maintenance of pipelines, proper ventilation etc., provided are as per requirement.
- Spent solvents shall be recovered by in-house distillation in such a manner that recovery shall be achieved to the maximum extent and recovered solvent shall be reused in the process. Solvent recovery system with adequate reflux condensers shall be provided for controlling escape of low boiling solvents (VOCs).

30) LDAR PROPOSED

S.N	Component	Frequency of monitoring	Repair preventive maintenance schedule
1.	Valves / Flanges	Quarterly (semi-annual after two consecutive period with < 2% leaks and annual after 5 periods with < 2% leaks)	Repair shall be started within 5 working days and shall be completed within 15 working days after detection of leak.
2.	Pump seal	Quarterly	
3.	Compressor seals	Quarterly	
4.	Pressure relief devices	Quarterly	
5.	Pressure relief devices (after venting)	Within 24 hrs.	
6.	Process drains	Annually	Repair shall be started within 5 working days and shall be completed within 15 working days after detection of leak.
7.	Components that are difficult to monitor	Annually	
8.	Pump seals with visible liquid dripping	Weekly	Immediately
9.	Any component with visible leaks	Weekly	Immediately
10.	Any component after repair / replacement	Within a week	-

The Following methodology to be adopted during LDAR study:

- 10) Identify the Chemical streams that must be monitored.
- 11) Types of components (pumps, valves, connectors, etc.) to be monitored
- 12) Frequency of monitoring.
- 13) Actions to be taken if a leak is detected.
- 14) Length of time in which an attempt to repair the leak must be performed.
- 15) Actions that must be taken if a leak cannot be repaired within guidelines.
- 16) Record-keeping and reporting requirements.

31) LDAR FOR SPECIFIC SOLVENT

S r. N o.	Solvent Name	Type of Stora ge	Mode of Trans fer	Char ging	Sources of Leakage	Mitigatio n Measur e For find out leakage s	Mitigatio n Measur e (If leakage s shall be occur)	Action taken for prevention of leakages
1	Iso Propyl Alcohol (IPA)/ Acetone/ Methanol/ Methylene Di Chloride (MDC)/ MIBK/ Toluene/ Methyl Ethyl Ketone (MEK)/ Hexane/ Ethyl Acetate	Tank/ drum	By Pum p & Fix Pipe line	Direc t Vess el	<ul style="list-style-type: none"> Leak from Valve (failure of the valve packing & O-ring) Leak from pump (Occur at seal) Leak from tank Leak from Connectors Leak from open ended lines 	<ul style="list-style-type: none"> For using Gas Detector by PID Sensor technology. 	<ul style="list-style-type: none"> If valve shall be leak stop pumping system and replace with new valve. When pump seal shall be leak immediately stop solvent transfer and immediately repair or replace with new seal. 	<ul style="list-style-type: none"> Check Thickness of tank Using fix pipeline for solvent transfer Minimum use of Connectors & Joins Provided sufficient Space (Solvent Unloading area) for Solvent Tanker

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32) HAZARDOUS WASTE MANAGEMENT MATRIX

Sr. No.	Hazardous Waste	Cat	Quantity			Mode of Disposal
			Existing	Proposed	Total	
1.	ETP Sludge	I-35.3	2.400 MT/Month	63.12 MT/Month	65.52 MT/Month	Collection, Storage, transportation and disposal at Authorized TSDF site
2.	Discarded Containers	I-33.1	930 Nos./Month	450 Nos./Month	1380 Nos./Month	Collection, Storage, decontamination, Transportation and disposal by selling to Authorized recycler or reuse within premises.
3.	Used Oil	I-5.1	100	200 Lit/	300 lit/	Collection, Storage,

			Lit/Month	Month	Month	Transportation, sell to Authorized Re-processor/disposal at common TSDF
4.	Spent Carbon/filter media	I-28.3	1000 Kg/Month	2000kg/ Month	3000 kg/ Month	Collection, Storage, Transportation & disposal at authorized TSDF to co-processing
5.	Spent Mother Liquor	I-28.5	10,500 Lit/Month	15,000 liter/ Month	25500 liter/ Month	Collection, Storage, Transportation & disposal by incarnation at RSPL Surat/ SEPPL, Kutch or Disposal by sell out to authorized users who is having authorization with valid CCA and rule 9 permission to receive this waste after making MOU.
6.	Ash from Incineration	I-37.2	2250 Kg/Month	-2250 Kg/Month	00	Collection, Storage, Transportation & disposal at authorized TSDF.
7	Stripper solvent	I-28.6	0	60000 lit./Month	60000 lit./Month	Collection, Storage, decontamination, Transportation and disposal by selling to Authorized recycler or Disposal by sell out to authorized users who is having authorization with valid CCA and rule 9 permission to receive this waste after making MOU.
9	MEE salt	I-35.3	0	810 MT/Annum	810 MT/Annum	Collection, Storage, transportation and disposal any registered TSDF site.
10	Waste Containing oil	I-5.2	0	500 Kg/month	500 Kg/month	Collection, Storage, decontamination, Transportation and disposal by selling to Authorized recycler.
11	OFF specification Product	I-28.5	0	500 Kg/month	500 Kg/month	Reused, Recycle, Recover, Collection, Storage, Transportation, Disposal by Co processing or registered TSDF.
12	Date Expire Product	I-28.5	0	500 Kg/ month	500 Kg/ month	Collection, Storage, Transportation & disposal Co processing or registered TSDF site.
13	Contaminated cotton rags and /or other cleaning materials	I-33.2	0	500 Kg/month	500 Kg/month	Collection, Storage, Transportation & disposal at authorized TSDF site.
14	Exhaust Air & Gas cleaning	I-35.1	0	500 kg/month	500 kg/month	Collection, Storage, decontamination

	residue					Transportation & disposal at authorized TSDF site
15	Oil and Grease Skimmers	I-35.4	0	60 liters/month	60 liters/month	Collection, Storage, Transportation & disposal by selling register refiners.
16	Chromium sludge from cooling tower	I-35.5	0	300 kgs/month	300 kgs/month	Collection, Storage, Transportation & disposal at authorized TSDF site.
17	Sludge From wet Scrubber	I-37.1	0	500 kgs/month	500 kgs/month	Collection, Storage, Transportation & disposal at authorized TSDF site.
18	Process Residue & waste	I-28.1	0	10000 kgs/month	10000 kgs/month	Collection, Storage, Transportation & disposal by CHWIF facilities of BEIL – Ankleshwar RSPL – Panoli or GEPIL Rajasthan or any other authorized CHWF facilities. Co- processing or register TSDF site.
19	Any Process or Distillation residue	I-36.1	0	3000 kg/month	3000 kg/month	Collection, Storage, Transportation & disposal by CHWIF facilities of BEIL – Ankleshwar RSPL – Panoli or GEPIL: Rajasthan or any other authorized CHWF facilities. Co- processing or registered TSDF site.
20	Spent solvent	I-28.6	0	4.75 MT/Month	4.75 MT/Month	Collection, Storage, Transportation and reuse within Factory Premises or co-processing in cement industries for AFR or incineration at CHWIF or Disposal by sell out to authorized users who is having authorization with valid CCA and rule 9 permission to receive this waste after making MOU.
21	Bleed Liquor	I-35.1	0	5000 Liter/Day	5000 Liter/Day	Collection, Storage and Treatment in ETP with LTDS Effluent.

Comments:

- Hazardous waste management includes collection, storage, transportation and disposal at TSDF, captive/ common incineration, co-processing/ pre-processing, sold to authorized actual users having Rule-9 permission and recycle/ reuse of waste. SEAC examined the details provided and found it as per requirement.

33) **NON-HAZARDOUS WASTE MANAGEMENT MATRIX**

Sr. no.	Type/Name of non-hazardous waste	Specific Source of generation (Name of the Activity, Product etc.)	Quantity (MT/Annum)	Management of HW
1	Fly Ash	IBC Stream Boiler	0.3	Dispose To brick manufacture or TSDF site
2	Food waste	Canteen	0.05	Dispose to AMC

Comments:

- Other wastes management includes collection, storage, transportation and disposal by selling to actual users and recycle / reuse of waste. SEAC examined the details provided and found it as per requirement.

34) **STORAGE SAFETY MEASURES**a) **Storage of Hazardous chemicals in Tanks**b) **Storage of Hazardous chemicals other than Tanks i.e. Drum, Barrels, Carboys, Bags etc.**

Sr. No.	Raw Material	Total (MT/M)	CAS No.	Source (Local/Import)	Mode of Transport (Road/Rail)	Types of Linkage (Open Market/MoU)	Status	Mode of Storage	No. of Bags/Drums	Capacity of each Bags/Drums
1	Farmin DM 4098	31.03	112-75-4	Local	GID C Road	Open Market	Liquid	Drum	01	50 Kgs
2	1-Acetyl Naphthalene	1.85	941-98-0	Local	GID C Road	Open Market	Liquid	Drum	01	10 Kgs
3	2-Chloro Ethanol	6.51	107-07-3	Local	GID C Road	Open Market	Liquid	Drum	01	10 Kgs
4	3-Phenyl Propionic Acid Chloride	1.24	501-52-0	Local	GID C Road	Open Market	Solid	Bag	01	10 Kgs
5	4-Bromo Aniline	1.26	106-40-1	Local	GID C Road	Open Market	Solid	Bag	01	10 Kgs
6	Ab. Alcohol With 0.5% Acetone	2.22	67-64-1	Local	GID C Road	Open Market	Liquid	Drum	01	10 Kgs
6	Acetic Acid	0.93	64-19-7	Local	GID C Road	Open Market	Liquid	Drum	01	10 Kgs
7	Acetone	153.9	67-64-1	Local	GID	Open	Liquid	Drum	04	50 Kgs

		1			C Road	Market	d				
8	Acetonitrile	4.29	75-05-8	Local	GID C Road	Open Market	Liquid	Drum	01	10 Kgs	
9	Activated Carbon (Basic)	0.75	7440-44-0	Local	GID C Road	Open Market	Liquid	Drum	01	5 Kgs	
10	Activated Charcoal	0.08	7440-44-0	Local	GID C Road	Open Market	Solid	Bag	01	2 Kgs	
11	ACTN	3.26	-	Local	GID C Road	Open Market	Liquid	Drum	01	5 Kgs	
12	Apitol 120 (Methyl Carbitol)	0.62	111-77-3	Local	GID C Road	Open Market	Solid	Bag	01	2 Kgs	
13	Benzethonium Chloride (Stage:1)	11.23	121-54-0	Local	GID C Road	Open Market	Solid	Bag	03	5 Kgs	
14	Benzyl Chloride	13.37	100-44-7	Local	GID C Road	Open Market	Liquid	Drum	03	5 Kgs	
15	Benzyl TRI Et Ammonium Cl (TEBA CL)	0.3	-	Local	GID C Road	Open Market	Liquid	Drum	01	2 Kgs	
16	Bisacodyl Crude	1.88	603-50-9	Local	GID C Road	Open Market	Solid	Bag	01	2 Kgs	
17	Carbon	0.03	7440-44-0	Local	GID C Road	Open Market	Solid	Bag	01	2 Kgs	
18	Catalyst- 8	0.28	-	Local	GID C Road	Open Market	-	-	01	2 Kgs	
19	Catalyst- L	0.28	-	Local	GID C Road	Open Market	-	-	01	2 Kgs	
20	Catalyst- P	0.06	-	Local	GID C Road	Open Market	-	-	01	2 Kgs	
21	Caustic Flakes	0.35	1310-73-2	Local	GID C Road	Open Market	Solid	Bag	01	2 Kgs	
22	Caustic Lye	0.35	1310-73-2	Local	GID C Road	Open Market	Solid	Bag	01	2 Kgs	
23	Caustic Potash Flakes	0.14	1310-73-2	Local	GID C Road	Open Market	Solid	Bag	01	2 Kgs	
24	Caustic Soda Flakes	18.99	1310-73-2	Local	GID C Road	Open Market	Solid	Bag	02	10 Kgs	
25	Cetyl Trimethyl Ammonium Bromide	0.5	57-09-0	Local	GID C Road	Open Market	Solid	Bag	01	2 Kgs	
26	CHBase	2.15	-	Local	GID C Road	Open Market	-	-	01	5 Kgs	
27	Chlorine Gas	0.12	7782-50-5	Local	GID C Road	Open Market	Gas	Tonner	01	2 Lit	
28	D Fructose	9.76	57-48-7	Local	GID C Road	Open Market	Solid	Bag	01	10 Kgs	
29	D-Alanine	1.76	338-69-2	Local	GID	Open	Liquid	Drum	01	2 Kgs	

					C Road	Market	d			
30	Decalite Powder	0.26	68855-54-9	Local	GID C Road	Open Market	Solid	Bag	01	2 Kgs
31	DI Methyl Amine HCL	1.78	506-59-2	Local	GID C Road	Open Market	Liquid	Drum	01	2 Kgs
32	Dimethyl Formamide	0.49	68-12-2	Local	GID C Road	Open Market	Liquid	Drum	01	2 Kgs
33	Dimethyl Aminoethyl Chloride HCL	8.99	4584-46-7	Local	GID C Road	Open Market	Solid	Bag	01	10 Kgs
34	Dist. Acetonitrile	14.06	75-05-8	Local	GID C Road	Open Market	Liquid	Drum	02	10 Kgs
35	DPA	0.35	122-39-4	Local	GID C Road	Open Market	Solid	Bag	01	2 Kgs
36	Ethyl Acetate	45.47	141-78-6	Local	GID C Road	Open Market	Liquid	Drum	01	50 Kgs
37	Ethyl Acetate+ IPA	2.35	141-78-6	Local	GID C Road	Open Market	Liquid	Drum	01	2 Kgs
38	Ethyl Bromide	0.72	74-96-4	Local	GID C Road	Open Market	Liquid	Drum	01	2 Kgs
39	Farmin DM 2098	10.82	112-18-5	Local	GID C Road	Open Market	Liquid	Drum	03	5 Kgs
40	Farmin DM 6098	13.22	112-69-6	Local	GID C Road	Open Market	Liquid	Drum	03	5 Kgs
41	Fr. Acetonitrile	3.13	75-05-8	Local	GID C Road	Open Market	Liquid	Drum	01	5 Kgs
42	Glucono Delta Lactone	1.5	90-80-2	Local	GID C Road	Open Market	Solid	Bag	01	2 Kgs
43	Hexane	32.52	110-54-3	Local	GID C Road	Open Market	Liquid	Drum	01	50 Kgs
44	HNO ₃ 70%	0.24	7697-37-2	Local	GID C Road	Open Market	Liquid	Drum	01	2 Kgs
45	Hydro Chloric Acid (CP)	0.02	7647-01-0	Local	GID C Road	Open Market	Liquid	Drum	01	2 Kgs
46	Hyflow	2.82	68855-54-9	Local	GID C Road	Open Market	Solid	Bag	01	5 Kgs
47	Iodine	0.31	7553-56-2	Local	GID C Road	Open Market	Solid	Bag	01	2 Kgs
48	Iso Propyl Alcohol	78.5	67-63-0	Local	GID C Road	Open Market	Liquid	Drum	02	50 Kgs
49	KF	1.25	7789-23-3	Local	GID C Road	Open Market	Solid	Bag	01	2 Kgs
50	KOH	0.15	1310-58-3	Local	GID C Road	Open Market	Solid	Bag	01	2 Kgs
51	MDC	4.53	75-09-2	Local	GID	Open	Liquid	Drum	01	5 Kgs

					C Road	Market	d				
52	Methanol	35.95	67-56-1	Local	GID C Road	Open Market	Liquid	Drum	01	50 Kgs	
53	Methyl Bromide Gas	16.13	74-83-9	Local	GID C Road	Open Market	Liquid	Drum	02	10 Kgs	
54	Methyl Chloride Gas	13.83	74-87-3	Local	GID C Road	Open Market	Gas	Tonner	01	50 litre	
56	Methyl Ethyl Ketone	39.75	78-93-3	Local	GID C Road	Open Market	Liquid	Drum	01	50 Kgs	
56	Methylene Di Chloride (MDC)	2.8	75-09-2	Local	GID C Road	Open Market	Liquid	Drum	01	5 Kgs	
58	MIBK	4.03	108-10-1	Local	GID C Road	Open Market	Liquid	Drum	01	5 Kgs	
59	N Butyl Bromide	13.81	109-65-9	Local	GID C Road	Open Market	Liquid	Drum	02	10 Kgs	
60	N, N, Dimethyl Aniline	10.57	121-69-7	Local	GID C Road	Open Market	Liquid	Drum	02	10 Kgs	
61	Organic Layer	5.33	-	Local	GID C Road	Open Market	-	-	01	10 Kgs	
62	Para Formaldehyde	0.66	30525-89-4	Local	GID C Road	Open Market	Solid	Bag	01	2 Kgs	
63	Para Tert Octyl Phenol	7.49	140-66-9	Local	GID C Road	Open Market	Liquid	Drum	01	10 Kgs	
64	Para Toluene Sulfonic Acid Monohydrate	0.27	6192-52-5	Local	GID C Road	Open Market	Liquid	Drum	01	2 Kgs	
65	PHE Ether	36.51	-	Local	GID C Road	Open Market	Solid	Bag	01	50 Kgs	
66	Potassium Hexa Fluoro Phosphate	1.2	17084-13-8	Local	GID C Road	Open Market	Solid	Bag	01	2 Kgs	
67	Soda Ash	0.96	497-19-8	Local	GID C Road	Open Market	Solid	Bag	01	2 Kgs	
68	Sodium Hydrogen Sulphate	0.83	10034-88-5	Local	GID C Road	Open Market	Solid	Bag	01	2 Kgs	
69	Sodium Hydrosulphite	0.16	7775-14-6	Local	GID C Road	Open Market	Solid	Bag	01	2 Kgs	
70	Sodium Picosulfate Crude	1.51	10040-45-6	Local	GID C Road	Open Market	Solid	Bag	01	2 Kgs	
71	Sodium Sulphate	0.62	7757-82-6	Local	GID C Road	Open Market	Solid	Bag	01	2 Kgs	
72	Sodium Thiosulphate	0.04	7772-98-7	Local	GID C Road	Open Market	Solid	Bag	01	2 Kgs	
73	Special Denatured Spirit 0.5% Acetone	17.39	-	Local	GID C Road	Open Market	Liquid	Drum	02	10 Kgs	
74	Sulphur Powder	0.09	7704-34-	Local	GID	Open	Solid	Bag	01	2 Kgs	

			9		C Road	Market				
75	Sulphuric Acid CP 98%	11.89	7664-93-9	Local	GID C Road	Open Market	Liquid	Drum	02	10 Kgs
76	TBAB	6.9	1643-19-2	Local	GID C Road	Open Market	Solid	Bag	01	10 Kgs
77	TBAHSO ₄	1.48	-	Local	GID C Road	Open Market	Solid	Bag	01	2 Kgs
78	TEBA-CL Powder	7.5	7789-41-5	Local	GID C Road	Open Market	Solid	Bag	01	10 Kgs
79	Toluene	55.69	108-88-3	Local	GID C Road	Open Market	Liquid	Drum	02	50 Kgs
80	Tri Butyl Amine	40.95	102-82-9	Local	GID C Road	Open Market	Liquid	Drum	01	50 Kgs
81	Tri Ethyl Amine	0.92	121-44-8	Local	GID C Road	Open Market	Liquid	Drum	01	2 Kgs
82	Tri Octyl Amine	8	1116-76-3	Local	GID C Road	Open Market	Liquid	Drum	01	10 Kgs
83	Tri Phenyl Phosphine	4.16	603-35-0	Local	GID C Road	Open Market	Liquid	Drum	01	5 Kgs
84	Trimethyl Benzyl Ammonium Chloride (TMBACL)	0.45	56-93-9	Local	GID C Road	Open Market	Liquid	Drum	01	2 Kgs

Safety measures for Hazardous Chemicals:

Type of Hazardous Chemicals	Safety measures
FLAMMABLE & EXPLOSIVE CHEMICALS	<ul style="list-style-type: none"> ➤ Separate Isolated Storage Area is constructed as per explosive department requirement and separation distance will be maintained, accordingly. ➤ Workers and Operators handling such materials will be trained for the hazards (fire/explosion, health, and chemical reactivity) associated with them. ➤ Lightning arrestor will be provided on the top of tallest structure. ➤ NFPA label (hazard identification) capacity and content will be displayed on respective barrels. ➤ Every time it will be ensured that barrels are cleaned and no chemicals are as a residue to avoid mixing and causing explosion or any mishap ➤ While decanting chemicals proper earthing arrangement will be ensured to avoid static charge ➤ Good housekeeping will be maintained. ➤ Work Instructions shall be prepared and followed. ➤ Proper ventilation will be provided in storage room. ➤ Proper label and identification board /stickers will be provided in the storage area. ➤ Area shall be marked as "Hazardous Chemical Storage", "No Smoking", "Hot work Restricted". No cell phones ➤ MSDS of chemicals stored will be available in storage area

	CORROSIVE CHEMICALS	<ul style="list-style-type: none"> ➤ Preventing or minimizing contact between corrosive substances and skin, mucous membranes and eyes. ➤ Corrosive substances should not be allowed to come in contact with materials that may react. ➤ All the containers, pipes, apparatus, installations and structures used for the manufacture, storage, transport or use of the substances may be protected by suitable coatings, impervious to and unaffected by corrosives. ➤ All containers or receptacles should be clearly labelled to indicate their contents and should bear the danger symbol for corrosives. ➤ Adequate ventilation and exhaust arrangement whether general or local, should be provided whenever corrosive toxic gases or dust are present. ➤ Personal protective devices shall be used ➤ First aid treatment facilities shall be provided and all concerned should be instructed to follow safe practices such as (a) Prolonged washing with water (b) Removing contaminated clothing (c) Seeking immediate medical help. ➤ Safety showers and eye washers is provided.
	TOXIC CHEMICALS	<ul style="list-style-type: none"> ➤ Ventilation must be sufficient to prevent accumulation of vapor pockets. All fan switches should be outside the storage area ➤ Self-breathing apparatus, gas mask and 'emergency kits' should be located at strategic points under working condition and to be easily accessible in the event of emergency. ➤ Appropriate minimum safety distances as stipulated in the above mentioned rules have to be maintained from buildings or group of buildings or adjacent property.
	REACTIVE CHEMICALS	<ul style="list-style-type: none"> ➤ Store minimum quantities ➤ Segregate chemicals, e.g., from water, air, incompatible chemicals, sources of heat, ignition sources. ➤ Spillage control; bund, spray, blanket, containment. Drain to collection pit ➤ Decontamination and first-aid provisions, e.g., neutralize/destroy, fire-fighting ➤ Contain/vent pressure generated to a safe area ➤ Split-up stocks into manageable lots, e.g., with reference to fire loading/spillage control. ➤ Ensure appropriate levels of security, hazard warning notices, fences, patrols. Control access including vehicles ➤ Appropriate gas/vapour/fume/pressure venting, e.g., flame arrestors, scrubbers, absorbers, stacks ➤ Ensure adequate natural or forced general ventilation of the storage area ➤ Provide adequate, safe lighting ➤ Label (name and number); identify loading/unloading/transfer couplings ➤ Provide appropriate fire protection (sprinkler, dry powder, gas) ➤ Ensure adequate access for both normal and emergency purposes with alternative routes
-		
35)	FIRE LOAD CALCULATION	
Total Plot Area:		5631.95 Sq. m.
Area utilized for plant activity:		1797.61 sq.m
Number of Floors:		Ground + First Floor + Second Floor + Third Floor
Water requirement for firefighting in KLD:		10 KL
Water storage tank provided for firefighting in KL:		294 KL
Details of Hydrant Pumps:		Necessary Fire Hydrant Pumps

		will be provided as per the GFR
	Nearest Fire Station :	Naroda GIDC fire station
	Applicability of Off Site Emergency Plan:	-
<p><u>Comments:</u></p> <p>The project proponent has proposed fire safety plan which includes fire hydrant line, sprinkler system, fire extinguishers, fire suits, covering the project area and provides for fire water storage tank of 294 KL. SEAC found it as per the requirement.</p>		
36)	WORKERS SAFETY AND OCCUPATIONAL HEALTH MANAGEMENT	
	Number of permanent employee:	200
	Number of contractual person/labour	220
	Area provided for OHC:	50 m ²
	Number of First Aid Boxes:	2
	Nearest General Hospital:	Shalby Hospitals, Naroda
	Name of Antidotes to be store in plant:	Dilute lactic acid, soframycin, Benzocaine solution, Diazepam, Epicake Syrup, Milk of magnesia, Sodium Hydro-Carbonate, Cyanide Kit.
<p><u>Comments:</u></p> <p>Project proponent has provided PPEs, Occupational health center (OHC) with adequate provision of manpower, equipment and operational cost. SEAC finds it as per the provisions of Gujarat Factory Rules 1963.</p>		
37)	DETAILS OF MEMBERSHIP OF COMMON FACILITIES:	
	Sr. No	Membership for Common Facility
		Membership Certificate issuing agency along with Date of Issue and validity of membership
	01	CETP
		Name of CETP: M/s. Naroda Enviro Project Ltd. Date of Issue of membership along with validity: date of issued- 27.10.2017 Name of CETP: M/s. Sanand Eco Project Ltd. Date of Issue of membership along with validity: date of issued- 23.06.2017
	02	TSDF site
		Name of TSDF: GREEN GENE ENVIRO PROTECTION AND INFRASTRUCTURE PRIVATE LIMITED Date of Issue of membership along with validity: date of issued 08.12.2018, validity up to 07.12.2023 Name of TSDF: ECOCARE INFRASTRUCTURES PVT. LTD. Date of Issue of membership along with validity: date of

		issued 27.12.2019
03	Common Hazardous Waste Incineration Facility	Not applicable
04	Common Spray Drying Facility	Not applicable
05	Common MEE Facility	Not applicable
06	Common Conveyance System	-
07	PESO permission	PESO license No. P/HQ/GJ/15/4717 issued dated 28 th October, 2005.
08	FIRE permission	Not applicable
09	Health Certificate	Unit is regularly carrying out medical checkup of all employees through private medical officer. Unit is also providing OHC within the premises equipped with Blood Pressure Monitor, First Aid Kit, etc. First-Aid Center with necessary arrangements, 02 stretcher & 02 set of medicated Oxygen Cylinder. Unit is/will be equipped all necessary medicines and Antidotes.
-		
38)	EMERGENCY MEASURES PROPOSED AND PREPAREDNESS ACTION PLAN <p>Disaster Management Plan has been prepared along with On-site & Off-site Emergency Response Plan</p> <p>Specific objectives of the Emergency Response Plan are listed with regards to the responses desired for successful management of the possible emergency situations.</p> <p>Suggested Objectives would include:</p> <ul style="list-style-type: none"> ➤ To define and assess emergencies ➤ To control and contain incidents. ➤ To safeguard the employees. ➤ To minimize damage to the property and/or the environment. ➤ To inform the employees, the general public residing around the plant and the authority on the hazards/risks assessed. ➤ To safeguard provided residual risk, if any, and the role to be played by the employees in the event of emergency. ➤ To inform the state authorities like Police and Fire Departments, Mutual Aid Centers, Medical Centers to come up for help. ➤ To effectively rescue and to provide treatment of casualties and to count the injured. ➤ To identify and list fatal accidents, if any. ➤ To secure the safe rehabilitation of affected areas and to restore normally. ➤ To provide authoritative information to the news media for the incident. 	

- To preserve records, equipments, etc. and to organize investigation into the cause of the emergency and to suggest preventive measures to stop its recurrence.
- To ensure safety of staff and patients and resume work. To work out a plan with all provisions to handle emergencies and to provide for emergency

On-Site Emergency Plan

The On-site emergency plan: deals with, measures to prevent and control emergencies within the factory and not affecting outside public or Environment.

Off-site emergency plan:

Type of emergency facilities/ actions required from outsidebodies:

- Firefighting facilities required: The factory will have its own fire fighting facilities but during an emergency, fire brigade may be called.
- Police help is required during emergency for evacuation of the people, traffic control security arrangements etc. will be available.
- Medical help required: seriously injured personnel may be referred to the local Hospital/Nursing Home/ESI Hospital depending upon the gravity and type of injuries.

39) CER ACTIVITIES PROPOSED YEAR WISE/ IN CASE OF EXPANSION ANY ADDITIONALITY SUGGESTED AND ITS COMPLIANCE (AS PER THE MOEF & CC GUIDELINES)

Total cost of Project (Rs in Crores)	Total Cost of CER (Rs in Crores or Lakhs)	Percentage (%)
54.83 Crores	54.83 Lakh	1 %

Sr · N o.	Activities	Village Name	1 st Yea r	2 nd Year	3 rd Year	4 th Year	5 th Year	Total Amount in lacs
1	Plantation & maintenance Activities in Surrounding Villages and roadside in nearby Village	Naroda, Ranasan, Bilasiya, Limbadiya, Enasan, Bhat Etc.	2	2	2	2	2	10
2	Village Infrastructure Development Primary School Infrastructure Development and Wellbeing in nearby Village		2.5	2.5	2.5	2.5	2.5	12.5
3	Ambulance facility to the nearby hospitals, Health Camps - Free Doctor consultation and medicine, Health Awareness program on AIDS, Malaria, TB, Anaemia etc.		2	2	2	2	2	10

4	Solar Lights poles and their AMC in nearby villages		3	3	3	2.97 4	2.86 6	14.83
5	Awareness Program for the Environment		1.5	1.5	1.5	1.5	1.5	7.5
Total			11	11	11	10.9 7	10.8 6	54.83

Note: As a part As part of CER activity, we have issued the green belt development certificate 1000 m² from the Naroda Industry association and we will grow 300 Nos. of tress as avenue plantation in 1000 m² . The Acknowledgement copy of the same is as below,

Comments:

As per MoEF&CC's OM dated: 01.05.2018 and 30.09.2020, SEAC examined that the proposed cost of CER i.e 1 % (Rs 54.83 Lakhs) which is as per the requirement.

40) **ENVIRONMENT MANAGEMENT PLAN (ESPECIALLY WITH CEPI AND NON CEPI GUIDELINES, AS MAY BE APPLICABLE)**

Sr · N o.	Unit	Detail	Capital Cost (Rs. In Lacs)	Recurring Cost (Rs. In Lacs/Month)
1	Water Pollution Control	Operation & Maintenance ETP, RO and MEE	137	5.48
2	Air & Noise Pollution Control	Adequate APCM like Two stage alkali scrubber, Monitoring of Air & Noise Environment	160.6	6.42
3	Hazardous Management and AWH Monitoring	Providing Transportation & disposal, Cost of TSDF & new incineration & TSDF membership certificate	84	3.36
4	Environment Monitoring & Management	Regular monitoring of various environmental parameters will be carried out to check the effectiveness of the control system.	6.8	0.272
5	Green Belt Development	Capital cost would include cost of plant species and labour cost and recurring cost would include cost of maintenance of that green belt including cost of required water for plant growth	6	0.24
6	Rain water harvesting	Provision & Maintenance of Rain Water Harvesting system inside the premises	2	0.08
7	Occupational Health	Periodic Health check-up, PPE's and fire proximity suit etc., OHS training etc	1.5	0.144
8	Fire & Safety (Part of Project cost)	Fire hydrant & Fire extinguishers (ABC Type-9 Kg (17 Nos.),	10	0.75

		safety	CO ₂ Type- 4.5 Kg (10 Nos.),		
			Sand bucket type- 5 Kg (15 Nos.),	2.5	0.18
		Fire extinguisher and Foam type trolley	Foam Type trolley - 6-9 Litres (10 Nos.), Smoke detector – 360 no.	8	0.11
		OHS cost	DCP Type Trolley- 9 kg (5 Nos.)	1	0.2
9	DCS & PLC system (Part of Project cost), oxygen detector	Installation of DCS system for Automation		150	2.75
10	CER	Provision for CER fund as per		54.84	00
Total				624.24	19.986

Comments:

The overall environment management plan (EMP) provided for capital and recurring cost for wastewater treatment, air emission control, noise control, hazardous waste disposal, fire & safety, occupational health, environment monitoring program, green belt and corporate environmental responsibility was deliberated and found satisfactory.

41) RECOMMENDATIONS OF SEAC

"On the basis of information provided to SEAC on project, its location, technical, physical and environmental infrastructure, products, quantity to be manufactured, its raw material, storage, waste disposal, water treatment, safety measures, green belt development planning, regulatory compliance assured of related statutory provisions, necessary documents of requisite permissions provided from concerned departments and overall environmental management planning for the project, along with financial resources committed for operation and maintenance, and on the basis of presentation made before SEAC, modification suggested by SEAC and incorporated by project proponent, SEAC finds the project as per the requirement and **unanimously** recommends the same to SEIAA for environmental clearance."

Conditions with which Environment Clearance is recommended:**42) GENERAL CONDITIONS****Construction Phase**

- "Wind – breaker of appropriate height i.e. 1/3rd of the building height and maximum up to 10 meters shall be provided. Individual building within the project site shall also be provided with barricades.
- "No uncovered vehicles carrying construction material and waste shall be permitted."

- c) "No loose soil or sand or construction & demolition waste or any other construction material that cause dust shall be left uncovered. Uniform piling and proper storage of sand to avoid fugitive emissions shall be ensured."
- d) Roads leading to or at construction site must be paved and blacktopped (i.e. – metallic roads).
- e) No excavation of soil shall be carried out without adequate dust mitigation measures in place.
- f) Dust mitigation measure shall be displayed prominently at the construction site for easy public viewing.
- g) Grinding and cutting of building materials in open area shall be prohibited.
- h) Construction material and waste should be stored only within earmarked area and road side storage of construction material and waste shall be prohibited.
- i) Construction and demolition waste processing and disposal site shall be identified and required dust mitigation measures be notified at the site. (If applicable).

SPECIFIC CONDITIONS:

1. Unit shall install CEMS [**Continuous Emission Monitoring System**] in line to CPCB directions to all SPCB vide letter no. B-29016/04/06PCI-1/5401 dated 05/02/2014 for effluent discharge and air emission as per pollutants discharge/emission from respective project and an arrangement shall also be done for reflecting the online monitoring results on the company's server, which can be assessable by the GPCB/CPCB on real time basis. [**For Small/Large/Medium (Red Category) & Whichever (Air emission & Effluent discharge) is applicable**].
2. (a) The pollution load of R & D products shall remain the same as committed. (b) Project proponent shall not take continuous/commercial production of the R & D materials. Necessary approvals shall be obtained from the concern authorities prior to commercial production of R & D materials. (c) Unit shall submit relevant details of R & D products like raw materials, its safety measures to the regulatory authority well before R & D activity. (d) Unit shall submit relevant details of R & D products like different wastes generated (Quantity & Quality) and its management to the regulatory authority within a month of R & D activity.
3. The National Ambient Air Quality Emission Standards issued by the Ministry vide G. S. R. No. 826 (E) dated 16th November, 2009 shall be complied with.
4. National Emission Standards for Organic Chemicals Manufacturing Industry issued by the Ministry vide G. S. R. 608 (E) dated 21/07/2010 and amended from time to time shall be followed.
5. National Emission Standards for Bulk drug and formulation (Pharmaceuticals) Industry

issued by the Ministry vide G. S. R. 541 (E) dated 06/08/2021 and amended from time to time shall be followed.

6. Unit shall have to adhere to the prevailing area specific policies of GPCB with respect to the discharge of pollutants, and shall carry out the project development in accordance & consistence with the same.
7. All measures shall be taken to avoid soil and ground water contamination within premises.

8. Safety & Health:

- a) PP shall obtain PESO permission for the storage and handling of hazardous chemicals. (If applicable).
- b) PP shall provide Occupational Health Centre (OHC) as per the provisions under the Gujarat Factories Rule 68-U.
- c) PP shall obtain fire safety certificate / Fire No-Objection certificate (NOC) from the concern authority as per the prevailing Rules / Gujarat Fire Prevention and Life Safety Measures Act, 2016.
- d) Unit shall adopt functional operations/process automation system including emergency response to eliminate risk associated with the hazardous processes.
- e) PP shall carry out mock drill within the premises as per the prevailing guidelines of safety and display proper evacuation plan in the manufacturing area in case of any emergency or accident.
- f) PP shall install adequate fire hydrant system with foam trolley attachment within premises and separate storage of water for the same shall be ensured by PP.
- g) PP shall take all the necessary steps for control of storage hazards within premises ensuring incompatibility of storage raw material and ensure the storage keeping safe distance as per the prevailing guidelines of the concerned authority.
- h) PP shall take all the necessary steps for human safety within premises to ensure that no any harm is caused to any worker/employee or labour within premises.
- i) Flame proof electrical fittings shall be provided in the plant premises, wherever applicable.
- j) Unit shall never store drum/barrels/carboys of incompatible material/chemical together.
- k) Unit shall provide effective Isolation for Process area and storage of hazardous chemicals.
- l) The project management shall prepare a detailed Disaster Management Plan (DMP) for the project as per the guidelines from Directorate of Industrial Safety and Health.
- m) Unit shall obtain all required permissions from the Narcotics Control Bureau for

manufacturing, storage and handling of Acetic Anhydride & any such chemicals.

- n) Provide double earthing to solvent storage tanks: (1) Unit shall provide effective fire hydrants, water monitors & foam application system at solvent storage tank farm area. (2) Unit shall provide adequate safety system such as water sprinklers, water curtains, foam pouring system etc. to restrict cascade fire emergency in solvent tank farm.
- o) Unit shall never store drum/barrels/carboys of incompatible material/chemical together.
- p) Unit shall provide chlorine leakage control emergency kit and FRP hood with scrubber system for chlorine safety.

WATER

9. Total water requirement for the project shall not exceed 96.5 KLD. Unit shall reuse 15.83 KLD of treated effluent within premises. Hence, fresh water requirement shall not exceed 80.67 KLD and it shall be met through GIDC water supply only. Prior permission from concerned authority shall be obtained for procurement of water.

10. The industrial effluent generation from the project shall not exceed 41 KLD.

11. Management of Industrial effluent shall be as under:

✓ **Concentrated Stream (13 KLD)**

- 13 KLD, High TDS stream generated from process shall be treated in-house MEE and MEE condensate shall be further treated in ETP alongwith dilute stream.

✓ **Dilute Stream (41.82 KLD):**

- ✓ 55.51 KLD industrial effluent from generated from washing (12 KLD), cooling (5 KLD), scrubbing media (5 KLD), other (2.5 KLD), boiler blow down (3.5 KLD) alongwith domestic wastewater (13.82KLD) and shall be treated into ETP followed by RO and RO reject shall be treated in in-house MEE and RO permeate (32 KLD) shall be discharged into CETP- NEPL, Naroda only after complying with the inlet norms of CETP prescribed by GPCB to ensure no adverse impact on Human Health and Environment

12. Domestic wastewater generation shall not exceed 13.82 KL/Day for proposed project and it shall be treated in ETP. It shall not be disposed off through soak pit/ septic tank.

13. Treated waste water shall be sent to common facilities (CETP) only after complying with the inlet norms of common facilities prescribed by GPCB to ensure no adverse impact on Human Health and Environment.

14. The PP shall ensure to dispose off Waste water to the Common Facilities having valid

CTO of GPCB.

15. Unit shall feed wastewater to in-house MEE only after ensuring content of effluent for COD/VOC so as not to get air borne during evaporation in order to achieve no adverse impacts on Environment and Human Health.
16. Unit shall provide ETP with adequate capacity.
17. The unit shall provide metering facility at the inlet and outlet of ETP and maintain records for the same.
18. Proper logbooks of ETP; reuse/ recycle of treated/ untreated effluent; chemical consumption in effluent treatment; quantity & quality of treated effluent sent to common facilities; power consumption etc. shall be maintained and shall be furnished to the GPCB from time to time.

AIR:

19. Unit shall not exceed fuel consumption for Boilers, Thermic Fluid Heate and D G Sets as per the point no. 24 as mentioned above.
20. PP shall use approved fuels only as fuel Boilers, Thermic Fluid Heate and D G Sets.
21. Unit shall provide adequate APCM with flue gas generation sources to achieve the norms prescribed by GPCB.
22. Unit shall provide adequate APCM with process gas generation sources as the point no. 25 as mentioned above.
23. The fugitive emission in the work zone environment shall be monitored. The emission shall conform to the standards prescribed by the concerned authorities from time to time (e.g. Directors of Industrial Safety & Health). Following indicative guidelines shall also be followed to reduce the fugitive emission.
 - Internal roads shall be either concreted or asphalted or paved properly to reduce the fugitive emission during vehicular movement.
 - Air borne dust shall be controlled with water sprinklers at suitable locations in the plant.
 - A green belt shall be developed all around the plant boundary and also along the roads to mitigate fugitive & transport dust emission.
24. Regular monitoring of Volatile Organic Compounds (VOCs) shall be carried out in the work zone area and ambient air.
25. For control of fugitive emission, VOCs, following steps shall be followed :
 - e. Closed handling and charging system shall be provided for chemicals.
 - f. Reflux condenser shall be provided over Reactors / Vessels.
 - g. Pumps shall be provided with mechanical seals to prevent leakages.
 - h. Air borne dust at all transfers operations/ points shall be controlled either by

spraying water or providing enclosures.

26. Solvent management shall be carried out as follows:

- ✓ Measures shall be taken to reduce the process vapors emissions as far as possible. Use of toxic solvents shall be minimum. All venting equipment shall have vapour recovery system
- ✓ Reactor shall be connected to adequate chilling system to condensate solvent vapors and reduce solvent losses.
- ✓ Reactor and solvent handling pump shall have mechanical seals to prevent leakages.
- ✓ The condensers shall be provided with sufficient HTA and residence time so as to achieve maximum solvent recovery.
- ✓ Solvents shall be stored in a separate space specified with all safety measures.
- ✓ Proper earthing shall be provided in all the electrical equipment wherever solvent handling is done.
- ✓ Solvent storage and handling area shall be flame proof. The solvent storage tanks shall be provided with breather valve to prevent losses.

27. Close loop solvent recovery system with adequate condenser system shall be provided to recover solvent vapours in such a manner that recovery shall be maximum and recovered solvent shall be reused in the process within premises.

28. Leak Detection and Repair (LDAR) program shall be prepared and implemented as per the CPCB guidelines. LDAR Logbooks shall be maintained.

29. Regular monitoring of ground level concentration of PM₁₀, PM_{2.5}, SO₂, NO_x, HCl, H₂S, Cl₂ and VOCs shall be carried out in the impact zone and its records shall be maintained. Ambient air quality levels shall not exceed the standards stipulated by the GPCB. If at any stage these levels are found to exceed the prescribed limits, necessary additional control measures shall be taken immediately. The location of the stations and frequency of monitoring shall be decided in consultation with the GPCB.

HAZARDOUS / SOLID WASTES:

30. All the hazardous/ solid waste management shall be taken care as per the point no. 32 and 33 as mentioned above.

31. Authorized end-users shall have permissions from the concerned authorities under the Rule 9 of the Hazardous and Other Wastes (Management and Transboundary Movement) Rules 2016.

32. Unit shall explore the possibilities for environment friendly methods like co-processing of hazardous waste for disposal of Incinerable & land fillable wastes before sending to CHWIF & TSDF sites respectively.

33. The project proponent has to obtain membership of TSDF site & CHWIF before

obtaining CTO of GPCB.

34. Management of fly ash shall be as per the Fly ash Notification 2009 & its amendment time to time and it shall be ensured that there is 100% utilization of fly ash to be generated from the unit.

35. The unit shall submit the list of authorized end users of hazardous wastes along with MoU signed with them at least two months in advance prior to the commencement of production. In the absence of potential buyers of these items, the unit shall restrict the production of the respective items.

GREENBELT AREA

36. The PP shall develop green belt [1126.39 Sq m (20 %) inside plant premises + 6000 Sq m (106.53 %) at Bavla (Outside plant premises) = Total: 7126.39 Sq. m.) i.e. 126.53 % of total plot area] as submitted before SEAC. Green belt shall be developed with native plant species that are significant and used for the pollution abatement as per the CPCB guidelines. It shall be implemented within 3 years of operation phase in consultation with GPCB.

OTHERS:

37. The project proponent shall carry out the activities of amount of Rs. 54.83 Lakhs (Plantation & maintenance Activities in Surrounding Villages and roadside in nearby Village, Village Infrastructure Development Primary School Infrastructure Development and Wellbeing in nearby Village, Ambulance facility to the nearby hospitals, Health Camps - Free Doctor consultation and medicine, Health Awareness program on AIDS, Malaria, TB, Anaemia etc., Solar Lights poles and their AMC in nearby villages and Awareness Program for the Environment at Naroda, Ranasan, Bilasiya, Limbadiya, Enasan, Bhat Etc.) proposed under CER and it shall be part of the Environment Management Plan (EMP) as per the MoEF&CC's OM no. F. No. 22-65/2017-IA.III dated 30.09.2020. This shall be monitored and the monitoring report shall be submitted to the regional office of MoEF&CC as a part of half-yearly compliance report and to the District Collector. The monitoring report shall be posted on the website of the project proponent.

38. All the recommendations, mitigation measures, environmental protection measures and safeguards proposed in the EIA report of the project prepared by M/s. Shree Green Consultants and submitted by the project proponent and commitments made during presentation before SEAC and proposed In the EIA report shall be strictly adhered to in letter and spirit.

43) **COMPLIANCE AND ADMINISTRATION/APPEAL OF EC ORDERS**

	<div>1. Project proponent shall inform to all the concerned authorities including Municipal Corporation and District Collector and shall also give wide publicity through advertisement in minimum two local newspapers within seven days, about the Environment Clearance order accorded.</div> <div>2. Project proponent shall appoint a key person in the organization who shall be responsible for compliance of above condition fully on behalf of the proponent. It will not mean that appointing a key person will exempt the project proponent from the responsibility of compliance. Any change in key person shall immediately be informed to SEIAA and all concerned authorities.</div> <div>3. Designated key person shall submit six monthly compliance report to SEIAA/SEAC, MOEF&CC, GPCB and Nodal Department of the Government.</div> <div>4. The Nodal Department or any authority or officer authorized by MOEF&CC/SEIAA can inspect the site of the project and all the facilities, for verification of compliances of environment clearance conditions.</div> <div>5. In case of violation reported upon, the project proponent shall be responsible for all the legal actions as per Environment Protection Act, 1986 including SEIAA may cancel, withdraw or keep in abeyance, the Environment Clearance accorded.</div> <div>6. Any person including the project proponent affected by this Environment Clearance order may file appeal to Honorable National Green Tribunal West Zone branch, Pune, preferably within a period of thirty days from the date of issue of Environment Clearance as prescribe under section 16 of National Green Tribunal Act 2010.</div> <div>7. All complains and public grievance or representations may be addressed to SEIAA/SEAC in the email addresses (a) msseiaagj@gmail.com& (b) seacgujarat@gmail.com</div>		
5.	SIA/GJ/IND3/429471/2023	M/s. Nuchem Dyestuff Pvt. Ltd. Plot No. C/284, 285, 299 & 300, Saykha Industrial Estate, Taluka Vagra, Dist. Bharuch-392130, Gujarat.	EC – Reconsideration
Category of the unit: 5(f) – B1			
Project status: EC – Expansion			
Project located either in CEPI or non CEPI : non CEPI			
PP submitted salient features of the project including Water, Air and Hazardous waste management are as under from Sr. No. 1, 3 to 40. And in Sr. No. 2 detailed deliberation of			

Committee is mentioned. Comments of SEAC is given in relevant points.

1) **DETAILS OF APPLICATION:**

1.1. Type of application:	EC-Expansion
1.2. Proposal no.	SIA/GJ/IND3/429471/2023
1.3. Category of Project :	5 (f) – B1
1.4. Date of application : (Online accepted by SEAC)	05/01/2022
1.5. Documents Submitted by Project Proponent(PP)	Form -1, Pre-feasibility Report, EMP
1.6. Date of EDS by SEIAA a) EDS Raised b) Reply by PP	--
1.7. Date of EDS by SEAC a) EDS Raised b) Reply by PP c) Accepted by SEAC	--
1.8. TOR No. & Date :	TOR - SIA/GJ220412/2020 Date - 24-12-2020
1.9. Date and place of Public Hearing	
1.10. Name of accredited Environmental Consultant & address along with Accreditation No. & Validity	M/s. Green Circle Inc. 5(f)- A NABET/EIA/2124/RA 0219 26th January 2024
1.11. SEAC Meeting No. and Date:	1. 361th SEAC meeting dated- 14/02/2022 2. 426 th SEAC meeting dated – 24/05/2022 3. 467 th Meeting on dated 08/08/2022 4. 691 st SEAC meeting dated 13-09-2023 719 th Meeting on dated 06/11/2023
1.12. ADS raised by SEAC meeting No & date :	
1.13. Reply Submitted by PP dated:	18/12/2023
1.14. Revised Consideration SEAC Meeting No. and Date:	764 th SEAC Meeting on dated 19-01-2024

2) **DELIBERATIONS OF SEAC:**

- 1) During SEAC VC meeting on dated **14.02.2022**, Project Proponent and their technical expert remain absent. PP has submitted letter via Email stating that they would remain absent during meeting due to unavailability of technical consultant and Project proponent.
- 2) PP also requested to schedule the project in any upcoming SEAC meeting.
- 3) **Hence, Committee decided to defer this proposal and consider this in one of the upcoming SEAC meeting.**
- 4) PP submitted details of proposed project on SEAC VC meeting, through Parivesh portal.

- 5) This proposal is reconsidered in SEAC meeting dated **24.05.2022**.
- 6) PP along with their technical expert/consultant, M/s. GREEN CIRCLE, INC., could not able to connect the internet due to some technical error and they could not able to represent their case before the committee.
- 7) So the case was not presented before Committee.
- 8) **After deliberation, SEAC unanimously decided to consider the proposal is in one of the upcoming SEAC meeting after submission with technical details.**
- 9) PP submitted reply of above query generated on SEAC VC meeting, through Parivesh portal.
- 10) This proposal is reconsidered in SEAC meeting dated **08.08.2022**.
- 11) PP along with their technical expert/consultant, M/s. Green Circle Inc remains present in the meeting and made presentation before Committee.
- 12) During meeting, M/s. Green Circle could not able to present flawlessly due to some technical error. Also the EIA Coordinator was not present throughout the presentation. Committee took a serious note of the issue.
- 13) This is an existing unit proposed for expansion of manufacturing of synthetic organic chemicals.
- 14) The project falls under B1 category of project activity 5(f) as per the schedule of EIA Notification 2006.
- 15) Committee deliberated on Product profile, Layout plan, Storage details, Process safety, Fire safety, water balance & waste water management, Flue gas and process gas emission & Air Pollution Control System, Hazardous waste matrix, EMP, CER, Green belt, etc.
- 16) The baseline environmental quality has been assessed for various components of the environment viz. air, noise, water, biological and socioeconomic aspect. The baseline environmental study has been conducted for the study area of 10 km radial distance from project site for the period October-2020 to December-2020. Ambient Air Quality monitoring was carried out PM10, PM2.5, Sox and NOx at Eight locations, including the project site. Values conform to the prescribed standards for Ambient Air Quality. The incremental Ground Level Concentration (GLC) has been computed using "Guassian-Plume". Incremental GLC's for all parameters remain within 500 m from the project site. The resultant concentrations are within the NAAQS. The modelling study proved that the air emissions from the proposed plant would not affect the ambient air quality of the region in any significant manner. The ambient air quality around the proposed project site will remain within the National Ambient Air Quality Standards (NAAQS).
- 17) Risk assessment including prediction of the worst-case scenario and maximum credible

accident scenarios has been carried out. The detailed proposed safeguard measures including On-Site / Off-Site Emergency Plan has been covered in the RA report.

18) Earlier PP obtained EC on dated: 10.04.2019 for which CTE is obtained. Unit is having Valid CCA of the Board for non EC product dated: 26.12.2019 valid upto dated: 18.06.2024. PP submitted that there is no legal court case and public complaint against unit.

19) Committee noted that as per MoEF&CC OM dated: 08.06.2022, unit has not submitted Certified Compliance report of concerned authority.

20) Committee deliberated on compliance of TORs, Layout plan, Storage details, Process safety, Fire safety, water balance & waste water management, Flue gas and process gas emission & Air Pollution Control System, Hazardous waste matrix, EMP, CER, Green belt, etc.

21) Since the proposed project is located in notified industrial area, public consultation is not required as per paragraph 7(i) (III) (I) (b) of the Environment Impact Assessment Notification 2006.

22) PP presented salient features of the project including Water, Air and Hazardous waste management are submitted.

23) Committee asked the following details which PP could not reply satisfactorily:

- ✓ Recycle/ reuse of water/ treated effluent in water balance diagram.
- ✓ Adequate APCM with boilers, TFHs and HAGs considering the soild fuel.
- ✓ Justification regarding requirement of fuel with heat and energy requirement.

24) **After detailed discussion, Committee unanimously decided to consider the project in one of upcoming meeting only after submission of following documents,**

1. Certified Compliance report of concerned authority as per MoEF&CC OM dated: 08.06.2022.
2. Revised water balance mentioning recycle/ reuse of water/ treated effluent.
3. Revised flue gas matrix mentioning adequate APCM with boilers, TFHs and HAGs considering the proposed soild fuel.
4. Justification regarding requirement of fuel with heat and energy requirement.

25) PP submitted reply of above query through Parivesh portal.

26) This proposal is reconsidered in SEAC meeting dated: 13.09.2023.

27) PP along with their technical expert/consultant, M/s. Green Circle Inc remains present in the meeting and made presentation before Committee.

28) During meeting, PP presented and Committee noted the following details:

- ✓ Certified Compliance report of IRO-MoEF&CC's dated: 16.12.2022. Out of total 118 conditions, 53 are complied, 13 are partly complied, 35 are agreed to comply by the

project proponent, 6 are noted by the unit, 3 conditions are not applicable to the unit whereas 8 conditions can't be ascertained. Also, there are 3 observations in the report. PP has presented action plan of observations points as well as partly compiled conditions which is not acceptable as unit has not submitted pointwise reply of each conditions.

- ✓ Revised water balance mentioning recycle/ reuse of water/ treated effluent. PP has not submitted justification regarding drastic increase in wastewater generation than water consumption in process. Also details of mechanism of segregation of streams are not presented.
- ✓ Details of flue gas matrix of existing and proposed scenario is not considered.
- ✓ Justification regarding requirement of fuel with heat and energy requirement is not addressed properly.

29) After detailed discussion, Committee unanimously decided to consider the project in one of upcoming meeting only after submission of following documents,

- a) Justification regarding drastic increase in wastewater generation than water consumption in process.
- b) Details of mechanism of segregation of streams are not presented.
- c) Details of treatability of effluent.
- d) Details of flue gas matrix of existing and proposed scenario.
- e) Justification regarding requirement of fuel with heat and energy requirement.
- f) Details of generation and mode of disposal of non-hazardous waste.
- g) Notarized undertaking regarding NABET accreditation in compliance with MoEF&CC's OM dated: 18.05.2023.

30) PP has submitted reply of above query generated on SEAC VC meeting, through Parivesh portal.

31) This proposal is reconsidered in SEAC VC meeting dated: **06.11.2023**.

32) PP along with their technical expert/consultant, M/s. Green Circle Inc remains present in the meeting and made presentation before Committee.

33) During meeting, Committee noted that PP submitted following details:

- a) PP has presented waste water generation reduces as compared to water consumption due to atmospheric evaporation/losses in Boiler (-163 KLD), Cooling Tower (-67 KLD), Washing (-3 KLD), Scrubber (-5KLD), domestic water (-2KLD), Wastewater generation which is calculated considering the worst-case scenario and in no case the wastewater generation shall not exceed.
- b) Segregation and Collection system of Dilute Stream and Concentrated

Stream: Unit will provide separate collection pits having acid proof brick lining in each plant for collection of Dilute Stream consisting low COD Process Wastewater, Washing Water and Scrubber Bleed Off. Then it will be pumped into collection tank of ETP-1 (for Dilute Stream) through Closed pipeline, Similarly, unit will provide separate collection pits having acid proof brick lining in each plant for collection of concentrated streams generated from process. Then it will be pumped to collected in collection tank of ETP-2 (for Concentrated Stream) through closed pipeline and Blow Down of Cooling Tower and Boiler will be collected in separate collection tank through closed pipe. It will be used in washing activities

34) Committee noted that from process wastewater generated is 513.44KLD (Dilute-410.75 +Con.102.69 KLD) after expansion, here committee asked by which mechanism or methodology you will separate dilute and concentrated effluent from process, but technical expert could not explain satisfactorily.

35) Thenafter another points were not heard.

36) **After detailed discussion, Committee unanimously decided to consider the project in one of upcoming meeting only after submission of following documents:**

- a) Details of mechanism of segregation of streams are not presented.
- b) Details of treatability of effluent.
- c) Details of flue gas matrix of existing and proposed scenario.
- d) Justification regarding requirement of fuel with heat and energy requirement.
- e) Details of generation and mode of disposal of non-hazardous waste.
- f) Notarized undertaking regarding NABET accreditation in compliance with MoEF&CC's OM dated: 18.05.2023.
- g) It was observed that the earlier proposal of your industry is SIA/GJ/IND2/66468/2020, so what is the status of said application.

37) PP has submitted reply of above query generated on SEAC VC meeting, through Parivesh portal.

38) This proposal is reconsidered in SEAC VC meeting dated: **19.01.2024.**

39) PP along with their technical expert/consultant, M/s. Green Circle Inc remains present in the meeting and made presentation before Committee.

40) During meeting, Committee noted that PP submitted following details:

- a) **Dilute Stream consists of low COD & TDS stream** (Second wash from process), Washing Water and Scrubber Bleed Off. Then it will be pumped to collection tank of ETP-1 (for Dilute Stream) through Closed pipeline. Dilute stream will

segregate at point source. Boiler and Cooling Blow down water will be separately connected and reused in washing activities. Treated effluent – 298 KLD will be sent CETP & remaining treated effluent will be sent to RO and RO Permeate – 136.17 KLD will reused within plant premises. Unit will provide separate collection pits having acid proof brick lining in each plant for collection of Dilute Stream. Separate dedicated colour coated pipeline for conveyance of Dilute stream in each plant will be provided.

Concentrate Effluent stream – 102.69 KLD from Process will be collected in Collection tank-2 of ETP-2. Concentrate Effluent stream will segregate at point source. Out of this, 41.19 KLD effluent will treat in ETP-2 which consists Primary treatment along with solvent stripper, MEE, Spray Dryer. 60 KLD neutralized effluent will send to common MEE for further treatment. Concentrated stream generated from process will be pumped to collection tank of ETP-2 (for Concentrated Stream) through closed pipeline. Unit will provide separate collection pits having acid proof brick lining in each plant for collection. Sperate dedicated colour coated pipeline for conveyance of concentrate stream in each plant will be provided.

Here committee noted that PP has still not explained the mechanism of segregation of high COD and low COD from one source.

- b) PP has submitted treatability of effluent stagewise.
- c) PP has submitted details of flue gas matrix of existing and proposed scenario which is mentioned at Sr. No. 24 of the format.
- d) Submitted details of requirement of fuel with heat and energy requirement.
- a) PP has submitted generation and mode of disposal of non-hazardous waste which is mentioned at Sr. No. 33 of format.
- b) PP has submitted Consultant M/s. Green Circle Inc has submitted undertaking dated: 12.10.2023 stating that they valid NABET accreditation certificate and entire EIA report including field study, Primary and Secondary data collection, data analysis and report preparation is been carried out by them and their staff.
- c) PP has presented earlier Proposal Proposal No SIA/GJ/IND2/66468/2020 was delisted due to some technical issues, our ID was not assessed on Parivesh Portal. We pursued NIC many times for opening of our ID. After long time, on our request they allotted new ID and Password.

41) During meeting committee asked for following details:

AIR																							
e	No. of AAQM stations including project site	No. of AAQM stations including project site	The locations for AAQM study were selected within the 10 km radius of the proposed plant installation.																				
f	Parameters considered for AAQM including project specific parameters.	PM 10, PM 2.5, SO ₂ , NO _x , CO	Refer chapter 3, section 3.10.3																				
	<table border="1"> <thead> <tr> <th>Sr. no.</th><th>Parameters</th><th>Range of Concentrations (µg/m³)</th><th>Remarks</th></tr> </thead> <tbody> <tr> <td>1</td><td>PM₁₀</td><td>89.7-60.2</td><td>-</td></tr> <tr> <td>2</td><td>PM_{2.5}</td><td>35.9-24.1</td><td>-</td></tr> <tr> <td>3</td><td>SO₂</td><td>9.9-6.6</td><td>-</td></tr> <tr> <td>4</td><td>NO_x</td><td>15.9-10.6</td><td>-</td></tr> </tbody> </table>			Sr. no.	Parameters	Range of Concentrations (µg/m ³)	Remarks	1	PM ₁₀	89.7-60.2	-	2	PM _{2.5}	35.9-24.1	-	3	SO ₂	9.9-6.6	-	4	NO _x	15.9-10.6	-
Sr. no.	Parameters	Range of Concentrations (µg/m ³)	Remarks																				
1	PM ₁₀	89.7-60.2	-																				
2	PM _{2.5}	35.9-24.1	-																				
3	SO ₂	9.9-6.6	-																				
4	NO _x	15.9-10.6	-																				
g	Whether the results of AAQM is within the norms prescribed in NAAQS ? If no, give reasons as per EIA report	The results of AAQM is within the permissible limits as prescribed by NAAQS.	--																				
h	Comments for AAQM results w. r. t. NAAQS	Refer chapter 3, section 3.6, sub section 3.6.4	Refer chapter 3, section 3.6, sub section 3.6.4																				
i	Software used for the mathematical Modelling for anticipated incremental GLCs (Ground Level Concentrations)	Lake Environmental Software, which is a Gaussian-Plume atmospheric dispersion algorithm for estimating concentration of pollutant, has been used to predict the Ground Level Concentrations (GLC's) of PM ₁₀ , SO ₂ and NO _x due to plant activity. The GLC's were predicted on 24 hourly average basis keeping in view the prescribed national ambient air quality standards (NAAQS)	Refer chapter 4 ,Section 4.7.1																				
j	The resultant concentrations w. r. t. NAAQS and its conclusion.	The prediction results corresponding to PM ₁₀ , SO ₂ and NO _x as shown above indicate that the air quality impacts with respect to pollutants exclusively from the proposed projects would be	Refer chapter 4 ,Section 4.7.1																				

		insignificant and the post-project status shall remain under prescribed NAAQS for Industrial, Residential and other areas		
WATER				
k	No. of monitoring stations including project site wrt water c) Groundwater d) Surface water	Ground water samples were collected from 8 locations and Surface water samples were collected from 8 locations.	Refer Chapter 3	
l	Conclusion of the Monitoring during baseline study of water (ground water and surface water)	It can be observed that ground water qualities in terms of various essential and desirable characteristics are found within the limits specified by IS 10500:2012.	Refer Chapter 3	
m	No. of monitoring stations including project site wrt soil	Soil samples were collected from 8 locations.	Refer Chapter 3, section 3.10	
n	Conclusion of the Monitoring during baseline study of land / soil	No change in land use as project located in Saykha Industrial Estate.	Refer Chapter 3	
o	No. of monitoring stations including project site wrt Noise	A total of 8 locations were identified for ambient noise monitoring in the study area.	Refer Chapter 3, section 3.7	
p	Conclusion of the Monitoring during baseline study of Noise	The objective of the noise pollution survey around the project site was to identify existing noise sources and to measure background noise levels. The study was carried out in the following steps : • Reconnaissance • Identification of noise sources and measurement of noise levels • Measurement of noise levels due to transportation • Community noise levels	Refer Chapter 3	
q	Any other details: a) Details of carbon footprint: a. CO2 emission from Energy Source			
		Consumption	Co2 emission Kg/Kg	CO2 Generation TPA

Electricity	9000 KVA (7200 KW)	43 Kg/KWh	743.04
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b. CO2 emission from Fuel Consumption

Fuel	Consumption	Co2 emission Kg/Kg	CO2 Generation TPA
Coal	23.7 T/Hr (80 % combustion)	2.4 kg	17064
HSD	50 Lit/Day	2.68 Kg	1.68
		Total	17065.68

c. CO2 emission during transportation of material

Production (Max Production)	5650 MT/M
Total RM Consumption (Average consumption)	12000 MT/M
No of trucks required	400
Average Km travel per vehical =	100 Km
Fuel Economy :	7 Km/Lit
Diesel Required :	5714 Lit/Month
CO2 Emission factor per liter of diesel :	3 Kg
Total CO2 emission :	205.7 TPA

d. CO2 emissions from transportation of manpower

		No of vehicle	Daily Travelling Km/vehicle	Mileage (Km/Lit)	Required Fuel Lit/Day	working Days	Total Fuel Consumption Lit/Year	Emission Factor Kg	CO2 emission (TPA)
Car	Petrol	3	100	12	25	300	7500	2.33	17.475
2-Wheeler	Petrol	3	100	55	2	300	545	2.33	1.3
								Total	18.775

Total CO2 emission from different sources will be (a+b+c+d) =743.04 +17065.68 +205.7+18.775= 18033.195 Tonnes/Annum.

b) Details of water footprint:

Blue Water Footprint

- c) WF proc, blue = Blue Water Evaporation + Blue Water Incorporation - Lost Return flow[volume/time]
- d) Blue Water Evaporation – Evaporation losses from process = 0
- e) Evaporation losses from Boiler and cooling tower = 47 KLD= 16920 KL/Year
- Blue water evaporation = 0+ 16920 = 16920 KL/Year

Blue water Incorporation

- f) Water required in the manufacturing activities, gardening and domestic = 795.89 KLD = 286520.4 KL/Year
- g) Lost Return flow = 0
- h) Recycled water used = 225.17 KLD= 81061.2 KL/Year
- i) Rain water harvesting= 8875 KL/Year

- **WFproc, blue= 16920+ 286520.4 - (81061.2 +8875) = 213504.2**

KL/Year Green Water Footprint

- j) WF proc, green = Green Water Evaporation + Green Water Incorporation [volume/time]
- k) Evapo-transpiration Rate at the nearest station Anand (Potential Evapotranspiration estimation for Indian conditions:
- l) Improving accuracy through calibration coefficients) = 3.76 mm/day = 37.6 m3/ha-day
- m) Total area of green belt = 2.49 ha
- n) Green water evapo-transpiration = 2.49 ha. * 37.6 = 93.624 KL/Day = 33704 KL/Year
- o) WF proc, green = 33704 + 0 (No cultivation of any crop) = 33704 KL/Year
- WF proc, green = 33704 KL/Year

Grey Water Footprint

640.45 m3/day of effluent is generated.

Disposed water is of standard parameters, so water required to rejuvenate polluted water will be zero. Hence Grey Water

Footprint = 0 Total Water Footprint = 213504.2 + 33704+ 0 = 247208.2 KL/Year

p) Details of carbon sequestration:

The GHG reduction initiatives practiced are sequestration of carbon by tree plantation and avoiding emissions by using renewable source of energy.

In one year, a mature live tree can absorb more than 1.17 ton of carbon dioxide.

Unit total 3750 trees will be planted within premises.

Carbon sequestered through trees (3750 trees) = 4387.50 t CO₂ eq. /year

Carbon sequestered through Solar power

	<p>q) 8 nos. of Solar Street Light will be Provide in the village common area (Gram Panchayat area) of Vahiya & Cholah Village.</p> <p>r) Carbon sequestered through Solar power (2 KW x 8 Nos=16 KW)</p> <p>s) 64 KWh * 0.81 kg CO₂ Emission/KWh = 51.84 kg CO₂ Emission</p> <p>• Carbon sequestered through Solar power= 51.84*24*30*12/1000 t CO₂ eq./year= 44790 t CO₂ eq./year</p> <p>t) Details of roof top rain water harvesting and reuse within premises:</p> <p>u) Total area for water collection: - 12140 Sq. Meter</p> <p>v) Rainwater is diverted in this recharging in storage tank. In last monsoon average rain fall considered is 0.86 m.</p> <p>w) Total additional water due to rainfall in = 12140 sq. mt. * 0.86 m = 10440 m³</p> <p>20 % of this can be effectively diverted or stored in to rain water storage system = 10440 m³ * 0.2 = 2088.08 m³</p>
r	Details of Schedule-I species and its conservation plan, if any
	The unit has located in Saykha Industrial estate, there is no found any Schedule-I species
4)	<p>RISK ANALYSIS & ITS MITIGATION MEASURES IN GENERAL AS GIVEN IN EIA REPORT</p> <p>OBJECTIVE OF THE STUDY</p> <ul style="list-style-type: none"> Quantitative Risk Assessment (QRA) study for M/s. Nuchem Dyestuff Private Ltd. has been carried out based on data provided by Project Proponent. The main objective of risk assessment -Quantitative Risk Assessment (QRA) is to identify and determine the potential damage or loss of life, property and environment and to provide a scientific argument for decision makers to provide and maintain the safety levels of the facilities to prevent or mitigate harm and losses. This is achieved by the following: Identification of hazards that could be realized from manufacturing processes, plant equipment and machinery, raw materials and products. Identify the potential failure scenarios that could occur within the facility. To Access, the potential risks associated with identified hazards to which the plant and its personal and community outside may be subjected. Consequences analysis of various hazards is carried out to determine the vulnerable zones for each probable accident scenario. Evaluate the process hazards emanating from the identified potential accident scenarios. Analyse the damage effects to the surroundings due to such accidents. Conclusion and Recommendation to mitigate measures to reduce the hazard / risks. To provide guidelines for the preparation of On-site response plan. <p>Scope of the study</p>

- The project will undertake quantitative risk assessment (QRA) study for the storage tank area.
- Following listed material below are stored, used and handled in the premises.

Disaster

- ☐ Extremely rare major emergency/accident having high potential which can cause damage to human life/properties either due to natural calamities or human activities

Objectives

- ☐ To protect lives of working personnel and nearby population.
- ☐ To contain the hazards and to control their spread.
- ☐ To minimize the impact on the environment.
- ☐ To minimize the loss to plant and production.

Disaster Management Plan: Key Elements

- ☐ Basis of the plan
- ☐ Accident/emergency response planning procedures
- ☐ Onsite Emergency Management Plan
- ☐ Offsite Emergency Management Plan
- ☐ 6 monthly emergency mock-drill will be conducted.

5) PRODUCT PROFILE AND BRIEF NOTE OF PRODUCT PROFILE

Gro up	Category	Sr No	Name of Product	CAS Number	Capacity MT/M		
					Exist ing	Prop osed	Total After expa nsio n
A	Acid Dyes	1	Acid Yellow 17	6359-98-4	100	0	100
		2	Acid Yellow 23	1934-21-0			
		3	ACID Yellow 11	6359-82-6			
		4	ACID Yellow 42	6375-55-9			
		5	ACID Yellow 36	587-98-4			
		6	ACID Orange 7	633-96-5			
		7	ACID Orange 10	5850-86-2			
		8	Acid Orange 42	61901-39-1			
		9	Acid Red-1	3734-67-6			
		10	Acid Red-88	1658-56-6			
		11	Acid Red-114	6495-94-5			
		12	Acid Red-18	2611-82-7			
		13	Acid Red 119	12220-20-1			
		14	Acid Red 97	10169-02-5			
		15	Acid Red 357	61951-36-8			
		16	Acid Green 68	61901-32-4			
		17	Acid Green 19	5850-34-0			

			18	Acid Brown 75	8011-86-7			
			19	Acid Brown 165	61724-14-9			
			20	Acid Brown 161	61724-13-8			
			21	Acid Brown 282	12219-65-7			
			22	Acid Brown 355	60181-77-3			
			23	Acid Brown 432	119509-50-1			
			24	Acid Brown 434	126851-40-9			
			25	Acid Brown 425	119509-49-8			
			26	Acid Black 1	1064-48-8			
			27	Acid Black 194	61931-02-0			
			28	Acid Black 26	7/3/6262			
			29	Acid Blue 113	5/1/3351			
			30	Acid Blue 193	12392-64-2			
			31	Acid Violet 90	6408-29-3			
			32	Acid Red 52	3520-42-1			
	B	Reactive Dyes	1	Reactive Red 141	61931-52-0	1000	1000	2000
			2	Reactive Red 194	23354-52-1			
			3	Reactive Red 24	70210-20-7			
			4	Reactive Red BS	88232-20-6			
			5	Reactive Red C2G	105635-66-3			
			6	Reactive Blue 198	145017-98-7			
			7	Red F3B	72828-03-6			
			8	Red HE3B	61951-82-4			
			9	Red 5B	12226-12-9			
			10	Red F3G	76416-02-9			
			11	Red H7B	--			
			12	Red DS4B	--			
			13	Crimson XLE	--			
			14	Red DSGD CONC.	--			
			15	Red SGR	--			
			16	Reactive Red H8B(Red 31)	12237-00-2			
			17	Reactive Red 45	12237-00-2			
			18	Reactive M8B	12226-08-3			
			19	Reactive Red ME6BL	125830-49-1			
			20	Reactive Red ME3GL/ 223	93051-43-			
			21	Reactive Red BB/21	11099-79-9			
			22	Reactive Yellow 145	93050-80-7			
			23	Reactive Yellow 15/GR	12226-47-0			
			24	Reactive Yellow 84	61951-85-7			

			25	Golden Yellow R	129898-77-7			
			26	Reactive Yellow 160	12226-63-0			
			27	Reactive Yellow FG	--			
			28	Reactive Yellow RR	12220-08-5			
			29	Golden Yellow RNL	12226-48-			
			30	Reactive Yellow 18/H4G	12237-16-			
			31	Reactive Yellow 37	12270-91-6			
			32	Reactive Golden Yellow MR	61951-86-8,			
			33	Reactive Yellow M8G	17095-24-8			
			34	Reactive Black 5	--			
			35	Reactive Black HFGR	--			
			36	Reactive Black N-150	--			
			37	Reactive Black FB3DP	--			
			38	Reactive Black HN	12225-26-2,			
			39	Reactive Black WNN/R/G	--			
			40	Reactive Blue 171	77907-32-5			
			41	Reactive Blue 250	93951-21-4			
			42	Reactive Blue 187	89286-75-9			
			43	Reactive Blue 194	93050-78-3			
			44	Reactive Blue 198	124448-55-1			
			45	Reactive Blue 220	128416-19-3			
			46	Reactive Blue 221	93051-41-3			
			47	reactive Blue 222	93051-44-6			
			48	Reactive Blue FNG	89286-75-9			
			49	reactive Blue R	2580-78-1			
			50	Reactive Blue 5RH	12236-84-9			
			51	Reactive Turquoise Blue	12677-15-5			
			52	Reactive Navy Blue RGB	93951-21-4			
			53	REACTIVE BLUE 3R	12225-45-5			
			54	REACTIVE BLUE F4R	--			
			55	REACTIVE BLUE HERD	71872-76-9			
			56	BLUE FBRL	--			

			57	BLUE BFN	--			
			58	BLUE 2B	--			
			59	NAVY BLUE 2G	147826-71-9			
			60	NAVY BLUE XLE	--			
			61	Reactive Blue M2R	75030-18-			
			62	Reactive Blue 49	12236-92-9			
			63	Reactive Blue P2R	--			
			64	Reactive Brown 11	12225-68-2			
			65	Reactive Red Brown H4R	12225-66-0,			
			66	Reactive Orange 72	71902-15-3			
			67	Reactive Orange 122	79809-27-1			
			68	Reactive Orange 2R	42986-20-1			
			69	Reactive Orange 16	12225-88-6			
			70	Reactive orange H2R	12225-85-3			
			71	Reactive Orange RR	--			
			72	Reactive Orange Red RGB	--			
			73	Reactive Orange M2R	6373-74-6			
			74	Reactive Orange 7	12225-83-1			
			75	Reactive Golden Yellow HR	35642-64-9			
			76	Reactive Ultra Carmine RGB	--			
			77	Reactive Violet 5 R	12226-38-9			
			78	Reactive Magenta HB	CI No 17175			
			79	Reactive Green HE4BD	61931-49-5			
			80	Reactive Purple H3R	12239-45-1			
			81	Reactive Red 195	93050-79-4			
	C	Direct Dyes	1	Direct yellow 4	11/4/3051	100	0	100
			2	Direct orange 34	3626-36-6			
			3	Direct Orange 26	12222-37-6			
			4	Direct Red 239	60202-35-9			
			5	Direct Red 7	70209-93-7			
			6	Direct Red 23	3441-14-3			
			7	Direct Red 26	3617-80-7			
			8	Direct Red 80	10/8/2610			
			9	Direct Red 81	11/9/2610			

			10	Direct Red 31	5001-72-9			
			11	Direct Red 89	12217-67-3			
			12	Direct Brown NB	--			
			13	Direct Black 19	6428-31-5			
			14	Direct Black NB	--			
			15	Direct Black 22	6473-13-8			
			16	Direct Black 168	85631-88-5			
			17	Direct Black 179	143549-91-1			
			18	Direct blue G	--			
			19	Direct Sky Blue FB	--			
			20	Direct Blue 15	2429-74-5			
			21	Direct Blue 71	4399-55-7			
			22	Direct Blue 80	4399-55-7			
			23	Direct Fast Violet 2RL	10/7/6227			
D	Basic Dyes		1	Basic Yellow 28	54060-92-3	100	0	100
			2	Basic Yellow 13 (Yellow 8 GL)	12217-50-4			
			3	Basic Orange 21	3056-93-7			
			4	Basic Blue 54. (BLUE GL).	15000-59-6			
			5	Basic Blue 41(BLUE GRL)	12270-13-2			
			6	Basic Blue 3 (BLUE BG)	33203-82-6			
			7	B. Violet 16	64346-30-1			
			8	Basic Red 18 (RED GTL)	25198-22-5			
			9	Basic RED.13	3648-36-0			
			10	Basic R.14	12217-48-0			
			11	Methyl Violet (Basic Violet 1)	8004-87-3			
			12	Malachite Green (Green 4)	569-64-2			
			13	Diamond Crystal (Green 1)	633-03-4			
			14	BASIC VIOLET 10(Rhodamine B)	81-88-9			
			15	methylene Blue	61-73-4			
			16	Basic Black 46	65294-17-9			
			17	Baisic Violet 4 (Ethyl Violet)	2390-59-2			
			18	Basic Chrysoidine R (F.P)(Orange 2)	532-82-1			
			19	Basic Brown 1(Bismark Brown Y)	1052-36-6			
			20	Auramine "O"(Basic Yellow 2)	2465-27-2			

	E	Basic Liquid Dyes	1	Basic Violet 1 Liquid	72102-55-7	0	100	100
			2	Basic Violet 3 Liquid	548-62-9			
			3	Basic Violet 4 Liquid	2390-59-2			
			4	Basic Green 1 Liquid	72102-55-7			
			5	Basic Green 4 Liquid	41272-40-6			
			6	Basic Yellow 96 Liquid	78181-99-4			
			7	Basic Orange 60 Liquid	6925-69-5			
			8	Basic Violet 14 Liquid	632-99-5			
			9	Basic Violet 16 Liquid	64346-30-1			
			10	Basic Red 12 Liquid	6320-14-5			
			11	Basic Red 14 Liquid	12217-48-0			
			12	Basic Red 18.1 Liquid	12271-12-4			
			13	Basic Yellow 90	61116-26-5			
			14	Basic Blue 1 Liquid	633-03-4.			
			15	Basic Blue 3 Liquid	25 33203-82-6			
			16	Basic violet 7 Liquid	6441-82-3.			
			17	Basic Red 13 Liquid	3648-36-0.			
	F	Solvent Dyes	1	Solvent Blue 4 (Solvent Blue 26 Base)	6786-83-0	0	100	100
			2	Solvent Violet 8 (Methyl Violet 1 Base)	52080-58-7			
			3	Solvent Violet 9 (Crystal Violet Base)	467-63-0			
			4	Solvent Red 49 (Rhodamine Base)	509-34-2			
			5	Solvent Blue 128	18038-99-8			
			6	Solvent Violet 13	81-48-1			
			7	Solvent Yellow 33 (D & C Yellow 11)	8003-22-3			
			8	Solvent Blue 104	116-75-6			
			9	Solvent Green 3	128-80-3			
			10	Solvent Blue 35	17354-14-2			

			11	Solvent Blue 36	14233-37-5			
			12	Solvent Blue 58	61814-09-3			
			13	Solvent Blue 59	98 6994-46-3.			
			14	Solvent Blue 79	74499-36-8			
			15	Solvent Blue 97	61969-44-6			
			16	Solvent Blue 98	71819-49-3			
			17	Solvent Blue 101	6737-68-4			
			18	Solvent Blue 102	15403-56-2			
			19	Solvent Blue 122	67905-17-3.			
			20	Solvent Green 33	10671-57-8.			
			21	Solvent Violet 14	67577-84-8			
			22	Solvent Violet 38	63512-14-1			
			23	Solvent Red 164 Liquid	71819-51-7			
	G	Disperse Dyes	1	Disperse Navy Blue 79	75497-74-4.	0	100	100
			2	Disperse Brown 1	23355-64-8			
			3	Disperse Orange 30	2223-23-3/5261- 31			
			4	Disperse Red 167	61968-52- 3/26850-12-4			
			5	Disperse yellow 79	86836-02- 4/70528-90-4.			
			6	Disperse yellow 221	-			
			7	Disperse Orange 44	12223-26-6			
			8	Disperse Orange 25	95 31482-56-1.			
			9	Disperse Red 54	6021-61-0.			
			10	Dis Violet 93	52697-38-8			
			11	Dis Red 7	4/9/5281			
			12	Dis Violet 99	548-62-9			
			13	Dis Golden Yellow 2GD	54077-16-6			
	H	CPC Based Dyes	1	Blue 21	12236-86- 1/73049-92-0	150	0	150
			2	Blue 25	6408-78-2			
			3	Blue 72	61968-95-4			
			4	Direct Blue 199	12222-04-7			
			5	Direct Blue 86	1330-38-7			
			6	Reactive Turquoise Blue H2GP (Blue 77)	61968-95-4			
	I	Azo Pigments	1	Yellow Pigment	5979-28-2	200	-100	100
			2	Orange Pigment	4424-06-0			
			3	Red Pigment	84632-65-5			
		Quinacridone	4	PIGMENT RED 122	980-26-7			

		pigment	5	PIGMENT VIOLET 19	1047-16-1			
		Carbazole Dioxane Violet Pigment	6	Pigment Violet 23	215247-95-3			
		CPC Base Pigments	7	Beta Blue 15.3	147-14-8			
			8	Beta Blue 15.4	147-14-8			
			9	Pig Blue 15.6	147-14-8			
			10	Green 7	1328-53-6			
			11	Alpha Blue	147-14-8			
			12	Beta Blue 15	147-14-8			
			13	CPC Blue	-			
			14	CPC Green 36	14302-13-7			
			15	Pigment Red 170	2786-76-7			
			16	Pigment Red 176	12225-06-8			
	J	PIGMENT TONERS	1	Rubine Toner	5281 – 04- 9	0	100	100
			2	Lake Red C	2/1/5160			
			3	Marron Toner	6417-83-0			
			4	Pigment Red RC	7023-61-2.			
	K	Naphthale ne Based Inter	1	H ACID	9004-61-9	300	-100	200
	L	Beta Base Derivative s	1	K-ACID	2494-89-5	40	550	670
			2	Tobias Acid (Scheffes Acid)	118-03-6	25		
			3	Gamma Acid	117-62-4	20		
			4	Schaefferr Acid	93-01-6	25		
			5	N-Methyl J Acid	22346-43-6	10		
			6	Sulpho Tobias Acid	117-62-4	0		
			7	PNCBOSA	946-30-5	0		
			8	4 NADAPSA wet cake	91-29-2	0		
			9	4 Sulpho Anthrlnic Acid	98-43-1	0		
			10	5 Sulpho Anthrlnic Acid	3577-63-7	0		
			11	Aniline 2 :5 DSA	98-44-2	0		
			12	Aniline 2 :4 DSA	137-51-9	0		
			13	Anthralinic Acid	118-92-3	0		
			14	BDSA	117-61-3	0		
			15	EBAMSA	101-11-1	0		
			16	Metalinic Acid	121-47-1	0		
			17	MPDSA	88-63-1	0		
			18	MPDDSA	137-50-8	0		
			19	PA2SA	6470-17-3	0		
			20	PA3SA	13244-33-2	0		

			21	Sulphanilic Acid	121-57-3	0		
			22	Orthanilic Acid	88-21-1	0		
			23	J Acid	87-02-5	0		
			24	Betanaphthol	135-19-3	0		
			25	G Salt	e	0		
			26	R Salt	148-75-4	0		
			27	Sulpho J Acid	6535-70-2	0		
			28	Phenyl J Acid	119-40-4	0		
			29	Acetyl J Acid	6334-97-0	0		
			30	Di J Acid	87-03-6	0		
			31	N-BENZOYL J - ACID	10534-92-6	0		
	M	CPC Based Derivatives	1	CPC Derivative	-	15	0	15
			2	PHTHALIMIDE BASED	-	15	0	15
	N	Blue Base	1	Blue Base Tripheno Dioxazine	79771-28-1	50	-50	0
	O	Textile Auxiliaries	1	Washing Agent	110615-47	0	150	150
			2	Soping Agent	3732-62-2			
			3	Binders	-			
			4	Sizing Agent	24981-13-3			
			5	Alkali Buffer	497-19-8			
			6	Acid Buffer	7365-44-8			
			7	Bleaching Agent	7681-52-9			
			8	Loop Accelerator	-			
			9	Peroxide Killer	9001-05-2			
			10	Lubricant	93572-43-1			
			11	Defoamer	67-56-1			
			12	Scrooping Agent	-			
			13	Yarn Lubricant	63148-62-9			
			14	Sequestering Agent	67674-67-3			
			15	Stain Remover	10486-00-7			
			16	Waxemulsion	51-21-3			
	P	Ethoxylates/ Propoxylates	1	Fatty Alcohol/ Fatty Acid/ethoxylates/Propoxylates	37335-03-8	0	250	250
			2	HCO Ethoxylate	61788-85-0			
			3	Nonyl Phenol Ethoxylate	9016-45-9.			
			4	Octyl Phenol Ethoxylate	9002-93-1			
			5	Iso Tri Decyl Alcohol EO Condensates	85763-57-1			

			6	Lauryl Alcohol Condensate	-			
			7	Cetostearyl Alcohol EO	67762-27-0			
			8	Poly Ethylene Glycols EO Condensate	25322-68-3			
			9	Styrenated Phenol EO Condensate	61788-44-1			
	Q	Pyridones	1	2-Pyridone	142-08-5	0	50	50
			2	Ethyl Pyridone	28141-13-1			
			3	Sulpho Methyl Pyridone	40306-70-5			
			4	Methyl Pyridone	99 694-85-9			
			5	Dimethyl Pyridone	1122-58-3,			
	R	Vinyl Sulphones	1	Vinyl Sulphone	2494-89-5	400	-100	300
			2	PCVS	21635-69-8	0	300	300
			3	OAVS	26672-22-0			
			4	Sulpho OAVS	121-88-0			
			5	Sulpho VS	42986-22-1			
			6	Oxy Sulphone	17763-90-5			
			7	Bronner VS	52218-35-6			
			8	Sulpho Bronner VS	52218-35-6			
			9	Meta Base VS	2494-88-4			
			10	DMSVS	26672-24-2			
			11	Tobias Acid VS	81-16-3			
			12	Amino Sulphone E	88571-24-8			
	S	Hydrozones	1	4 Sulpho Hydrozone	77734-52-2	0	50	50
			2	5 Sulphohydrozone	68645-45-4			
	T	CPC	1	CPC	147-14-8	0	100	100
	U	Other Intermediates	1	DNCB	97-00-7	0	400	400
			2	3,5 DABA	535-87-5			
			3	4 NAP	99-57-0			
			4	4 B Acid	88-44-8			
			5	5 NAP	121-88-0			
			6	BHK Acid	-			
			7	Bromamine Acid	6258-06-6.			
			8	M Acid	99-04-7			
			9	Chloranil	118-75-2			
			10	Chloranil Condensate	204-274-4			
			11	C Acid	131-27-1			
			12	DASA	16803-97-7			
			13	PNTOSA	121-03-9			
			14	DASDA	16803-97-7			

			15	EBA	92-59-1			
			16	MPD	108-45-2			
			17	MUA	59690-88-9			
			18	Orth Anisidine	90-04-0			
			19	Sodium Naphthionate	130-13-2			
			20	1,4 SPCP	118-47-8			
			21	6 Acetyl OAPSA	40306-75-0			
			22	ONA/PNA	88-74-4			
			23	6-Nitro 1 Diazo 2-naphthol 4 sulphuric acid	5366-84-7			
			24	J-acid Urea	87-02-5			
	V	Basic Dyes Intermedia tes	1	DEMAP	1122-58-3	0	200	200
			2	DEMAP Aldehyde	17754-90-4			
			3	Resorcinol	108-46-3			
			4	Ammonium Sulphate	7783-20-2			
			5	Fischers Base	118-12-7			
			6	2-Amino 6-Methoxy Benzothiazole	1747-60-0.			
				Total		2550	3100	5650
	W	Inorganic Products	1	Copper Sulphate	7758-99-8	0	100	100
			2	Ferrous Sulphate	7720-78-7	0		
			3	Potassium Sulphate	7778-80-5	0		
			4	Potassium Chloride	2023695	0		
			5	Potassium Nitrate	2023695	0	500	500
			6	Single Super Phosphate	7778-18-9	0		
			7	Di Calcium Phosphate	7757-93-9	0	500	500
				Total			1100	1100
<p># Brief Note of Product Profile:</p> <ol style="list-style-type: none"> No of Manufacturing Plants: 1 Brief Note regarding number of Products to be manufactured considering plant capacity: Unit will manufacture product of each group as per market demand. Unit will manufacture individual product or all products in group but shall not exceed maximum given production capacity. However, while considering resources requirements and waste generation, worst case scenarios has been taken into consideration. Unit will manufacture 7 products to be manufactured within the premises at a time 								
6)	PROJECT DETAILS (COST/LAND OWNERSHIP/NA PERMISSION ETC.)							
	a) Total cost of Proposed Project (Rs. in Crores):							

Existing	Proposed	Total
140 Crores	51 Crores	191 Crores

Break-up of proposed project Cost:

Sr.No	Purpose	Cost (in Cr)		
		Existing	Proposed	Total After Expansion
1	Land	20	0	20
2	Building	50	20	70
3	Plant and Machineries	60	20	80
4	Q.C Lab Setup	1	0	1
5	Environment Management System	8.75	10.75	19.5
6	Green Belt Development	0.25	0.25	0.5
	Total	140	51	191

b) **Details of Land / Plot ownership details:** (Linking between Land ownership and PP is required.)

i. **Total Plot area (sq mt): 75500 sq. m.**

ii. **GIDC Plot Allotment letter/ NA documents:**

Plot Allotment Order No GIDCRM/ANK/ALT/93 Dated 9.1.2015

iii. **Rent agreement, if any : Not Applicable**

iv. **Other Land Possession documents, if any –**

Land Possession : GIDC/DEE(Road)/BRH/157 Dated. 26.4.2016

7) **IF IT IS EXPANSION WHETHER CCR/EARLIER EC COMPLIANCE GIVEN:**

Sr. no.	Particulars	Brief Information/Details	Remarks
1	Earlier Environmental Clearance (EC) details [EC letter no. and date & obtained from MoEF&CC/SEIAA.]	EC Letter No. SEIAA/Guj/EC/5(f)/545/2019 dated 10.04.2019	-
2	In case EC not obtained for existing project: Copy of first CTE (NOC) & CCA obtained from GPCB i.e. before 14/09/2006. (For justification that you have not obtained EC for existing project).	NA	-
3	Certified Compliance Report (CCR) from the concern authority (IRO-MoEF&CC/MS-GPCB) for existing EC/ CCA as per the MoEFCC's OM no.F.No: IA3-22/10/2022-IA.III [E	Certified EC Compliance Report File No J-11/95-2022- IROGNR Dated 16.12.2022 submitted to SEAC	Submitted to SEAC as a part to ADS

	177258] dated: 08/06/2022.		
4	Summary of CCR and Time bound action taken report/ plan of conditions i.e partly complied/ non-complied	Out of 118 conditions, 53 are complied, 13 are partly complied, 35 are agreed to comply by the project proponent, 6 are noted by the unit, 3 conditions are not applicable to the unit, whereas 8 conditions can't be ascertained	Compliance report along with time bound action plan submitted
5	Details of latest Consent to Operate (CTO/CC&A) obtained from GPCB along with date of issue and validity	CTO for the products which having EC applicable are yet to obtain. For the Non-EC product, unit has obtained CTO vide letter no. GPCB/BRCH-B/CTE-354(2)/ID-51488/531530 issue dated 26.12.2019 & Valid up to 18.06.2024	--
6	Details of Improvement notice, Show-cause notice, Notice of direction, Directions, Closure direction etc. issued by the GPCB to the existing unit in last 3 years . Details in tabular format comprise issues, actions taken and current status . As per the latest XGN screen shot.	Show cause Notice from the GPCB, GPCB/BRCH-B/CTE-354/ID: 51488/581911 on dated 22/01/2021. Point wise reply for the same has been submitted.	--
7	Details of Public Complaints (If any)	Not Any	-
8	Details of litigation pending before any court of Law against the Project (If any)	Not Any	-
-			
<p><u>Comments:</u></p> <p>As per MoEF&CC's OM dated: 08.06.2022, PP has submitted CCR from concerned authority with action taken report of non-complied/ partly complied conditions. Also, PP has submitted that one show cause notice was issued by GPCB in last three years, no litigation pending and public complaints against the unit.</p>			

8)

PUBLIC HEARING APPLICABILITY AND ITS COMPLIANCE: Not Applicable as unit is located in Notified Industrial Area ,GIDC Saykha

Main Issues raised by stake holders	Commitments by Project proponent and Action Plan	Action Plan
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Comments:

The public consultation is not applicable as per paragraph 7(i) III (i) (b) of the Environment Impact Assessment Notification-2006.

9)

SITING CRITERIA DETAILS (OTHER THAN GIDC):

Sr. no.	Environmental Sensitivity	Name/Specific details	Siting criteria as per GPCB guidelines dated: 05.06.2022 & its amendment	Aerial Distance in Km
1	Habitat (Residential Area)	Saykha Village	Unit is located in Saykha industrial Estate	1.52
2	Water Bodies			
	River	Narmada		13.85
	Natural Nallah/Drain	-		-
	Lake/Pond/Wetlands	-		-
	Water supply Tanks/Reservoirs	GIDC Saykha Water		-
	Canal	No Canal near by project premises		-
3	Protected Monuments/Heritage sites/Public Buildings i.e School, colleges, etc.	No Protected Monuments/heritage Site/Public Building nearby project premises,		-
4	National/State Highway OR Express way	Bharuch-Dahej Highway		7.81
5	Coastal Regulation Zone (CRZ) (In case of Coastal area projects)	CRZ Dahej Area		28

Comments:

This unit is located in GIDC area, so siting criteria is not applicable.

- 10) **A. APPLICABILITY OF GENERAL CONDITIONS AND COMMENTS WITH SPECIFIC CLARIFICATION OF MOEF&CC GUIDELINES:** Any project or activity specified in Category 'B' will be appraised at Central level as Category 'A' if located in whole or in part within 5 Km radius from the project boundary of:-

Sr No	Particulars	Aerial Distance in Km
1.	Protected Areas notified under the Wildlife (Protection) Act 1972 (53 of 1972)	No Protected area within study area
2.	CPA/SPA (Critically Polluted Area/Severely Polluted Area) as identified by the CPCB	Ankleshwar 25.78 km SE
3	Eco sensitive areas as notified under sub-section (2) of section 3 of EPA-1986	No Eco sensitive areas within study area
4	Interstate boundaries and international boundaries	No Interstate boundaries and international boundaries within study area

Comments:

As per MoEF&CC's notification dated: 25.06.2014 and as per details submitted by PP, General condition is not applicable.

- B. Ensure compliance of category as defined in the amendment to EIA Notification, 2006 vide SO 1599 (E) dated 25/06/2014. i.e. Conditions of small units: (in case of 5 (f) category units and outside the GIDC)** The unit has located in Saykha Industrial estate.

Sr no.	Condition	Compliance with justification
1	Water consumption less than 25 M3/day;	NA
2	Fuel consumption less than 25 TPD;	NA
3	Not covered in the category of MAH units as per the Management, Storage, Import of Hazardous Chemical Rules (MSIHC Rules), 1989 as per the legal undertaking submitted with EIA report.	NA

Comments:

Unit is located within the Saykha Industrial estate so this small scale condition is not applicable.

- 11) **AREA ADEQUACY AND COMMENTS**

Total Land area: 75500.00 SQM

Floor-wise land area break-up table

Area Adequacy table:

Sr No	Components	Area required (Sq m)	Area Provided (sq	Percentage
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			m)	
1	Production Plant	5000.00	9459	12.53
2	ETP & STP	900.00	783	1.04
3	Utility Area	2500.00	4168	5.52
4	Tank Farm Area	1000.00	1319	1.75
5	Raw Material Area	400.00	480	0.64
6	Finished goods Area	400.00	480	0.64
7	Solvent Area	500.00	828	1.10
8	EO Storage	500.00	900	1.19
9	EC Shed	400.00	489	0.65
10	RM,GP & FG	1200.00	1658	2.20
11	Transformer Area & HT Romm	100.00	184	0.24
12	Haz Waste Storage Area	500.00	900	1.19
13	Lab/Office/Admin/EHS/Weigh bridge	500.00	945	1.25
14	OHC	40.00	64	0.08
15	Road Area	9000.00	13000	17.22
16	Greenbelt Area	24915.00	24915	33.00
17	Under Ground Water tank	80.00	82	0.11
18	Parking Area/Main Gate/Security	200.00	386	0.51
19	Open Area	10000.00	14460	19.15
		58135.00	75500	100

Comments:

SEAC has examined it w.r.t.to total monthly production, maximum products, manufactured per month, the total raw material required, weekly storage requirement of each raw material, their mode of storage, their compatibility (flammability, corrosive, toxic), area needed by each raw material, one week storage of finished goods. Area adequacy, from overall safety perspective, has been provided in proposal and is satisfactory.

12) GREEN BELT CONDITIONS AND MEASURES ALONG WITH AREA:

Total Plot area (Sq meter)	Total Green belt area (Sq meter)	% of Greenbelt
75500 m2	Inside: 24915 Outside:---	33

Details of copy of permission letter of concern GIDC/ Panchayat/etc. for greenbelt development (in case of greenbelt development outside the premises:

Comments:

- The PP shall develop green belt within premises (24915 Sq. m i.e. 33 % of the total plot area) as submitted before SEAC. Green belt shall be developed with native plant species that are significant and used for the pollution abatement as per the CPCB

	guidelines. It shall be implemented within 3 years of operation phase in consultation with GPCB.																																																							
13)	EMPLOYMENT GENERATION: <table><tr><td>Permanent</td><td>Contractual</td><td>Total</td></tr><tr><td>20</td><td>100</td><td>120</td></tr></table>	Permanent	Contractual	Total	20	100	120																																																	
Permanent	Contractual	Total																																																						
20	100	120																																																						
14)	SOURCE OF WATER SUPPLY WITH QUANTITY AND PERMISSION (DETAILS OF CGWA IF BOREWELL <p>a) Source of water supply: GIDC Water Supply.</p> <p>b) Total Fresh water quantity (KLD): 795.89</p> <p>c) Permission of concerned authority (Name and quantity (in KLD): Saykha GIDC Water Supply Letter -GIDC/DEE(WS/BRH/223) dated 28-02-2020, 375 KLD</p> <p><u>Comments:</u></p> <p>PP has obtained permission from GIDC Water Supply for procurement of water of 375 KLD which is found satisfactory.</p>																																																							
15)	WATER CONSUMPTION RELATED DETAILS WITH COMMENTS <table><tr><td>Category</td><td>Existing (KLD)</td><td>Proposed (KLD)</td><td>Total (KLD)</td><td>Remarks</td></tr><tr><td>(A) Domestic</td><td>7</td><td>7</td><td>14</td><td></td></tr><tr><td>(B) Gardening</td><td>10</td><td>10</td><td>20</td><td>Treated domestic water</td></tr><tr><td>(C) Industrial</td><td></td><td></td><td></td><td></td></tr><tr><td>Process</td><td>230</td><td>178.89</td><td>408.89</td><td>136.17 KLD RO permeate+9 KLD- MEE condensate+253.72 KLD fresh Water</td></tr><tr><td>Washing</td><td>45</td><td>10</td><td>55</td><td>34 KLD Boiler Blow Down+13 KLD cooling Blow Down +8 KLD Fresh</td></tr><tr><td>Boiler</td><td>77</td><td>120</td><td>197</td><td>Fresh</td></tr><tr><td>Cooling</td><td>60</td><td>20</td><td>80</td><td>Fresh</td></tr><tr><td>Others (Scrubber)</td><td>11</td><td>10</td><td>21</td><td>21 KLD - MEE condensate</td></tr><tr><td>Industrial Total</td><td>423</td><td>338.89</td><td>761.89</td><td></td></tr><tr><td>Grand Total (A+B+C)</td><td>440</td><td>355.89</td><td>795.89</td><td></td></tr></table> <p><u>Comments:</u></p> <p>PP has submitted the above water consumption which is calculated considering the worst case scenario and in no case the water requirement shall not exceed the same which is found satisfactory.</p>	Category	Existing (KLD)	Proposed (KLD)	Total (KLD)	Remarks	(A) Domestic	7	7	14		(B) Gardening	10	10	20	Treated domestic water	(C) Industrial					Process	230	178.89	408.89	136.17 KLD RO permeate+9 KLD- MEE condensate+253.72 KLD fresh Water	Washing	45	10	55	34 KLD Boiler Blow Down+13 KLD cooling Blow Down +8 KLD Fresh	Boiler	77	120	197	Fresh	Cooling	60	20	80	Fresh	Others (Scrubber)	11	10	21	21 KLD - MEE condensate	Industrial Total	423	338.89	761.89		Grand Total (A+B+C)	440	355.89	795.89	
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16) **WASTE WATER GENERATION AND DISPOSAL**

Category	Existing (KLD)	Proposed (KLD)	Total (KLD)	Remarks
(A) Domestic	7	5	12	will be reused in Gardening after treatment
(B) Industrial				
Process	225	288.45	513.45	Con. Stream :102.70 KLD Dilute Stream :410.75 KLD
Washing	44	8	52	Dilute Stream 52 KLD
Boiler	10	24	34	Dilute Stream :34 KLD
Cooling	9	4	13	Dilute Stream 13 KLD
Others (Scrubber)	8	8	16	
Total Industrial waste water	296	332.45	628.45	
Total [A + B]	303	337.45	640.45	

Justification in case of increase/ drastic reduction in wastewater generation than water Consumption:

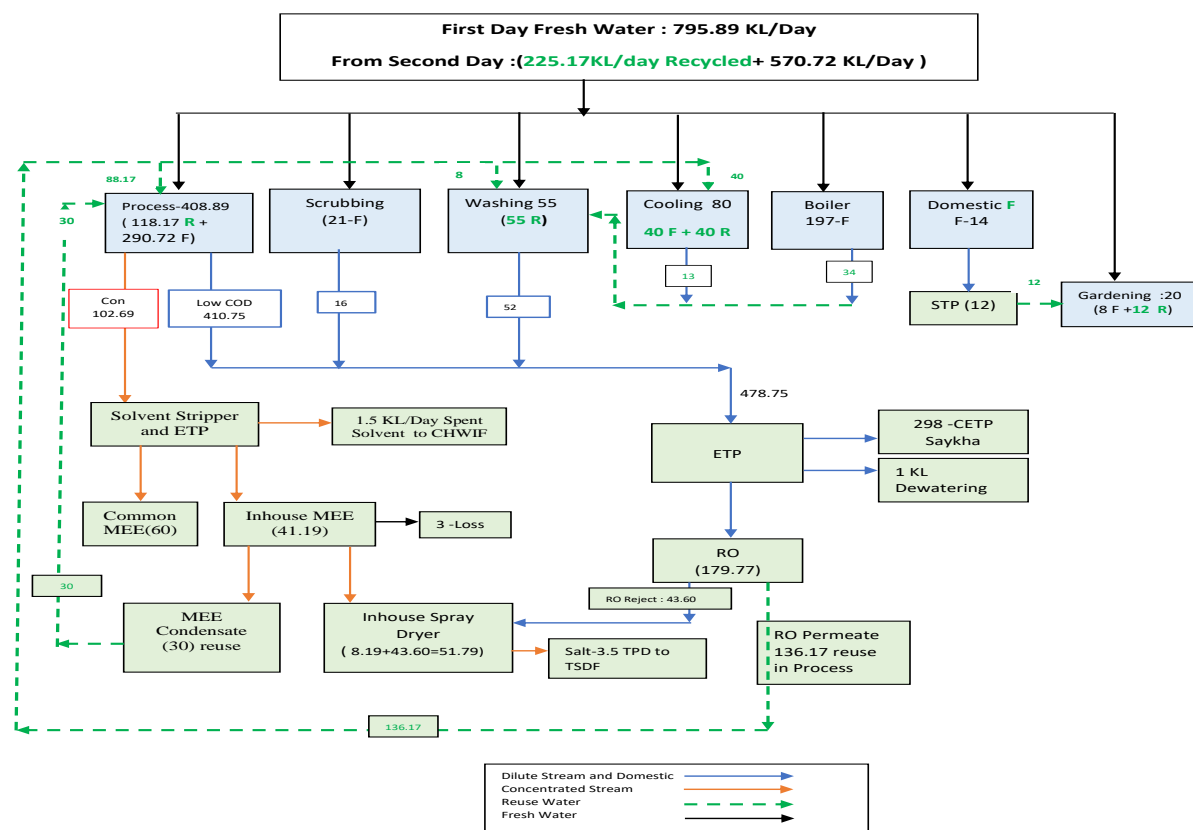
Sr. No.	Description	Difference (Water Consumption-Waste Water Generation)	Reason
1	Process	+104.56	Process waste water increased (+104.56) due to use of Ice (40) and water (64.56) retained with Raw Material.
2	Boiler	-163	Decrease due to atmospheric loss - Evaporation
3	Cooling	-67	Decrease due to atmospheric loss - Evaporation
4	Washing	-3	Decrease due to atmospheric loss - Evaporation
5	Scrubber	-5	Decrease due to atmospheric loss - Evaporation
6	Domestic	-2	Decrease due to atmospheric loss - Evaporation
7	Gardening	-20	Decrease due to utilized for plantation / Gardening
		-155.44	

- Waste water decreased compare to Water consumption due to atmospheric evaporation/losses in Boiler(-163) ,Cooling Tower(-67) ,Washing(-3) .Scrubber (-5).domestic water(-2) and gardening(-20).Process waste water increased (+104.56) due to use of Ice (40) and water (64.56)retained with Raw Material.
- Wastewater generation which is calculated considering the worst-case scenario and in no case the wastewater generation shall not exceed the same.

Comments:

PP has submitted the above wastewater generation which is calculated considering the worst case scenario and in no case the wastewater generation shall not exceed the same which is found satisfactory.

17) SIMPLIFIED WATER BALANCE DIAGRAM



18) BREAKUP OF WASTE WATER DISPOSAL (DOMESTIC & INDUSTRIAL BOTH)

Sr. no.	Quantity KLD	Facility
1	Domestic-12	Treat in STP and reused for gardening
2	Industrial -628.45	ETP, MEE/ATFD and Spray dryer for evaporation Partially dilute stream will be treat and discharge in to CETP
Total	640.45	

Comments for Domestic Effluent:

- Domestic wastewater generation shall not exceed 12 KL/day for proposed project and it shall be treated in STP. It shall not be disposed off through soak pit/ septic tank. Treated sewage shall be utilized for gardening and plantation purpose within premises after achieving on-land discharge norms prescribed by the GPCB.

Comments for Industrial Effluent:

1. Management of Industrial effluent shall be as under:

Concentrated Stream (102.70 KLD)

- ✓ 102.70 KLD high concentrated stream generated from process (102.70 KLD) shall be treated in Solvent Stripper & ETP for further treated in-house MEE (41.19 KLD) and 1.5 KLD spent solvent shall be send to CHWIF and remaining 60 KLD shall be send to common MEE. In-house MEE condensate (30 KLD) shall be reuse into process and 6.19 KLD shall be send to in-house spary dryer.

Dilute Stream (525.75 KLD):

- ✓ 478.75 KLD effluent generated from process (low COD) (410.75 KLD), Washing (52 KLD), Scrubber (16 KLD) shall be treated into ETP followed by RO and RO permeate (136.17 KLD) shall be resued in process and RO reject (43.60 KLD) sent to in-house spary dryer and treated effluent (298 KLD) from ETP shall be discharge into CETP of Saykha only after complying with the inlet norms of CETP prescribed by GPCB to ensure no adverse impact on Human Health and Environment.
- ✓ 47 KLD of effluent generated from Cooling blowdown (13 KLD) and Boiler blowdown (34 KLD) shall be reuse in washing.

19) MECHANISM AND METHODOLOGY OF STREAM SEGREGATION**Dilute Stream**

1. Dilute Stream consists of low COD & TDS stream (Second wash from process), Washing Water and Scrubber Bleed Off, Boiler and Cooling Blow down. It will be pumped to collection tank of ETP-1 (for Dilute Stream) through Closed pipeline. Dilute stream will segregate at point source.
2. Boiler and Cooling Blow down water will be separately collected and reused in washing activities.
3. Treated dilute effluent – 298 KLD will be sent CETP & remaining treated effluent will be sent to RO and RO Permeate – 136.17 KLD will reused within plant premises.
4. Unit will provide separate collection pits having acid proof brick lining in each plant for collection of Dilute Stream.
5. Separate dedicated colour coated pipeline for conveyance of Dilute stream in each

plant to ETP will be provided.

Concentrate Effluent stream –

102.69 KLD from Process will be collected in Collection tank-2 of ETP-2. Concentrate Effluent stream will segregate at point source.

1. Out of this, 41.19 KLD effluent will treat in ETP-2 which consists Primary treatment along with solvent stripper, MEE, Spray Dryer. 60 KLD neutralized effluent will send to common MEE for further treatment.
2. Concentrated stream generated from process will be pumped to collection tank of ETP-2 (for Concentrated Stream) through closed pipeline.
3. Unit will provide separate collection pits having acid proof brick lining in each plant for collection. Sperate dedicated colour coated pipeline for conveyance of concentrate stream in each plant will be provided.

Domestic Waste Water :

Generated domestic waste water will be collected in STP within premises and treated sewage water will be reused in gardening.

20) STP AND/OR ETP SPECIFICATION AND DESIGN AND ITS CAPACITY

ETP Specification and Capacity

S.N.	Name of unit	Size (m x m x m)	No	MOC/ Remark
Stream I (Low COD &TDS)				
1.	Screen Chamber	2 KL	1	RCC M25+A/A Bk.Lining
2.	Oil & Grease Removal Tank	2 KI	1	RCC M25+A/A BkLining
3.	Collection cum Equalization with Air Blowing	300 KL	2	RCC M25+A/A Bk.Lining
4.	Neutralization Tank	50 KL	2	RCC M25+A/A Bk.Lining
5.	Flash Mixer	20 KL	1	RCC M25
6.	Primary Settling Tank	400 KL	1	RCC M25
7.	Aeration Tank	600KL	1	RCC M25
8.	Secondary Settling Tank	400KL	1	RCC M25
9.	Carbon Filter	20 m3/hr	1	MSEP/FRP
10.	Holding Sump	300KL	2	RCC M25
11.	RO Feed Tank	200 KL	1	RCC M25
12.	RO Unit	200 m3/Day	1	SS
13.	Caustic Dosing Tank	2 KL	1	HDPE
14.	Alum Dosing Tank	2 KL	1	HDPE
15.	Poly Dosing Tank	2 KL	1	HDPE
16.	Nutrient Dosing Tank	2 KI	1	HDPE

17.	Sludge Sump	30 L	1	RCC M25
Stream II (High COD & TDS stream)				
1.	Equalization cum Neutralization Tank	150 KL	1	RCC M25+A/A Bk.Lining
2.	Filter Press	48"X48"	1	PP FRP
3.	Flash Mixer-2	5 KL	1	RCC M25
4.	Primary Settler	100	1	RCC M25
5.	Holding Tank	200	1	RCC M25
6.	Strippers	100 M3/D	1	SS316
7.	MEE & ATFD	2.5 KL/hr	1	RCC M25
8.	MEE condensate collection	50KL	1	RCC M25
9.	Spray Dryer	4 KL/Hr	1	SS 316

Wastewater generation from the proposed production activity will be treated in ETP having capacity of 600 KLD

Capacity of STP : 15 KLD

Name of Unit	Nos	MOC	Capacity
Screen Chamber	1	Brick/RCC	2 KL
Screen BES	2	MS	-
Collection cum Equalization Tank	1	Brick/RCC	15 KL
Hopper Bottom Settling Tank	1	MSEP	5 KL
Intermediate Holding Tank	1 No.	MSEP	5 KL
Sand Filter	1 No	FRP	-
Activated Carbon Filter	1 No	FRP	-
Sludge Drying Beds	1 No.	MSEP	-
Online Disinfection System	1 set	U- PVC	-
Treated W/W Collection Tank	1 No.	RCC/ Brick Work	15 KL

21) TREATABILITY OF WATER

Characteristic of Process Waste Water

Parameter	High COD and TDS stream(from Process)	Low COD and TDS Stream (from Process)
Quantity (KLD)	102.69	410.75
pH	2.0	5.0
BOD(mg/L)	3400	1315.20
COD(mg/L)	20007	3705.40
TDS(mg/L)	59324	5928.20
Phenolic compound(mg/L)	2.0	0.01
Oil and grease(mg/L)	1.0	2.0
Ammoniacal nitrogen(mg/L)	60	10

Charecteristic of Dilute Waste Water

	Dilute Process	Washing	Scrubber Bleed Off	Composite Sample (Process + Washing+)
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	water			Scrubber Bleed off) to ETP
Quantity KLD	410.75	52	16	478.75
pH	5.0	5.0	4.0	6.0
Oil and Grease mg/lit	2.0	3.0	0	2.0
CODmg/lit	4205.40	2000	800	4000
BOD mg/lit	1315.20	700	250	1250
TDS mg/lit	3928.20	4000	5000	4846
Ammonical Nitrogen mg/lit	10	05	-	10
Phenolic Compound mg/lit	0.01	-	-	0.01

Treatability of Dilute Stream

Dilute Stream Treatability	Inlet of ETP	After primary Treatment	After Secondary Treatment	After Tertiary Treatment	Treated effluent Sent to CETP	CETP Norms	Treated effluent sent to RO	RO Permeate water	RO Reject Water – subjected to spray dryer
Quantity KLD	478.75	478.75	478.75	478.75	298	--	179.75	136.17	43.60
pH	6.0	7.5	7.65	7.6	7.6	7.5	7.6	7.5	7.8
Oil and Grease mg/lit	2.0	1.0	0.5	0.1	0.1	10	0.1	0.0	0.0
COD mg/lit	4000	3000	1275	700	700	3000	700	<100	1842
BOD mg/lit	1250	980	425	220	220	1000	220	<30	540
TDS mg/lit	4846	5100	5000	4800	4800	8000	2800	<100	1842
Ammonical Nitrogen mg/lit	10	8	2	1.0	1.0	50.0	1.0	0	0.1
Phenolic Compound mg/lit	0.01	0.01	0.01	0.01	0.01	5.0	0.01	0	0.01

Treatability of Concentrated Stream

Parameter	Concentrated stream (from Process)	Through solvent stripper	After primary treatment	MEE condensate water
pH	2.0	2.0	7.2	7 to 8
TSS (mg/L)	200	200	180	<10
BOD (mg/L)	3400	800	510	100
COD (mg/L)	20002	2300	1560	250
TDS (mg/L)	59324	59000	58000	300
Phenolic compound	2.0	1.0	0.8	-

		(mg/L)				
		Oil and grease(mg/L)	1.0	1.0	0.1	-
		Ammoniacal nitrogen(mg/L)	60	10.0	--	-
22)	SUMMARY OF WATER USE AND REQUIREMENT OF FRESH/REUSED WATER					
	Summary of water requirement		Quantity KLD	Remarks		
	Total water requirement for the project (A)		795.89	GIDC Water Supply		
	Quantity to be recycled (B)		225.70	225.17 = 12 KL Treated Sewage + 136.17 KLD –RO permeate + 30 KLD –MEE condensate+ 13 KLD-Cooling +34 KLD –Boiler		
	Total fresh water requirement (C)		570.72			
	Ensure Total water requirement = Recycled water + Fresh water i.e. A = B + C					
23)	REUSE, REDUCE, RECYCLE RECOVERY MEASURES ADOPTED					
	a) Reduce					
	Sr. No.	Item	Quantity	% percentage		
	--	--	--	--		
	b) Reuse					
	Sr. No.	Item	Quantity	% percentage		
	1	Treated Sewage	12	05.00		
	2	RO Permeate	136.17	61.00		
	3	MEE COndensate	30	13.00		
	4	Boiler Blow Down	34	15.00		
	5	Cooling Blow Down	13	06.00		
	c) Recycle					
	Sr. No.	Item	Quantity	% percentage		
	--	--	--	--		
	-					
24)	FLUE GAS EMISSION					
	Existing Scenario					
	Sr. No.	Stack/Vent attached to	Stack Height (meter)	Fuel name	Fuel Quantity	Type of Emission
	1.	Boiler (6 TPH)	30	LDO/FO	13.50	PM, SO2, NOx
						Adequate Stack Height of 30 m has been provided

2	Thermic Fluid Heater (6 Lac Kcal/hr)	30	N.G	2200 SCM/Hr	PM, SO ₂ , NO _x	Adequate Stack Height of 30 m has been provided
3.	D.G Set (2500 KVA)	11	HSD	1.9 KL/Day	PM, SO ₂ , NO _x	Adequate Stack Height of 30 m has been provided

Proposed Scenario

Sr. No.	Source of emission With Capacity	Stack Height (meter)	Type of Fuel	Quantity of Fuel	Type of emissions i.e. Air Pollutants	Air Pollution Control Measures (APCM)
1.	Boiler (6 TPH)	30	Coal or Agro Waste Briquettes	1440 Kg/Hr or 1800 Kg/Hr	PM, SO ₂ , NO _x	Bag Filter, Multi Cyclone Separator And Wet Scrubber
2	Boiler (5 TPH)	40	Coal or Agro Waste Briquettes	1200 Kg/Hr or 1500 Kg/Hr	PM, SO ₂ NO _x	Bag Filter, Multi Cyclone Separator And Wet Scrubber
3	Boiler (5 TPH)		Coal or Agro Waste Briquettes	1200 Kg/Hr or 1500 Kg/Hr	PM SO ₂ NO _x	
4	Boiler (1 TPH) (For MEE /Spray Dryer/ATFD)	30	Coal or Agro Waste Briquettes	240 Kg/Hr or 300 Kg/Hr	PM SO ₂ NO _x	Bag Filter, Multi Cyclone Separator And Wet Scrubber
5	Thermic Fluid Heater (6Lac KL/hr.)	30	Coal or Agro Waste Briquettes	260 Kg/Hr or 280 Kg/Hr	PM SO ₂ NO _x	Bag Filter, Multi Cyclone Separator And Wet Scrubber
6	Thermic Fluid Heater (10 Lac KL/hr.)	32	Coal or Agro Waste Briquettes	410 Kg/Hr or 451 Kg/Hr	PM SO ₂ NO _x	Bag Filter, Multi Cyclone Separator And Wet Scrubber
7	Thermic Fluid Heater (10 Lac KL/hr.)		Coal or Agro Waste Briquettes	410 Kg/Hr or 451 Kg/Hr	PM SO ₂ NO _x	Bag filter, Multi Cyclone Separator And Wet Scrubber
8	Hot Air	40	Coal	4000 Kg/Hr	PM	Bag Filter, Multi

	Generator (45 Lac Kcal) (2 Nos)	Common Stack	or Agro Waste Briquettes	or 4100 Kg/Hr	SO2 NOx	Cyclone Separator And Wet Scrubber
9	Hot Air Generator (25 Lac Kcal)	40	Coal or Agro Waste Briquettes	1080 Kg/Hr or 1150 Kg/Hr	PM SO2 NOx	Bag Filter, Multi Cyclone Separator And Wet Scrubber
10.	D.G. Set(2500 KVA)	11	HSD	1.9 KL/Day	PM SO2 NOx	Adequate Stack height and inbuilt aquatic enclosure

Comments:

- The proposed fuel to be used is approved fuel for the requirement of the heat energy and proposed the Air pollution Control measures and stack height so as to achieve the emission norms prescribed by the competent authorities are found satisfactory.

25) PROCESS GAS EMISSION

Sr. No.	Specific Source of emission (Name of the Product & Process)	Type of Emission	Stack Height (meter)	Air Pollution Control Measures APCM
1	Process Vent (Intermediate Plant)	HCl/ CL2, SO2	30	Water scrubber followed by Alkali scrubber
2	Process Vent(Intermediate Plant-2)	HCl/ CL2, SO2	30	Water scrubber followed by Alkali scrubber
3	Process Vent (CPC and its Derivatives Plant)	Ammonia	30	Two Stage Water scrubber
4	Process Vent (H Acid Plant)	HCl, Nox SO2	30	Water scrubber followed by Alkali scrubber
5	Process Vent (V.S Plant)	HCl, SO2	30	Water scrubber followed by Alkali scrubber
6	Process Vent (Dyes Plant-1)	HCl, SO2	30	Water scrubber followed by Alkali scrubber
7	Process Vent (Dyes Plant-2)	HCl, SO2	30	Water scrubber followed by Alkali scrubber

	8	Spray Dyer (2000 Kg/Hr)(for Process)(existing)	PM	30	Cyclone separator followed by two stage water scrubber with, water dipping tank and Enclosure of chimney in closed room.
	9	Spray Dyer (4000 Kg/Hr) (for Process)	PM	30	Cyclone separator followed by two stage water scrubber with, water dipping tank and enclosure of chimney in closed room.
	10	Spray Dyer (4000 Kg/Hr)(for process	PM	30	Cyclone separator followed by two stage water scrubber with, water dipping tank and Enclosure of chimney in closed room.
	11	Spray Dyer with inbuilt HAG (4000 Kg/Hr) for effluent treatment plant	PM Sox NOx	30	Cyclone separator followed by two stage water scrubber with, water dipping tank and Enclosure of chimney in closed room.
	12	Solvent Recovery System	VOD	30	Two Stage condensers followed by carbon tower
	13	Spin Flash Dryer (3000 kg/Hr)	PM	30	Bag Filter and Cyclone Separator
<p><u>Comments:</u></p> <p>➤ The proposed Air pollution Control measures and stack height so as to achieve the emission norms prescribed by the competent authorities are found satisfactory.</p>					
26)	FUGITIVE GAS EMISSION				
	Sr. No.	Source	Probable Pollutant Emission	Control Measures/ APCM	
	1	Solvent storage tank	Air pollutant (VOC)	Carry out work place area monitoring to find out concentration level in ambient air. Connected with vent condensers with chld brine circulation. Close handling system. Provision of breather valve cum flame arrester As per the Solvent Computability Chart Storage and handling will be done.	

	2	Solvent recovery system	Air pollutant (VOC)	Vacuum distillation Close handling system. There will be recovery of more than 98% solvent. Identify the Chemical streams that must be monitored. Condenser and scrubber post Reactor with cooling arrangement Condensed VOCs will be send to spent solvent recovery plant
	3	Handling of raw material bags in storage area	Air pollutant (PM)	Provision of exhaust ventilation Provision of PPE. Provision of Job rotation to reduce exposure.
	4	Flange joints of pipeline, pump & motors	Air pollutant (VOC)	Routine & periodic inspection to check leakage. Preventive Leak Free Pumps for transfer of solvents. MSW Gaskets in solvent pipelines to prevent leakage from flanges. Minimum number of flanges, joints and valves in pipelines All the rotating equipment's like pumps will be installed with Mechanical Seals to arrest any sort of emissions
	5	Solid raw material transferring to reactor	Air pollutant (PM)	. solid Raw material bags will be transferred to reactor through dedicated hopper.
	6	Liquid raw material transferring to reactor	Air pollutant (VOC)	Feeding of liquid raw material will be carried out by closed pipeline and mechanical seal pump. Feeding of Solvents & liquid raw materials will be carried out by closed pipeline and mechanical seal pump In case the small spillage or leakage observed, first pour the china clay (vermiculate) on material and collect the contaminated china clay (vermiculate) and send to ETP If the spillage is of inflammable liquid, switch off all the power supply in the area to prevent Electric Spark.
	7	Loading /unloading at storage area	Air pollutant (VOC)	Liquid material will Unloading through pipeline to tank in a close system.
	<p><u>Comments:</u></p> <p>The air pollution control measures proposed for fugitive gas emission are found satisfactory.</p>			
27)	HAZARDOUS PROCESSES AND ITS SAFETY MEASURES			
	Types of process		Safety measures including Automation	
	Amination		(A) Ammonia addition will be carried out under controlled temperature at low temperature. (B) All the end nozzles in ammonia charging hose will be blinded after use.	

		<p>(C) Safety Shower and eye wash will be provided near process area.</p> <p>(D) Emergency Siren and Wind-Sock will be provided.</p> <p>(E) In-case of an emergency, provision for telecommunication/SOS system will be created to immediately inform the concerned authority and take the corrective action.</p> <p>(F) Provision of Safety valve & rupture disc on reactor and the provision of auto dumping vessel.</p>
	Bromination	<p>(A) Bromine is a volatile red-brown liquid at the room temperature that evaporates readily to a similarly colored vapour and should be handled with care.</p> <p>(B) It will be stored in a glass lined vessel near to the plant where it will be utilized. Floors of the bromine storage will be of impervious construction such as concrete.</p> <p>(C) Area where bromine stored or used will be enclosed so that unauthorized persons are prevented from entering the area.</p> <p>(D) Personnel escape routes will be clearly marked and maintained without any obstructions including adequately sized doors and windows.</p> <p>(E) Adequate supply of water for washing will be provided. Showers and eyewash fountains will be provided, clearly marked, well-lit and with unobstructed access.</p> <p>(F) Emergency respirator equipment cabinets (Cupboard) will be installed at not more than 30 meters or 10 seconds walking distance from any location in the storage area.</p> <p>(G) Structure of the bromine storage area will be periodically inspected to ensure stability.</p> <p>(H) Charging of the Bromine will be done when the reactor is in vacuum and the POP coated funnel will be used while charging.</p> <p>(I) All the end nozzles in bromine charging hose will be blinded after use.</p> <p>(J) Excess Bromine will be neutralized or discharged by adding Sodium Bisulphite.</p> <p>(K) Exhaust hood with Alkali Scrubber vent capable of handling Bromine fumes will be attached to the reactor.</p> <p>(L) Safety Shower and eye wash fountains will be made available nearby storage and charging facility. The location of each above items will be periodically inspected to make sure they are in a good working condition.</p> <p>(M) Hypo solution, Lime water slurry will be made available at the location in case of spillage of Bromine to neutralize it.</p> <p>(N) Personnel handling the Bromine will be given adequate safety equipment such as safety goggles, Apron, SCBA Sets, face shields, rubber gloves etc to ensure worker safety.</p> <p>(O) Proper SOPs will be prepared for the safe operation and handling of the Bromine. Training will be given to operators for the Bromine Handling and charging. Only Trained operators will be allowed to operate on the Bromine machinery.</p> <p>(P) Working Instructions in the local language/Hindi/English will be displayed near the charging station.</p>
	Chlorination	<p>(A) Standard Operating procedures (SOPs) will be made for Training and guidance will be provided to the operators to follow the SOPs strictly.</p> <p>(B) Required PPEs like full body protection PVC apron, Hand gloves, gumboots, Respiratory mask etc. will be provided to operators.</p> <p>(C) Safety Shower and eye wash will be provided near process area.</p> <p>(D) Emergency Siren and Wind-Sock will be provided.</p> <p>(E) In-case of an emergency, provision for telecommunication/SOS system will be created to immediately inform the concerned authority and take the corrective action.</p> <p>(F) Provision of Safety valve & rupture disc on reactor and the provision</p>

		<p>of auto dumping vessel.</p> <p>(G) Neutralizing agent will be kept ready to tackle any emergency spillage.</p> <p>(H) First Aid Boxes will be available in process area and the employees will be trained to use the boxes if situation so arises.</p> <p>(I) Emergency team creation will be done and trained for any scenario base emergency such as Toxic control team, Fire control team, First aid team, communication and general administration team, medical team etc.</p> <p>(J) Water will be sprayed on reduce vapours and use of water directly on leak, spill area or inside container will be avoided.</p> <p>(K) Combustibles (wood, paper, oil, etc.) will be kept away from spilled material.</p>
	Hydrogenation	<p>(A) Hydrogen is a colourless, odourless, tasteless, flammable nontoxic gas which is flammable over a wide range of concentrations.</p> <p>(B) Hydrogen gas will be used within the plant premises. The Unit will allot separate storage area for hydrogen Bank for the direct use in the intermediate plant with airtight piping transfer. Hydrogen storage license will be obtained from PESO as per Gas cylinder rules.</p> <p>(C) DCS based controlling and operating of the Hydrogenation process will be installed and executed.</p> <p>(D) Standard Operating procedures (SOPs) will be made for storage and charging of Hydrogen Gas into reactor. Training and guidance will be provided to the operators to follow the SOPs strictly.</p> <p>(E) Nitrogen flushing will be done before starting and after completion of the Hydrogenation reaction.</p> <p>(F) Since the Hydrogenation process is conducted in the pressurized vessel conditions, Safety valve and rupture disc will be provided on the reaction vessel.</p> <p>(G) Safe Catalyst charging method will be adopted. Flame arrestor will be provided on vent line of reactor, and it will be extended above the roof level.</p> <p>(H) PRV station with shut off valve, safety valve provision will be made for hydrogenation reaction safety.</p> <p>(I) Static earthing and electric earthing (Double) will be provided on the reaction vessel and all the subject piping involved and all the electrical fittings will be flame proof.</p> <p>(J) Hydrogen gas detector will be installed for early detection of gas leak. One RCC wall having thickness 20 cm will be provided on all side of hydrogenation reactor to protect surrounding and other infrastructure during worst case scenario.</p>
	Nitration	<p>(A) Nitration will be carried out in the plant premises using the Nitric Acid, which is highly corrosive mineral acid and therefore the whole operation and storage should be handled with care.</p> <p>(B) The SOPS will be prepared for the Nitric acid Storage and the charging operation, and the operators will be trained for the safe charging of the Nitric Acid.</p> <p>(C) Required PPEs such as PVC aprons, hand gloves, gumboots, respiratory masks will be provided to operators for the safe charging of Nitric acid.</p> <p>(D) Two stage alkali scrubber capable of handling NO₂ fumes will be attached to the process vessel.</p> <p>(E) Neutralizing agent will be kept ready nearby in the event of spillage of Nitric Acid.</p> <p>(F) Safety Shower and eye wash will be provided near the process area.</p> <p>(G) The system will be fully enclosed from the storage tank to Measuring Vessel to the process vessel.</p> <p>(H) First Aid Boxes will be made available near the process area.</p> <p>(I) A fully functional DCS system will be implemented to control the nitration reaction and safe operation.</p>

	Sulphonation	<p>(A) Provisions of safety Valve & rupture disk on reactor. Provisions of auto dumping Vessel.</p> <p>(B) Required PPEs like full body protection PVC apron, Hand</p> <p>(C) gloves, gumboot, Respiratory mask etc. will be provided to operator.</p> <p>(D) To avoid runaway reaction, TC charging will be done gradually & slowly.</p> <p>(E) Charging will be done only through closed line and system.</p> <p>(F) Scrubber attached with closed system.</p> <p>(G) Neutralizing agent will be kept ready for tackle any emergency spillage.</p> <p>(H) Safety Shower and eye wash will be provided near process area.</p> <p>(I) Emergency siren and wind sock will be provided. Tele Communication system and mobile phone will be used in case of emergency situations for communication. Caution note and emergency first aid will be displayed and train for the same to all employees.</p> <p>(J) First Aid Boxes will be available in process area. Emergency organization and team will be prepared as per on site-Off site emergency planning.</p> <p>(K) Emergency team will be prepared and trained for scenario base emergency. Like Toxic control team, Fire control team, First aid team, communication and general administration team, Medical team etc.</p> <p>(L) Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.</p> <p>(M) Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain</p> <p>(N) Sulphonation is exothermic reaction leads to runaway reaction.</p> <p>(O) So, entire process of Sulphonation is to be followed as per standard operating procedure established by industry.</p> <p>(P) All engineering controls w.r.t Sulphonation process i.e. temperature and pressure controller, jacket surrounding to reactor etc. will be provided.</p> <p>(Q) Chilled water to control exothermic reaction during nitration.</p> <p>(R) SO_x fumes will be scrubbed in venturi Scrubber from the Sulphonation reactor.</p> <p>(S) Only trained person will be allocated for handling Sulphonation process.</p> <p>(T) Programmable Logic Controller (PLC) based control plan will be provided for Sulphonation. Direct Contact with skin and eyes will be avoided.</p> <p>(U) Appropriate personal protective equipment's like Safety Gloves, Goggles, shoes etc., will be provided to workers.</p> <p>(V) Periodically inspection of scrubber system will be carried out</p>
	Others, if any Oxidation Process	<p>(A) Oxidizers should be stored in a cool, dry place.</p> <ul style="list-style-type: none"> • Oxidizers must be segregated from organic material, flammables, combustibles and strong reducing agents such as zinc, alkaline metals, and formic acid. Oxidizing acids such as perchloric acid and nitric acid must be stored separately in compatible secondary containers away from other acids.
	Exothermic reaction	<p>(A) Reactant mass in reactor should be added such that surface-to volume ratio is maintained and runaway reaction is prevented.</p> <p>(B) Cooling – jacketed system for the reactor should be in place to maintain the reaction temperature.</p> <p>(C) All the Plant Personnel will be provided with Personal Protection.</p> <p>(D) Safety Valve and pressure gauge will be provided on reactor.</p> <p>(E) Utility like Chilling/cooling, vacuum, steaming and its alternative will be provided to control exothermic reaction parameters in a safe manner.</p> <p>(F) All employees will be given and updated in Safety aspects through</p>

		periodic training in safety. (G) Material Safety Data Sheets of Raw Materials & Products will be readily available that the shop floor. (H) Caution note, safety posters, stickers, periodic training & Updation in safety and emergency preparedness plan will be displayed and conducted.																																																																																																																																																									
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28)	SOLVENT MANAGEMENT (For example)																																																																																																																																																										
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				vent condensers with child brine circulation. Close handling system. Provision of breather valve cum flame arrester
2	Solvent Recovery System	VOC (Air Pollutant)		Vacuum distillation Close handling system. There will be recovery of more than 95-98% solvent.
3	Solvents & Liquid raw material transferring to reactor	VOC, Acid fumes (Air Pollutant)		Feeding of Solvents & liquid raw materials will be carried out by closed pipeline and mechanical seal pump
4	Flange joints of pipeline, pump & motors	VOC		Routine & periodic inspection to check leakage. Preventive

Comments for Sr No: 27,28 and 29:

- Measures for achieving maximum solvent recovery and minimize VOC generation, inclusive of VOC detectors, pumps, maintenance of pipelines, proper ventilation etc., provided are as per requirement.
- Spent solvents shall be recovered by in-house distillation in such a manner that recovery shall be achieved to the maximum extent and recovered solvent shall be reused in the process. Solvent recovery system with adequate reflux condensers shall be provided for controlling escape of low boiling solvents (VOCs).

30) LDAR PROPOSED

S. N.	Component	Frequency of monitoring	Repair preventive maintenance schedule
As example given below			
1.	Valves / Flanges	Quarterly (semi-annual after two consecutive period with < 2% leaks and annual after 5 periods with < 2% leaks)	Repair shall be started within 5 working days and shall be completed within 15 working days after detection of leak.
2.	Pump seal	Quarterly	
3.	Compressor seals	Quarterly	
4.	Pressure relief devices	Quarterly	
5.	Pressure relief devices (after venting)	Within 24 hrs.	
6.	Process drains	Annually	Repair shall be started within 5

	7.	Components that are difficult to monitor	Annually	working days and shall be completed within 15 working days after detection of leak.					
	8.	Pump seals with visible liquid dripping	Weekly	Immediately					
	9.	Any component with visible leaks	Weekly	Immediately					
	10.	Any component after repair / replacement	Within a week	-					
The Following methodology to be adopted during LDAR study: 17) Identify the Chemical streams that must be monitored. 18) Types of components (pumps, valves, connectors, etc.) to be monitored 19) Frequency of monitoring. 20) Actions to be taken if a leak is detected. 21) Length of time in which an attempt to repair the leak must be performed. 22) Actions that must be taken if a leak cannot be repaired within guidelines. 23) Record-keeping and reporting requirements.									
31)	LDAR FOR SPECIFIC SOLVENT (For example)								
	Sr. No.	Solvent Name	Type of Storage	Mode of Transfer	Charging	Sources of Leakage	Mitigation Measure For find out leakages	Mitigation Measure (If leakages shall be occur)	Action taken for prevention of leakages
	1	Aniline/ EDA/ Ethanol / Ether /Butyl Acetate / IPA/ Iso Butanol / MCB/ MDC/ Methanol/ O Xylene/ ODCB/ ONT/ Ortho/P ara Anisole/ Toluene	Tank/ drum	By Pump & Fix Pipe line	Direct Vessel	<ul style="list-style-type: none">Leak from Valve (failure of the valve packing & O-ring)Leak from pump (Occur at seal)Leak from tankLeak from ConnectorsLeak from open ended lines	<ul style="list-style-type: none">For using Gas Detector by PID Sensor technology.	<ul style="list-style-type: none">If valve shall be leak stop pumping system and replace with new valve. When pump seal shall be leak immediately stop solvent transfer and immediately repair or replace with new seal.	<ul style="list-style-type: none">Check Thickness of tankUsing fix pipeline for solvent transferMinimum use of Connectors & JoinsProvided sufficient Space (Solvent Unloading area) for Solvent Tanker

32) **HAZARDOUS WASTE MANAGEMENT MATRIX**

Sr. No.	Type/Name of Hazardous waste	Specific Source of generation (Name of the Activity, Product etc.)	Category and Schedule as per HW Rules.	Quantity (MT/Annum)	Management of HW
1	Used Oil	From Moving Machineries	Sch-I 5.1	0.70	Collection, Storage, Transportation and Sent to GPCB approved recycler
2	Discarded barrels/containers/ liners	From Handling of Raw Material/s	Sch-I 33.1	15	Collection, Storage, Transportation and Sent back to supplier / to GPCB approved recycler
3	ETP Sludge	From Waste Water Treatment	Sch-I 35.3	120	Collection, Storage, Transportation and Sent to TSDF site for secured land filling
4	MEE /Spray Dryer Salt	From MEE & Spray Dryer	Sch-I 35.3	270	Collection, Storage, Transportation and Sent to TSDF site for secured land filling
5	Iron Sludge	Process	Sch-I 26.1	3067.40	Collection, Storage, Transportation and Disposal at Nearest TSDF or sell to Cement Industries
6	Gypsum Sludge	Process	Sch-I 26.1	2576.03	Collection, Storage, Transportation and sell to Cement Industries or Disposal at Nearest TSDF

	7	Distillation n Residue	From Process	Sch-I 36.1	529.66	Collection, Storage, Transportation and sell to Cement Industries for Co-processing or Disposal at Common Incineration Site
	8	Spent Sulphuric Acid (10-50%)	Process	Sch-I 26.3	2978.97	Collection, Storage, Transportation and Reuse in isolation process of H- Acid, Gamma Acid, J Acid within premises, Excess Quantity will be sent to NOVEL Vatva/ end user with permission under Rule – 9.
	9	Spent Acetic Acid (7%)	Process (Vinyl Sulphone, Base Dyes)	Sch-I 26.3	197.30	Collection, Storage, Transportation and Reuse in Direct Dyes, Acrylic Dyes, Vinyl Sulphone & Azo Pigments. Excess Quantity will be sent to NOVEL Vatva/ end user with permission under Rule – 9.
	10	Spent HCl (32%)	Process (Vinyl Sulphone) & Scrubber	Sch-I 26.3	977.51	Collection, Storage, Transportation and Resuse in Acid Dyes, Reactive Dyes, Direct Dyes, CPC Base Dyes & Pigments (1800). Excess Quantity will be sent to end user with permission under Rule – 9.
	11	Spent Phosphoric Acid (32%)	Process (Quinacridone Pigment, Pigment violet 19)	Sch-I 26.3	770.01	Collection, Storage, Transportation and Sell to Sodium Phosphate manufacturing unit, Detergent Industries & pharmaceutical Industries. Excess Quantity will be sent to end user with permission under

					Rule – 9.
12	PPA (Poly Phosphoric Acid)	Process (Pigment violet 19)	Sch-I 26.3	5.14	Collection, Storage, Transportation and Reuse in next batch of Quinacridone Pigment (909).
13	Ammonium Bisulphate	Process	Sch- I/26.1	456.60	Collection, Storage, Transportation and Sell to pharmaceutical Industries.
14	Recovered R-Salt	Process (K-Acid, Direct blue 80)	Sch- I/26.1	25	Collection, Storage, Transportation and sell to Dye manufacturer or captive use (Direct Dyes).
15	Spent Carbon	Process	Sch-I 26.5	47.95	Collection, Storage, Transportation to Cement Industries for co – Processing or will be sent for Disposal at Nearest common Incinerator Site.
16	Residue from Solvent Stripper	Solvent Stripper	Sch-I 26.4	30	Collection, Storage and send to CHWIF for incineration
17	15 % NaCl Solution	Scrubber	Sch- I/26.1	250	Collection, Storage and send to ETP for further treatment
18	Sodium Bisulfite (25%)	Scrubber	Sch- I/26.1	221	Collection, Storage and reuse in process or sell to end user who is having Rule-9 permission.

19	Scrubber Bleed Off	Scrubber	26.1	525	Collection storage and treatment in ETP within premises
20	Ammonium Sulphate	Process	Sch- I/26.1	200	Collection, Storage and sell to end user who is having Rule-9 permission
21	Spent Catalyst	Process	Sch-I 26.5	1.49	Collection Storage and return to manufacturer for regeneration
22	Ammonium Carbonate	Process	Sch- I/26.1	400.00	Collection, Storage and sell to end user who is having Rule-9 permission

Comments:

- Hazardous waste management includes collection, storage, transportation and disposal at TSDF, captive/ common incineration, co-processing/ pre-processing, sold to authorized actual users having Rule-9 permission and recycle/ reuse of waste. SEAC examined the details provided and found it as per requirement.

33) NON-HAZARDOUS WASTE MANAGEMENT MATRIX

Type/Name of non-hazardous waste	Specific Source of generation (Name of the Activity, Product etc.)	Quantity (MT/Annum)			Management of HW
		Existing	Proposed	Total	
Fly Ash	Utilities	00	2786	2786	Collection ,Storage and sell to brick manufacturer or

					utilize for landfilling within plant premises.
STP Sludge	STP	00	30	30	Collection ,Storage, utilize for Gardening within premises as a manure

Comments:

- Other wastes management includes collection, storage, transportation and disposal by selling to actual users and recycle / reuse of waste. SEAC examined the details provided and found it as per requirement.

34) STORAGE SAFETY MEASURES**a) Storage of Hazardous chemicals in Tanks**

Sr. no	Name of Chemical	Capacity of Tank	Number of Tanks	Hazardous Characteristics of Chemical
TANK FARM (NON-PESO)				
1	Sulphuric acid [98%]	30 KL	3	Toxic
2	Nitric acid	30 KL	3	Toxic
3	Oleum [65 %]	30 KL	5	Toxic
4	Oleum [23 %]	30 KL	5	Toxic
5	Phenol	20 KL	1	Flammable
6	Acetic Acid	20 KL	2	Toxic
7	Thionyl Chloride	15 KL	1	Toxic
8	Nitrogen	Cylinder	43	Asphyxia
9	Oxygen	90 kg cylinder	6	Toxic
10	Hydrochloric Acid	50 KL	5	Toxic
TANK FARM (PESO)				
11	Ethylene Oxide	7 KL	1	Flammable
12	Meta Chloro Benzene	10 KL	1	Flammable
13	Methanol	30 KL	2	Flammable & Toxic
14	Acetic Anhydride	25 KL	2	Flammable
15	Chlorine	900 kg Tonners	19	Toxic
16	Ethanol	20 KL	2	Flammable
17	Ethylene Chloride	1000 kg Tonners	10	Flammable
18	Hydrogen	47 kg	1	Flammable
19	Toluene	15 KL	1	Flammable

Safety Measures for PESO Underground storage tank farm:

- Some chemicals will be received at plant in drums by road truck and stored in a separate drum storage area.
- FLP type light fittings will be provided.
- Proper ventilation will be provided in go down.
- Proper label and identification board /stickers will be provided in the storage area.
- Conductive drum pallets will be provided.
- Drum handling trolley / stackers/fork lift will be used for drum handling. Separate dispensing room with local exhaust and static earthing provision will be made.
- Materials will be stored as per its compatibility study and separate area will be made for flammable, corrosive and toxic chemical drums storage.

Smoking and other spark, flame generating item will be banned from the Gate

b) Storage of Hazardous chemicals other than Tanks i.e. Drum, Barrels, Carboys, Bags etc.

Sr. no	Name of Chemical	Capacity of Drum/Bag/ Cylinder/ Glass Bottle	Number of Drum/Bag/ Cylinder/ Glass Bottle	Storage
1.	(4-(N-Methyl-n-Beta ethyl amino benzaldehyde)	50 Kgs	16	HDPE Bag
2.	0.2 % NaOH/KOH	200 Lit	1	HDPE Drum
3.	1 Amino Anthraquinon	50 Kgs	205	HDPE Bag
4.	1 Diazo	50 Kgs	25	HDPE Bag
5.	1,3,3 Trimethyl-2-Methylene Indoline	200 Lit	4	HDPE Bag
6.	1:2:4 Diazo	50 Kgs	33	HDPE Drum
7.	1:6 CLEVES ACID	50 Kgs	31	HDPE Bag
8.	1:8 DCAQ	50 Kgs	45	HDPE Bag
9.	1:8 Diamino Naphthalene	50 Kgs	25	HDPE Bag
10.	1:8 Dichloro Anthraquinone	50 Kgs	49	HDPE Bag
11.	2 Amino 2,5 Disulphone	50 Kgs	603	HDPE Bag
12.	2 Amino 6 Methoxy Benzothiozole	50 Kgs	20	HDPE Bag
13.	2 Carbonyl Pyridone	50 Kgs	200	HDPE Bag
14.	2 Chloro Ethanol	200 Lit	3	HDPE Drum
15.	2 Methyl Indole	200 Lit	5	HDPE Drum
16.	2,3,3 Indoline	50 Kgs	144	HDPE Bag
17.	2,4 DNCB	50 Kgs	759	HDPE Bag

18.	2,4 DNCS	50 Kgs	468	HDPE Bag
19.	2,4 Xyledine	200 Lit	10	HDPE Drum
20.	2,5 Dimethoxyaniline	200 Lit	30	HDPE Drum
21.	2,5 DMAVS	50 Kgs	296	HDPE Bag
22.	2,6-dibromo-4- methylaniline	50 Kgs	35	HDPE Bag
23.	2-5 DCA	50 Kgs	14	HDPE Bag
24.	2-5 Dichloro SPMP	50 Kgs	37	HDPE Bag
25.	2B Acid	50 Kgs	30	HDPE Bag
26.	2-Chloro 4-Nitroaniline	50 Kgs	6	HDPE Bag
27.	2-Cyano PNA	50 Kgs	10	HDPE Bag
28.	2EHA	200 Lit	2	HDPE Drum
29.	2-ethylhexane-1- amine	200 Lit	6	HDPE Drum
30.	2-methylaniline	200 Lit	7	HDPE Drum

Safety measures for Hazardous Chemicals:

Type of Hazardous Chemicals	Safety measures
FLAMMABLE & EXPLOSIVE	<ul style="list-style-type: none"> Storage shall be cool, well ventilated away from sources of ignition or heat. Prevent accumulation of static charge. Protect material from direct sunlight. Store in original container. Keep containers tightly closed and upright when not in use. Proper label and identification board /stickers shall be provided in the storage area. Conductive drum pallets shall be provided. Drum handling trolley / stackers/fork lift shall be used for drum handling. Separate dispensing room with local exhaust and static earthing provision shall be made. Ground container and transfer equipment to eliminate static electric sparks. Smoking and other spark, flame generating item shall be banned near storage area. FLP type light fittings shall be provided. Handling of materials from Drum shall be done only through Mechanical Transfer System only. Training shall be provided to employees for safe storage, handling and transpiration. When using, do not eat, smoke or drink. Fire Hydrant with monitor, fire proximity suits, automatic sprinkler system, Safety shower & eye wash unit shall be installed nearby area. Provision of Respiratory protective equipment (airline respirator & SCBA) & personal protective equipment shall be available. For spills involving small volumes of dilute solution of Xylene/Formaldehyde/Methanol, the following cleaning procedure can be used Wear appropriate personal protective equipment (PPE) Remove any ignition source from the spill area; Clean the spill area with a mixture of water and soap Dry the spill area with paper towels <p>Onsite emergency plan prepared and mock drill shall be carried out. Safety sign board displaying Do's and Don'ts in local language.</p>
CORROSIVE & CHEMICALS	<ul style="list-style-type: none"> Preventing or minimizing contact between corrosive substances and skin, mucous membranes and eyes. Corrosive substances shall not be allowed to come in contact with materials that may react. All the containers, pipes, apparatus, installations and structures used for the manufacture, storage, transport or use of these substances shall be protected by suitable coatings, impervious to and unaffected by corrosives.

		<ul style="list-style-type: none"> • All containers or receptacles shall be clearly labelled to indicate their contents and shall bear the danger symbol for corrosives. • Adequate ventilation and exhaust arrangement whether general or local, shall be provided whenever corrosive toxic gases or dust are present. • Personal protective devices shall be used. • First aid treatment facilities shall be provided and all concerned shall be instructed to follow safe practices such as (a) Prolonged washing with water (b) Removing contaminated clothing (c) Seeking immediate medical help. • Safety showers and eye washers shall be provided.
	TOXIC CHEMICALS	<ul style="list-style-type: none"> • Storage shall be cool, well ventilated away from sources of ignition or heat. Prevent accumulation of static charge. Protect material from direct sunlight. • Store in original container. Keep containers tightly closed and upright when not in use. • Proper label and identification board /stickers shall be provided in the storage area. • Conductive drum pallets shall be provided. • Drum handling trolley / stackers/fork lift shall be used for drum handling. Separate dispensing room with local exhaust. • Ground container and transfer equipment to eliminate static electric sparks. • Handling of materials from Drum shall be done only through Mechanical Transfer System only. Unloading procedure shall be prepared and implemented. • Training shall be provided to employees for safe storage, handling and transpiration. • Safety shower & eye wash unit shall be installed nearby area. • Required PPEs like full body protection PVC apron, Hand gloves, gumboot, Respiratory protective equipment (airline respirator & SCBA) etc. shall be provided to operator • For spills involving small volumes, the following cleaning procedure can be used <ul style="list-style-type: none"> • wear appropriate personal protective equipment (PPE) • clean the spill area with a mixture of water and soap • Neutralizing agent shall be kept ready for tackle any emergency spillage • Onsite emergency plan prepared and mock drill shall be carried out. Safety sign board displaying Do's and Don'ts in local language.
	REACTIVE CHEMICALS	<ul style="list-style-type: none"> • Store minimum quantities. • Segregate chemicals, e.g. from water, air, incompatible chemicals, sources of heat, ignition sources. • Spillage control; bund, spray, blanket, containment. Drain to collection pit. • Decontamination and first-aid provisions, e.g. neutralize/destroy, fire-fighting <ul style="list-style-type: none"> • Contain/vent pressure generated to a safe area. • Split-up stocks into manageable lots, e.g. with reference to fire loading/spillage control. • Ensure appropriate levels of security, hazard warning notices, fences, patrols. Control access including vehicles. • Appropriate gas/vapour/fume/pressure venting, e.g. flame arrestors, scrubbers, absorbers, stacks. • Shall ensure adequate natural or forced general ventilation of the storage area Provide adequate, safe lighting. • Label (name and number); identify loading/unloading/transfer couplings. • Provide appropriate fire protection (sprinkler, dry powder, gas). • Shall ensure adequate access for both normal and emergency purposes with alternative routes
35)	FIRE LOAD CALCULATION	
	Total Plot Area:	75500 m2
	Area utilized for plant activity:	18317 m2

	Area utilized for Hazardous Chemicals Storage:	40542 m2						
	Number of Floors:	Ground Floor + 3						
	Water requirement for firefighting in KLD:	101 KLD						
	Water storage tank provided for firefighting in KLD:	300 KLD						
	Details of Hydrant Pumps:	One electricity jockey pump – 300 LPM One diesel jockey pump – 300 LPM						
	Nearest Fire Station :	Bharuch Nagar Palika Fire Station						
	Applicability of Off Site Emergency Plan:	Bharuch District Emergency Plan						
<p><u>Comments:</u></p> <p>The project proponent has proposed fire safety plan which includes fire hydrant line, sprinkler system, fire extinguishers, fire suits, covering the project area and provides for fire water storage tank of 300 KL. SEAC found it as per the requirement.</p>								
36)	<p>WORKERS SAFETY AND OCCUPATIONAL HEALTH MANAGEMENT</p> <ul style="list-style-type: none"> ➤ Management will provide necessary PPEs, safety equipment/ materials as mentioned in above section of risk reduction to ensure healthy & safe work conditions. – PERSONNEL PROTECTIVE EQUIPMENT(PPE) ➤ Regular inspection for the safety procedures and use of PPEs & Safety equipment/material is done by the management/safety cell. - WORK PERMITS, INSTALLTION OF SAFETY EQUIPMENTS & GAURDS ➤ Premedical examination and periodical examination will be carried out once in a six month and record will be maintained in Form No-32 & 33 as per GFR. - PERIODIC MEDICAL EXAMINATION ➤ Training programs & safety audit shall be done on regular basis to prevent impacts of the operational activities on occupational health as well as to improve workplace condition & safe work system. – TRAINING & AUDIT ➤ Provision of First Aid Facility (First Aid Box) At Each Plant, SCABA Set, Air Line Respiratory Devices – EMERGENCY EQUIPMENTS <p>Providing of Workman Compensation Policy to each employee of the plant– WORKMAN COMPENSATION POLICIES</p> <p><u>Comments:</u></p> <p>Project proponent has provided PPEs, Occupational health center (OHC) with adequate provision of manpower, equipment and operational cost. SEAC finds it as per the provisions of Gujarat Factory Rules 1963.</p>							
37)	<p>DETAILS OF MEMBERSHIP OF COMMON FACILITIES:</p> <table border="1"> <thead> <tr> <th>Sr. No .</th><th>Membership for Common Facility</th><th>Membership Certificate issuing agency along with Date of Issue and validity of membership</th></tr> </thead> <tbody> <tr> <td>01</td><td>CETP</td><td>Name of CETP: Saykha CETP</td></tr> </tbody> </table>		Sr. No .	Membership for Common Facility	Membership Certificate issuing agency along with Date of Issue and validity of membership	01	CETP	Name of CETP: Saykha CETP
Sr. No .	Membership for Common Facility	Membership Certificate issuing agency along with Date of Issue and validity of membership						
01	CETP	Name of CETP: Saykha CETP						

			Date of Issue of membership along with validity: 07-03-2020 Capacity of CETP (KLD): -- Allotted Capacity (KLD) to member unit: Letter No: GIDC/DEE/DRG/BRH/130 Dated 07.03.2020 Spare Capacity (KLD) of CETP: --
	02	TSDf site	Name of TSDf: BEIL Infrastructure Limited Letter Dated 8.11.2022 Capacity of TSDf (MT): 1900000 MT Allotted Capacity (MT) to member unit: 920264 MT Spare Capacity (MT) of TSDf: 979735.97
	03	Common Hazardous Waste Incineration Facility	SEPPL Letter Date 16.1.2021
	04	Common Spray Drying Facility	Not Applicable
	05	Common MEE Facility	BEIL Infrastructure Limited Letter dated Dated 8.11.2022
	06	Common Conveyance System	GIDC/DEE/DRG/BRH/130 Dated 7.3.2020 Membership No :MEE/OTH/062
	07	PESO permission	Will be obtain after getting EC & CTE
	08	FIRE permission	Will be obtain after getting EC & CTE
	09	Health Certificate	Will be obtain after getting EC & CTE
	-		
38)	EMERGENCY MEASURES PROPOSED AND PREPAREDNESS ACTION PLAN Disaster Management Plan has been prepared along with On-site & Off-site Emergency Response Plan Emergency Management Plan is proposed here to meet the extremely adverse situations caused by the various hazardous accident scenarios. Mock drills are to be carried out in association with district authorities. Any weak points observed during the mock drills are to be strengthened. DMP is prepared to furnish details which may require at the time of the emergency, to delegate responsibility, to estimate the consequences in advance and to prepare ourselves to control any type of emergency. The plan explains basic requirements as follows: <ul style="list-style-type: none"> • Definition • Action on site • Objectives • Link with Off-site Emergency Plan 		

- Organization set up
- Training rehearsal and record aspect
- Communication System

Off-site Emergency Plan Structure of the Off-site Emergency Plan:

This off-site emergency plan will be integrated properly with the district contingency plan to tackle any kind of emergency. The site main controller will keep liaison for this purpose with the district authorities.

External telephone facilities from Plant to Local Fire Station, Mutual Aid Members, and Disaster Prevention & Management Centre will be established for quick communication.

The names of the key persons will be defined to establish contacts and Co-ordinate the activities with the help of the collectorate and disaster management center in case of major emergency.

An on-site emergency control room has been identified by unit, which can be activated/used for emergency control and manned round the clock.

As far as off-site emergencies are concerned, information shall be received first by the police control room on telephone next information to local fire brigade on telephone and to DPMC. The police / fire brigade control room shall in turn inform DSP, Collector.

The safety department and individual plant will maintain the list of quantities of resources like breathing air sets, rescue masks, fire extinguishers, water resources etc. available with various industries in the vicinity which can be used under Mutual Aid System to tackle such emergencies after receiving call from them.

39) CER ACTIVITIES PROPOSED YEAR WISE/ IN CASE OF EXPANSION ANY ADDITIONALITY SUGGESTED AND ITS COMPLIANCE (AS PER THE MOEF & CC GUIDELINES)

Total cost of Project (Rs in Crores)	Total Cost of CER (Rs in Crores or Lakhs)	Percentage (%)
51 Crores (expansion Cost)	0.51	1%

Sr No	Activities	Name of Villages	Cost (Rs in Lakhs or Crores)
1	8 nos. of Solar Street Light will be Provide in the village common area	(Gram Panchayat area) of Vahiya & Cholahad Village.	19
2	Plantation (2000 Trees every year) in nearby villages area (in addition	Saykha, Vahiya and Cholahad village	12

	mandatory greenbelt)		
3	Vermicompost manure (2500 Bags) supply in farms of nearby villages for organic farming	Saykha, Sadathala village	20
	Total		51

CER is 1% of the proposed project cost i.e. 51 lakhs.

Comments:

As per MoEF&CC's OM dated: 01.05.2018 and 30.09.2020, SEAC examined that the proposed cost of CER i.e 1 % (Rs 51 Lakhs/) which is as per the requirement.

40) **ENVIRONMENT MANAGEMENT PLAN (ESPECIALLY WITH CEPI AND NON CEPI GUIDELINES, AS MAY BE APPLICABLE)**

Sr. No	Unit	Detail	Capital Cost (Rs. In Lakhs or Crores)	Total Recurring Cost (Rs. In Lakhs or Crores per Annum)
1	Wastewater	ETP/STP/MEE/Stripper/etc. (mention individual cost whichever applicable) maintenance and pollutants monitoring	3.5	1.5
2	Air	APCM, utility, D G Set, etc. (mention individual cost whichever applicable) maintenance and stack emission pollutants monitoring	4	2
3	Solid Waste Hazardous Management	Capital cost would include expense for providing storage area for hazardous waste and recurring cost would be for solid/ hazardous waste packing & its disposal and for the membership of TSDF site & Incineration Facility	2.8	0.85
4.	Occupational Health Fire Fighting & Safety	Fire Hydrant, Fire Safety & fire water storage tank, Trailer Driven Pump, PPEs; Proximity Suit, DCS + Flame proof electrical fittings, Fire Extinguishers; Foam Type Trolley, automatic control system, mock drills, etc.	4.0	1.0

		(mention individual cost whichever applicable)		
5	Green Belt Development	Capital cost would include cost of plant species and labor cost, soil filling, soil dressing and recurring cost would include cost of maintenance of that green belt including cost of required water for plant growth	0.20	0.10
6.	Occupational Health	O.H.C, OHS Training of staff, Miscellaneous, etc. (mention individual cost, mock drills, whichever applicable)	0.30	0.10
7.	Noise Control	Acoustic enclosure; Silencer ; Vibration pads; Noise PPEs, etc. (mention individual cost whichever applicable)	0.30	0.10
8.	VOC Control & LDAR	Installation of Recovery system, LDAR equipment , operation ,handling and monitoring	2.00	0.50
9	CER Activity	As per Plan	0.51	0
			17.61	6.15
Total				

Comments:

The overall environment management plan (EMP) provided for capital and recurring cost for wastewater treatment, air emission control, noise control, hazardous waste disposal, fire & safety, occupational health, environment monitoring program, green belt and corporate environmental responsibility was deliberated and found satisfactory.

41) RECOMMENDATIONS OF SEAC

"On the basis of information provided to SEAC on project, its location, technical, physical and environmental infrastructure, products, quantity to be manufactured, its raw material, storage, waste disposal, water treatment, safety measures, green belt development planning, regulatory compliance assured of related statutory provisions, necessary documents of requisite permissions provided from concerned departments and overall environmental management planning for the project, along with financial resources committed for operation and maintenance, and on the basis of presentation made before SEAC, modification suggested by SEAC and incorporated by project proponent, SEAC finds the project as per the requirement and **unanimously** recommends the same to SEIAA for

	environmental clearance."
	Conditions with which Environment Clearance is recommended:
42)	<p>GENERAL CONDITIONS</p> <p><u>Construction Phase</u></p> <p>a) "Wind – breaker of appropriate height i.e. 1/3rd of the building height and maximum up to 10 meters shall be provided. Individual building within the project site shall also be provided with barricades.</p> <p>b) "No uncovered vehicles carrying construction material and waste shall be permitted."</p> <p>c) "No loose soil or sand or construction & demolition waste or any other construction material that cause dust shall be left uncovered. Uniform piling and proper storage of sand to avoid fugitive emissions shall be ensured."</p> <p>d) Roads leading to or at construction site must be paved and blacktopped (i.e. – metallic roads).</p> <p>e) No excavation of soil shall be carried out without adequate dust mitigation measures in place.</p> <p>f) Dust mitigation measure shall be displayed prominently at the construction site for easy public viewing.</p> <p>g) Grinding and cutting of building materials in open area shall be prohibited.</p> <p>h) Construction material and waste should be stored only within earmarked area and road side storage of construction material and waste shall be prohibited.</p> <p>i) Construction and demolition waste processing and disposal site shall be identified and required dust mitigation measures be notified at the site. (If applicable).</p> <p><u>SPECIFIC CONDITIONS:</u></p> <p>1. Unit shall install CEMS [Continuous Emission Monitoring System] in line to CPCB directions to all SPCB vide letter no. B-29016/04/06PCI-1/5401 dated 05/02/2014 for effluent discharge and air emission as per pollutants discharge/emission from respective project and an arrangement shall also be done for reflecting the online monitoring results on the company's server, which can be assessable by the GPCB/CPCB on real time basis. [For Small/Large/Medium (Red Category) & Whichever (Air emission & Effluent discharge) is applicable].</p> <p>2. The National Ambient Air Quality Emission Standards issued by the Ministry vide G. S. R. No. 826 (E) dated 16th November, 2009 shall be complied with.</p> <p>3. National Emission Standards for Organic Chemicals Manufacturing Industry issued by the Ministry vide G. S. R. 608 (E) dated 21/07/2010 and amended from time to time shall be followed. (In case of other than Pharma and dyes)</p> <p>4. National Emission Standards for Dye and dye intermediates Industry issued by the</p>

Ministry vide G. S. R. 325 (E) dated 07/05/2014 and amended from time to time shall be followed. (In case of Dyes).

5. Unit shall have to adhere to the prevailing area specific policies of GPCB with respect to the discharge of pollutants, and shall carry out the project development in accordance & consistence with the same.

6. All measures shall be taken to avoid soil and ground water contamination within premises.

7. Safety & Health:

a) PP shall obtain PESO permission for the storage and handling of hazardous chemicals. (If applicable).

b) PP shall provide Occupational Health Centre (OHC) as per the provisions under the Gujarat Factories Rule 68-U.

c) PP shall obtain fire safety certificate / Fire No-Objection certificate (NOC) from the concern authority as per the prevailing Rules / Gujarat Fire Prevention and Life Safety Measures Act, 2016.

d) Unit shall adopt functional operations/process automation system including emergency response to eliminate risk associated with the hazardous processes.

e) PP shall carry out mock drill within the premises as per the prevailing guidelines of safety and display proper evacuation plan in the manufacturing area in case of any emergency or accident.

f) PP shall install adequate fire hydrant system with foam trolley attachment within premises and separate storage of water for the same shall be ensured by PP.

g) PP shall take all the necessary steps for control of storage hazards within premises ensuring incompatibility of storage raw material and ensure the storage keeping safe distance as per the prevailing guidelines of the concerned authority.

h) PP shall take all the necessary steps for human safety within premises to ensure that no any harm is caused to any worker/employee or labour within premises.

i) Flame proof electrical fittings shall be provided in the plant premises, wherever applicable.

j) Unit shall never store drum/barrels/carboys of incompatible material/chemical together.

k) Unit shall provide effective Isolation for Process area and storage of hazardous chemicals.

l) The project management shall prepare a detailed Disaster Management Plan (DMP) for the project as per the guidelines from Directorate of Industrial Safety and Health.

m) Unit shall obtain all required permissions from the Narcotics Control Bureau for

manufacturing, storage and handling of Acetic Anhydride & any such chemicals.

- n) Provide double earthing to solvent storage tanks: (1) Unit shall provide effective fire hydrants, water monitors & foam application system at solvent storage tank farm area. (2) Unit shall provide adequate safety system such as water sprinklers, water curtains, foam pouring system etc. to restrict cascade fire emergency in solvent tank farm.
- o) Unit shall never store drum/barrels/carboys of incompatible material/chemical together.
- p) Unit shall provide water sprinkler to the ammonia storage cylinder.
- q) Unit shall Store Bromine Bottle in cool dry separate area, out of direct sunlight.
- r) Unit shall provide safety valve & rupture disc to the Hydrogenation vessel.
- s) Unit shall provide chlorine leakage control emergency kit and FRP hood with scrubber system for chlorine safety.
- t) Unit shall provide safety valve and rupture disc, as well as auto dump or auto quench/, suppress system for nitration vessel safety.
- u) Unit shall provide safety valve and rupture disc, as well as auto dump or auto quench/, suppress system for exothermic reaction vessel safety.
- v) Unit shall provide a spare tank with emergency transfer system and bund/ dyke wall to Oleum storage tank.

WATER

- 8. Total water requirement for the project shall not exceed 795.89 KLD. Unit shall reuse 225.70 KLD of treated effluent within premises. Hence, fresh water requirement shall not exceed 570.72 KLD and it shall be met through GIDC Water Supply only. Prior permission from concerned authority shall be obtained for procurement of water.
- 9. The industrial effluent generation from the project shall not exceed 628.45 KLD.
- 10. Management of Industrial effluent shall be as under:

Concentrated Stream (102.70 KLD)

- ✓ 102.70 KLD high concentrated stream generated from process (102.70 KLD) shall be treated in Solvent Stripper & ETP for further treated in-house MEE (41.19 KLD) and 1.5 KLD spent solvent shall be send to CHWIF and remaining 60 KLD shall be send to common MEE of BEIL Infrastructure Limited. In-house MEE condensate (30 KLD) shall be reuse into process and 6.19 KLD shall be send to in-house spary dryer.

Dilute Stream (525.75 KLD):

- ✓ 478.75 KLD effluent generated from process (low COD) (410.75 KLD), Washing

(52 KLD), Scrubber (16 KLD) shall be treated into ETP followed by RO and RO permeate (136.17 KLD) shall be reused in process and RO reject (43.60 KLD) sent to in-house spray dryer and treated effluent (298 KLD) from ETP shall be discharge into CETP of Saykha only after complying with the inlet norms of CETP prescribed by GPCB to ensure no adverse impact on Human Health and Environment.

- ✓ 47 KLD of effluent generated from cooling blowdown (13 KLD) and Boiler blowdown (34 KLD) shall be reuse in washing.

11. Domestic wastewater generation shall not exceed 12 KL/day for proposed project and it shall be treated in STP. It shall not be disposed off into soak pit. Treated sewage shall be utilized for gardening and plantation purpose within premises after achieving on-land discharge norms prescribed by the GPCB.
12. During monsoon season when treated sewage may not be required for the plantation / Gardening / Green belt purpose, it shall be stored within premises. There shall be no discharge of waste water outside the premises in any case.
13. Unit shall provide buffer water storage tank of adequate capacity for storage of treated waste water during rainy days.
14. Treated waste water shall be sent to common facilities (CETP, Common MEE,) only after complying with the inlet norms of common facilities prescribed by GPCB to ensure no adverse impact on Human Health and Environment.
15. The PP shall ensure to dispose off Waste water to the Common Facilities having valid CTO of GPCB.
16. Unit shall feed wastewater to in-house MEE only after ensuring content of effluent for COD/VOC so as not to get air borne during evaporation in order to achieve no adverse impacts on Environment and Human Health.
17. Treated wastewater shall be subjected to in-house spray dryer only after achieving inlet norms prescribed by GPCB ensuring content of effluent for COD so as not to get air borne during spray drying after APCM in order to achieve no adverse impacts on Environment and Human Health.
18. Unit shall provide STP and ETP with adequate capacity.
19. The unit shall provide metering facility at the inlet and outlet of ETP and maintain records for the same.
20. Proper logbooks of ETP; reuse/ recycle of treated/ untreated effluent; chemical consumption in effluent treatment; quantity & quality of treated effluent sent to common

facilities; power consumption etc. shall be maintained and shall be furnished to the GPCB from time to time.

AIR:

21. Unit shall not exceed fuel consumption for Boilers, Thermic Fluid Heaters, Hot Air Generator and D G Set as per the point no. 24 as mentioned above.

22. PP shall use approved fuels only as fuel in Boilers, Thermic Fluid Heaters, Hot Air Generator and D G Set.

23. Unit shall provide adequate APCM with flue gas generation sources to achieve the norms prescribed by GPCB.

24. Unit shall provide adequate APCM with process gas generation sources as the point no. 25 as mentioned above.

25. The fugitive emission in the work zone environment shall be monitored. The emission shall conform to the standards prescribed by the concerned authorities from time to time (e.g. Directors of Industrial Safety & Health). Following indicative guidelines shall also be followed to reduce the fugitive emission.

- Internal roads shall be either concreted or asphalted or paved properly to reduce the fugitive emission during vehicular movement.
- Air borne dust shall be controlled with water sprinklers at suitable locations in the plant.
- A green belt shall be developed all around the plant boundary and also along the roads to mitigate fugitive & transport dust emission.

26. Regular monitoring of Volatile Organic Compounds (VOCs) shall be carried out in the work zone area and ambient air.

27. For control of fugitive emission, VOCs, following steps shall be followed :

- i. Closed handling and charging system shall be provided for chemicals.
- j. Reflux condenser shall be provided over Reactors / Vessels.
- k. Pumps shall be provided with mechanical seals to prevent leakages.
- l. Air borne dust at all transfers operations/ points shall be controlled either by spraying water or providing enclosures.

28. Solvent management shall be carried out as follows:

- ✓ Measures shall be taken to reduce the process vapors emissions as far as possible. Use of toxic solvents shall be minimum. All venting equipment shall have vapour recovery system
- ✓ Reactor shall be connected to adequate chilling system to condensate solvent vapors and reduce solvent losses.
- ✓ Reactor and solvent handling pump shall have mechanical seals to prevent leakages.

- ✓ The condensers shall be provided with sufficient HTA and residence time so as to achieve maximum solvent recovery.
- ✓ Solvents shall be stored in a separate space specified with all safety measures.
- ✓ Proper earthing shall be provided in all the electrical equipment wherever solvent handling is done.
- ✓ Solvent storage and handling area shall be flame proof. The solvent storage tanks shall be provided with breather valve to prevent losses.

29. Close loop solvent recovery system with adequate condenser system shall be provided to recover solvent vapours in such a manner that recovery shall be maximum and recovered solvent shall be reused in the process within premises.

30. Leak Detection and Repair (LDAR) program shall be prepared and implemented as per the CPCB guidelines. LDAR Logbooks shall be maintained.

31. Regular monitoring of ground level concentration of PM₁₀, PM_{2.5}, SO₂, NO_x, HCl, Cl₂, Ammonia, VOD and VOCs shall be carried out in the impact zone and its records shall be maintained. Ambient air quality levels shall not exceed the standards stipulated by the GPCB. If at any stage these levels are found to exceed the prescribed limits, necessary additional control measures shall be taken immediately. The location of the stations and frequency of monitoring shall be decided in consultation with the GPCB.

HAZARDOUS / SOLID WASTES:

32. All the hazardous/ solid waste management shall be taken care as per the point no. 32 and 33 as mentioned above.

33. Authorized end-users shall have permissions from the concerned authorities under the Rule 9 of the Hazardous and Other Wastes (Management and Transboundary Movement) Rules 2016.

34. Unit shall explore the possibilities for environment friendly methods like co-processing of hazardous waste for disposal of Incinerable & land fillable wastes before sending to CHWIF & TSDF sites respectively.

35. The project proponent has to obtain membership of TSDF site & CHWIF before obtaining CTO of GPCB.

36. STP sludge shall be collected and used as manure in gardening activity or send to TSDF site for landfilling.

37. Management of fly ash shall be as per the Fly ash Notification 2009 & its amendment time to time and it shall be ensured that there is 100% utilization of fly ash to be generated from the unit.

38. The unit shall submit the list of authorized end users of hazardous wastes along with MoU signed with them at least two months in advance prior to the commencement of

production. In the absence of potential buyers of these items, the unit shall restrict the production of the respective items.

GREENBELT AREA

39. The PP shall develop green belt within premises (24915 Sq. m i.e. 33 % of the total plot area) as submitted before SEAC. Green belt shall be developed with native plant species that are significant and used for the pollution abatement as per the CPCB guidelines. It shall be implemented within 3 years of operation phase in consultation with GPCB.

OTHERS:

40. The project proponent shall carry out the activities of amount of Rs. 0.51 Crores (8 nos. of Solar Street Light will be Provide in the village common area at (Gram Panchayat area) of Vahiyal & Cholad Village, Plantation (2000 Trees every year) in nearby villages area (in addition mandatory greenbelt) at Saykha, Vahiyal and Cholad village and Vermicompost manure (2500 Bags) supply in farms of nearby villages for organic farming at Saykha, Sadathala village) proposed under CER and it shall be part of the Environment Management Plan (EMP) as per the MoEF&CC's OM no. F. No. 22-65/2017-IA.III dated 30.09.2020. This shall be monitored and the monitoring report shall be submitted to the regional office of MoEF&CC as a part of half-yearly compliance report and to the District Collector. The monitoring report shall be posted on the website of the project proponent.

41. All the recommendations, mitigation measures, environmental protection measures and safeguards proposed in the EIA report of the project prepared by M/s. Green Circle Inc and submitted by the project proponent and commitments made during presentation before SEAC and proposed In the EIA report shall be strictly adhered to in letter and spirit.

43) COMPLIANCE AND ADMINISTRATION/APEAL OF EC ORDERS

1. Project proponent shall inform to all the concerned authorities including Municipal Corporation and District Collector and shall also give wide publicity through advertisement in minimum two local newspapers within seven days, about the Environment Clearance order accorded.
2. Project proponent shall appoint a key person in the organization who shall be responsible for compliance of above condition fully on behalf of the proponent. It will not mean that appointing a key person will exempt the project proponent from the responsibility of compliance. Any change in key person shall immediately be informed to SEIAA and all concerned authorities.

	<p>3. Designated key person shall submit six monthly compliance report to SEIAA/SEAC, MOEF&CC, GPCB and Nodal Department of the Government.</p> <p>4. The Nodal Department or any authority or officer authorized by MOEF&CC/SEIAA can inspect the site of the project and all the facilities, for verification of compliances of environment clearance conditions.</p> <p>5. In case of violation reported upon, the project proponent shall be responsible for all the legal actions as per Environment Protection Act, 1986 including SEIAA may cancel, withdraw or keep in abeyance, the Environment Clearance accorded.</p> <p>6. Any person including the project proponent affected by this Environment Clearance order may file appeal to Honorable National Green Tribunal West Zone branch, Pune, preferably within a period of thirty days from the date of issue of Environment Clearance as prescribe under section 16 of National Green Tribunal Act 2010.</p> <p>7. All complains and public grievance or representations may be addressed to SEIAA/SEAC in the email addresses (a) msseiaagj@gmail.com& (b) seacgujarat@gmail.com</p>
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6.	SIA/GJ/IND3/430648/2023	M/s. Pentaphos Industries Private Limited Plot No. 830/4. Jhagadia Industrial Estate, Tal: Jhagadia, Dist.: Bharuch- 393110	EC – Reconsideration
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Category of the unit: **5(f) – B1**

Project status: **EC –Expansion**

Project located either in CEPI or non CEPI : non CEPI

PP submitted salient features of the project including Water, Air and Hazardous waste management are as under from Sr. No. 1, 3 to 40. And in Sr. No. 2 detailed deliberation of Committee is mentioned. Comments of SEAC is given in relevant points.

1)	DETAILS OF APPLICATION:	
	1.1. Type of application:	EC (New) (CCA obtained for inorganic products)
	1.2. Proposal no.	SIA/GJ/IND3/430648/2023
	1.3. Category of Project:	5 (f) – B1
	1.4. Date of application:	30/5/2023
	1.5. Date of EDS by SEIAA a) EDS Raised b) Reply by PP	--
	1.6. Date of EDS by SEAC a) EDS Raised	--

	b) Reply by PP c) Accepted by SEAC	14/06/2023
	1.7. TOR No. & Date :	SIA/GJ/197510/2020 dated 28/10/2020
	1.8. Date and place of Public Hearing	Not Applicable. Unit is located within Notified Industrial Estate of GIDC Jhagadia.
	1.9. Name of accredited Environmental Consultant & address along with Accreditation No. & Validity	M/s. Aqua-Air Environmental Engineers Pvt. Ltd. 403-404, Centre Point, Nr. Kadiwala School, Ring Road, Surat-395002, Gujarat, India NABET/EIA/2023/SA 0196 Valid up to 08/04/2024
	1.10. SEAC Meeting No. and Date:	SEAC Meeting No. 684 Dated 01/09/2023
	1.11. ADS raised by SEAC meeting No & date :	SEAC Meeting No. 684 Dated 01/09/2023
	1.12. Reply Submitted by PP dated:	02/01/2024
	1.13. Revised Consideration SEAC Meeting No. and Date:	SEAC Meeting No. 764 Dated 19/01/2024
-		
2)	DELIBERATIONS OF SEAC: <ol style="list-style-type: none"> 1) This is an existing unit proposed for manufacturing of synthetic organic chemicals. 2) The project falls under B1 category of project activity 5(f) as per the schedule of EIA Notification 2006. 3) The proposal was considered in the SEAC video conference meeting dated 01.09.2023. 4) Project proponent (PP) and their Technical Expert M/s Aqua Air Environmental Engineering Pvt. Ltd. remain present during video conference meeting. 5) During meeting, PP presented and Committee noted the following details/ documents: <ul style="list-style-type: none"> ✓ Unit has obtained CCA for inorganic product vide letter no. AWH-111101 date of issue 12/01/2021 valid up to 29/10/2025 & CTE –Amendment Order No: 114651; date of issue 30/10/2021 valid up to 30/5/2028. PP submitted that there is no any action taken by GPCB in last three years, no legal court case and no public complaint against unit. ✓ GIDC Plot transfer letter dated: 17.03.2019 from M/s J C Engineers to M/s Pentaphos Industries Pvt Ltd mentioning purpose as establishment of Engineering and Fabrication industry. Further PP has obtained GIDC letter dated: 01.08.2022 for change of purpose mentioning establishment of Engineering and Chemical industry. 6) Committee noted that as per MoEF&CC's OM dated: 08.06.2022, PP has not obtained Certified Compliance report (CCR) of RO-GPCB for existing CCA for inorganic products. 	

- 7) **After detailed deliberation, Committee unanimously decided to defer the proposal and consider the same in upcoming SEAC meeting only after submission of Certified Compliance report (CCR) of RO-GPCB for existing CCA for inorganic products.**
- 8) PP has submitted reply of above query generated on SEAC VC meeting, through Parivesh portal.
- 9) This proposal is reconsidered in SEAC VC meeting dated: **19.01.2024.**
- 10) PP along with their consultant, M/s. Aqua Air Environmental Engineering Pvt. Ltd. remains present in the meeting and made presentation before Committee.
- 11) Consultant M/s. Aqua Air Environmental Engineering Pvt. Ltd. has submitted undertaking dated : 06.09.2023 stating that they valid NABET accreditation certificate and entire EIA/EMP work including field study, data collection, data analysis and report preparation is been carried out by them and their staff.
- 12) SEIAA has issued Standard ToRs (Auto ToR) vide letter no.SIA/GJ/197510/2020 dated 28.10.2020.
- 13) Committee deliberated on Product profile, Layout plan, Storage details, Process safety, Fire safety, water balance & waste water management, Flue gas and process gas emission & Air Pollution Control System, Hazardous waste matrix, EMP, CER, Green belt, etc.
- 14) Committee deliberated on baseline environmental data and quality has been assessed for various components of the environment viz. air, noise, water, biological and socioeconomic aspect.
- 15) Committee noted that baseline study period was 1st October 2020 to 31st December 2020. So committee asked PP to submit the clarification on baseline study period that whether it is valid for this EC application since three years is completed.
- 16) Risk assessment including prediction of the worst-case scenario and maximum credible accident scenarios has been carried out. The detailed proposed safeguard measures including On-Site / Off-Site Emergency Plan has been covered in the RA report.
- 17) There is no earlier EC. The unit is having valid Consolidated Consent & Authorization (CC&A) from Gujarat Pollution Control Board vide CC&A order no.: AWH: 111101 dated 12.01.2021 with validity up to 29.10.2025 for existing CCA of one Inorganic Products. PP has thereafter obtained CTE – Amendment order no.: CTE-114651 dated 30.10.2021 with validity up to 30.05.2028 for addition new Inorganic Products. PP has submitted CCR obtained from GPCB for compliance of CC&A conditions for existing plant as per OM dated 08.06.2022 of MoEF &CC. Out of 47 Conditions, it may seen that 44 are complied, 1 is partly complied and 2 are Not complied. PP has submitted

action plan for non-compliance and partially compliance conditions which is found satisfactory.

18) PP mentioned that Closure direction under Section-31A of the Air Act 1981 dated 08/09/2022 was issued by GPCB in last three years and Stay over direction under sec. 31-A was issued on 06.01.2023 for three months then again stay over directions was issued on 08.09.2023 for three months. Further PP mentioned that they have applied for extension of revocation on 23.10.2023. PP submitted that there is no legal court case and public complaint against unit.

19) During meeting committee asked for following details:

- ✓ Clarification regarding Baseline data period.
- ✓ Submit the list of Member Industries that include the name of the M/s. Pentaphos Industries Pvt Ltd. in order to obtain NCT discharge permission.

20) Later on PP has submitted following details through email:

- ✓ PP has mentioned that company has obtained TOR vide letter no. SIA/GJ/197510/2020 dated 28/10/2020. Company has submitted EC application vide proposal no. SIA/GJ/IND3/430648/2023 dated on 30/5/2023 and SEAC EC consideration Meeting (i.e.684th Meeting) was held dated on 01/09/2023. The baseline environmental quality was assessed in the winter season from 1st October 2020 to 31st December 2020 in a study area of 10 km radial distance from the project site and it is incorporated in EIA report. As per OM, F. No. IA3-22/10/2022-IA.III [E 177258] dated 8th June, 2022 States that "The baseline data and Public Hearing shall not be more than three years old at the time of submission of application for consideration of EC." Therefore, the baseline period was valid at the time of submission of EC application and during the EC consideration meeting since it was not older than 3 years.
- ✓ Initially during TOR application, EC application and in EC Presentation, we have shown treated Low COD effluent will be disposed of into deep sea discharge of M/s. NCT. But, as discussed during 764th SEAC meeting, the unit does not have name in the list of Member Industries published by GPCB. So, now company will send treated effluent (Low COD Effluent) to CMEE of M/s. BEIL. [i.e. Low COD Effluent (20 KL/Day) from process will be treated in ETP which consist of phenton treatment. After phenton treatment, effluent (20 KL/Day) will be treated in secondary and tertiary treatment. Treated effluent (20 KL/Day) will be sent to CMEE of M/s. BEIL.]. Please refer revised water balance & CMEE membership certificate.

	21) Committee found presentation and reply submitted by PP was satisfactory. 22) Since the proposed project is located in notified industrial area, public consultation is not required as per paragraph 7(i) (III) (I) (b) of the Environment Impact Assessment Notification 2006.			
3)	EIA REPORT (BASELINE STUDIES AND RISK ANALYSIS)			
	Sr no	Particulars	Details (Give brief note / Conclusion of the particular subject)	Page no., Section no. & chapter no. of EIA report
	a	Ensure that there is no change in EIA report w. r. t. ToR i.e. Form-1 & PFR	<ul style="list-style-type: none">At the time of TOR application, vide proposal no:SIA/GJ/IND2/57807/2020 dated 27 October 2020, company did not obtained CCA. Subsequently on 12 January 2021 they received the CCA Copy (vide letter no. AWH-111101 date of issue 12/01/2021 valid upto 29/10/2025) & CTE Copy (vide letter no. AWH-111101 date of issue 30/10/2021 valid upto 31/05/2028). Unit has not obtained EC for existing operation as inorganic products are not covered under EIA Notification 2006. Hence, In EC application we have added the Product list which includes inorganic products. Also, we have added Energy Consumption, Fuel used as per existing CCA & CTE.During Form-1 application, we have shown Soak pit/Septic tank for the Domestic wastewater disposal. However, at the time of EC Application we have shown as Domestic wastewater will be sent to STP and will be reuse in toilet flushing or in gardening.We have shown treated Low COD effluent will be disposed of into deep sea discharge of M/s. NCT in TOR application. But, as discussed during 764th SEAC meeting, the unit does not have name in the list of Member Industries published by GPCB. So, now company will send treated effluent (Low COD Effluent) to CMEE of M/s. BEIL.	Section 2.10.3, Chapter -2 of EIA Report(Page no. 43)
	b	Baseline environmental monitoring period	Winter Season (1st October 2020 to 31st December 2020) [Note: Company has obtained TOR vide letter no. SIA/GJ/197510/2020 dated 28/10/2020. Company has submitted EC application vide proposal no.	Section-3.1, Chapter-3 of EIA Report (Page No. 61)

		<p>SIA/GJ/IND3/430648/2023 dated on 30/5/2023 and SEAC EC consideration Meeting (i.e.684th Meeting) was held dated on 01/09/2023. The baseline environmental quality was assessed in the winter season from 1st October 2020 to 31st December 2020 in a study area of 10 km radial distance from the project site and it is incorporated in EIA report.</p> <p>As per OM, F. No. IA3-22/10/2022-IA.III [E 177258] dated 8th June, 2022 states that "The baseline data and Public Hearing shall not be more than three years old at the time of submission of application for consideration of EC." Therefore, the baseline period was valid at the time of submission of EC application and during the EC consideration meeting since it was not older than 3 years.]</p>	
c	<p>Whether baseline data is primary or secondary data?</p> <p>1) If baseline data carried out by other NABL accredited laboratory then MoU between both.</p> <p>2) If baseline data is taken from another EIA report, then MoU between NABET consultant and industry whose data used in preparing present EIA report and time period of baseline data shall be as per MoEF&CC's OM dated: 08.06.2022.</p>	<p>Primary Baseline Data.</p> <p>Baseline data is collected by Aqua-Air Environmental Engineers Pvt. Ltd. Which is a NABL & MoEF Accredited Testing Laboratory</p>	
d	Baseline study area (Km)	10 km	Section – 3.3.6, Figure – 3.3, Table No. 3.8, Chapter – 3 of EIA Report (Page No. 68)
AIR			
e	No. of AAQM stations	10 No. of AAQM stations including project	Section – 3.4,

	including project site	site	Table No. 3.9, Chapter – 3 of EIA Report (Page No. 71)																																																													
f	Parameters considered for AAQM including project specific parameters.	Suspended Particulate Matter, Respirable Suspended Particulate Matter (RSPM-PM10), Respirable Suspended Particulate Matter (RSPM- PM2.5), Sulphur Dioxide (SO ₂), Nitrogen Oxide (NO _x), Ammonia (NH ₃), Ozone (O ₃), Lead (Pb), Arsenic (As), Nickel (Ni), Benzene (C ₆ H ₆), Hydro Carbon (HC), & Carbon Monoxide (CO), VOCs, Hydrogen Chloride (HCL), Chlorine (Cl ₂), H ₂ S	Section-3.4, Table – 3.9, Chapter – 3 of EIA Report.																																																													
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g	Whether the results of AAQM is within the norms prescribed in NAAQS? If no, give reasons as per EIA report	Results of all parameters are found within NAAQS limit.	Section – 3.4.1, Page No. 75, Chapter – 3 of EIA Report																																																													
h	Comments for AAQM results w. r. t. NAAQS	<ul style="list-style-type: none"> During the study PM₁₀ concentration was observed in the range of 71.64 – 78.48 µg/m³. Maximum concentration of PM₁₀ was found at Selod (78.48 µg/m³), which is well within the standard limit. 	Section – 3.4.1, Page No. 75, Chapter – 3 of																																																													

		<ul style="list-style-type: none"> During the study PM_{2.5} concentrations was observed in the range of 41.97 – 46.64 µg/m³. Maximum concentration of PM_{2.5} was found at Project Site (46.64 µg/m³), which is well within the standard limit. During the study SO₂ concentration was observed in the range of 12.37 – 16.68 µg/m³. Maximum concentration of SO₂ was found at Project Site (16.68 µg/m³), which is well within the standard limit. During the study NO_x concentration was observed in the range of 14.95 – 17.87 µg/m³. Maximum concentration of NO_x was found at Kararvel (17.87 µg/m³), which is well within the standard limit. During the study O₃ concentration was observed in the range of 10.09 – 11.23 µg/m³. Maximum concentration of O₃ was found at Project Site (11.23 µg/m³), which is well within the standard limit. 	EIA Report
i	Software used for the mathematical Modelling for anticipated incremental GLCs (Ground Level Concentrations)	Industrial source complex- short term (ISCST3) Dispersion model is a steady-state Gaussian Plume model.	Section-4.7 (Page No. 240, Chapter-4 of EIA Report.
j	The resultant concentrations w. r. t. NAAQS and its conclusion.	The PM ₁₀ and PM _{2.5} concentrations at all the AAQM locations were primarily caused by local phenomena including industrial & vehicular activities and natural dust getting air borne due to manmade activities and blowing wind. PM ₁₀ and PM _{2.5} concentrations were observed below stipulated standards of CPCB for Industrial and Residential Area at all air quality monitoring locations during the monitoring period. Results of all parameters are found within limit. The interpretation relates to the results found for particular locations and date of monitoring.	Section – 3.4.1, Page No. 75, Chapter – 3 of EIA Report
WATER			

k	No. of monitoring stations including project site wrt water a) Groundwater b) Surface water	There were 10 nos. of ground water and 3 nos. of surface water monitoring stations including project site.	Section 3.6.1, Table-3.11, Chapter-3 of EIA report
l	Conclusion of the Monitoring during baseline study of water (ground water and surface water)	Ground Water Quality: Based on comparison study with drinking water standards, it is interpreted that water samples collected from the villages should not be directly used in drinking but can be used in other domestic purposes like washing, bathing, and irrigation. It can be observed that ground water qualities in terms of various essential and desirable characteristics are found within the limits specified by IS 10500:2012. Surface Water Quality: There are two ponds & one river considered in the study area. However, these water is not used for domestic/industrial activities; as the raw water is easily available through pipelines of local authorities. These water sources cannot be utilized for drinking but the water of these ponds can be used in irrigation. The water quality is good and it was observed that all the parameters are well within the range of acceptance criteria as per IS: 10500.	Section 3.6.1, Chapter-3 of EIA report
m	No. of monitoring stations including project site wrt soil	There were 10 nos. of monitoring stations including project site wrt soil	Section 3.7, Table-3.12, Chapter-3 of EIA report.
n	Conclusion of the Monitoring during baseline study of land / soil	The concentration of available Nitrogen, Phosphorous and Potassium in the soil samples signifies that the soil of the area is fertile.	Section 3.7, Chapter-3 of EIA report.
o	No. of monitoring stations including project site wrt Noise.	9 Nos. of Residential Locations, 4 Nos. of Transportation Locations and 11 Industrial Locations. Total 24 Nos. of Locations within 10 km Radius	Section 3.5, Table-3.10, Chapter-3 of EIA report.
p	Conclusion of the Monitoring during baseline study of Noise	Based on noise level data obtained during the survey for residential area and industrial area, it is interpreted that noise levels are within the standard norms prescribed by CPCB.	Section 3.5, Chapter-3 of EIA report.
q	Any other details: a) Details of carbon footprint: <u>When coal is used:</u> Scope1 Direct GHG emissions		

a) Fossil fuel emissions: Diesel & Imported Coal

Total Scope 1 emissions (t CO₂ eq. /year) = 10203.3 t CO₂ eq. /year

Scope 2 emissions: Electricity

Total Scope 2 emissions (t CO₂ eq. /year)= 4199.04 t CO₂ eq. /year

Scope 3 emissions : due to raw material transportation & Water consumption and waste water generation

Total Scope 3 emissions (t CO₂ eq. /year)= 81.316 t CO₂ eq. /year

Total emissions (Scope 1 + Scope 2 + Scope 3): 18682.696 t CO₂ eq. /year

Mitigation Measures

Carbon sequestration: Emissions that will be reduced (t CO₂ eq./year)
(Inside trees-1312Nos.): 1484.82 t CO₂ eq./year

Total Gross emissions for Coal : 18682.696 t CO₂ eq. /year

Total emissions reduction: 1484.82 t CO₂ eq. /year

Net emissions (gross emissions – emission reduction) = 17197.876 t CO₂ eq. /year

The emission reduction percentage: 10.25 %

When Briquettes are used

Scope1

Direct GHG emissions

a) Fossil fuel emissions: Diesel & Imported Coal

Total Scope 1 emissions (t CO₂ eq. /year) = 93.24 t CO₂ eq. /year

Scope 2 emissions: Electricity

Total Scope 2 emissions (t CO₂ eq. /year)= 4199.04 t CO₂ eq. /year

Scope 3 emissions : due to raw material transportation & Water consumption and waste water generation

Total Scope 3 emissions (t CO₂ eq. /year)= 81.316 t CO₂ eq. /year

Total emissions (Scope 1 + Scope 2 + Scope 3): 4373.596 t CO₂ eq. /year

Mitigation Measures

Carbon sequestration: Emissions that will be reduced (t CO₂ eq./year)
(Inside trees-1312Nos.): 1484.82 t CO₂ eq./year

Total Gross emissions for Coal : 4373.596 t CO₂ eq. /year

Total emissions reduction: 1484.82 t CO₂ eq. /year

Net emissions (gross emissions – emission reduction) = 2888.776 t CO₂ eq. /year

The emission reduction percentage: 33.94 %

b) Details of water footprint:

Blue Water Footprint- 9720+ 24552-(10692) = 23580 KL/Year

Green Water Footprint- 7099.2 KL/Year

Grey Water Footprint- 39.7 m³/ day of effluent is generated.

Disposed water is of standard parameters, so water required to rejuvenate polluted water will be zero.

Hence Grey Water Footprint = 0

Total Water Footprint = 23580 + 7099.2 + 0 = 30679.2 KL/Year

Total Water footprint = 30679.2 KL/Year

Blue Water Footprint is the most significant amongst three i.e., 76.85 %

Recycled water used = 29.7 KLD= 10692 KL/Year

c) Details of carbon sequestration:

Carbon sequestered through the greenbelt plantation: 33.94%

d) Details of roof top rain water harvesting and reuse within premises: Not Applicable

r Details of Schedule-I species and its conservation plan, if any

Sr. No.	Animal Type	Scientific Name (Zoological Name)	Local Name	WPA 1972 (2022 Amendment) Status	IUCN Status	Total Conservation Budget
1.	Grey mongoose	<i>Urva edwardsi</i>	Nolio	I	LC	35000/-
2.	Shikra	<i>Accipiter badius</i>	Shakro	I	LC	35000/-
3.	Indian peafowl	<i>Pavo cristatus</i>	Mor	I	LC	35000/-
4.	Barn Owl	<i>Tyto alba</i>	Revide vi Ghuvad	I	LC	35000/-
5.	White-Eyed Buzzard	<i>Butastur teesa</i>	Shwet Nen Teeso	I	LC	35,000/-
6.	Indian ratsnake	<i>Ptyas mucosa</i>	Dhamano	I	LC	35000/-
7.	Indian cobra	<i>Naja naja</i>	Nag	I	LC	35000/-
8.	Indian Python	<i>Python molurus</i>	Ajgar	I	NT	35000/-
TOTAL						2,80,000/-

Conservation Plan has been submitted to PCCF, Chief Wildlife Warden, Govt. of Gujarat State, Aranya Bhavan, Sector-10, Gandhinagar Dated 23/11/2022.

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4) RISK ANALYSIS & ITS MITIGATION MEASURES IN GENERAL AS GIVEN IN EIA REPORT

- From the Risk Assessment studies conducted, it would be observed that by and large, the risks are confined within the factory boundary walls.
- Based on these studies company has been proposed to plan its facility sitting as well as location of operator cabin, open area, etc.
- Company has to increase awareness programme in the surrounding vicinity and educate people for safe evacuation at the time of toxic release.
- A HAZOP study to be carried out for all product plant and storage facilities.
- Induction safety course to be prepared and trained all new employees before starting duties in plant.

5) **PRODUCT PROFILE AND BRIEF NOTE OF PRODUCT PROFILE**

Sr. No	Name of the Products	CAS no.	As per Existing CCA	As per CTE – Amend ment	For Propo sed EC Quant ity MT/M onth	End-use of the products
	Organic Products					
1	3, CPC – Chloro Pivaloylchloride	4300-97-4	--	--	100	Used as a Pharmaceutical chemical intermediate
2	MITC (Methyl Iso Thio Cyanate)	556-61-6	--	--	200	Used as a Pharmaceutical chemical
3	Glutaraldehyde	111-30-8	--	--	100	Used as a Fire retardant/Disinfectant
4	Diethyl Phosphite (DEP)	762-04-9	--	--	50	Used as a Flame retardant
5	Dimethyl Phosphite (DMP)	868-85-9	--	--	50	Used as a Flame retardant
6	Diphenyl methyl phosphate	7526-26-3	--	--	50	Used as a Flame retardant
7	TriButyl Phosphate (TBPO)	126-73-8	--	--	50	Used as a Fire retardant
	Inorganic Products					
	Magnesium Turnings	7439-95-4	1000	1000	--	--
	Magnesium Granuals		--	1000	--	--
	Magnesium Powder		--	500	--	--
	Coated Magnesium Powder (90% to 99%)		--	500	--	--

	Total Organic Products	600 MT/Month	
	Total inorganic Products	3000 MT/Month	

Note: At the time of TOR application, vide proposal no :SIA/GJ/IND2/57807/2020 dated 27 October 2020, company did not obtained CCA. Subsequently on 12 January 2021 they received the CCA Copy (vide letter no. AWH-111101 date of issue 12/01/2021 valid upto 29/10/2025) & CTE Copy (vide letter no. AWH-111101 date of issue 30/10/2021 valid upto 31/05/2028). Unit has not obtained EC for existing operation as inorganic products are not covered under EIA Notification 2006. However, unit has applied for environmental clearance for Setting up of Specialty Chemicals Manufacturing Unit at Plot No. 830/4, Jhagadia Industrial Estate, Tal: Jhagadia, Dist: Bharuch- 393110, Gujarat to SEAC Gandhinagar. Hence, this is new project and only inorganic operation is there at site.

Brief Note of Product Profile:

- No of Manufacturing Plants: 2
- Brief Note regarding number of Products to be manufactured considering plant capacity: at a time 2 products will be manufacture

6) **PROJECT DETAILS (COST/LAND OWNERSHIP/NA PERMISSION ETC.)**

a) Total **cost of Proposed** Project (Rs. in Crores):

Total
10 Crores

Break-up of proposed project Cost:

Details	Total (Rs. In Crores)
Land	0.95
Building	1.00
Plant & Machinery	4.18
EMP	3.87
Total	10

b) **Details of Land / Plot ownership details:** (Linking between Land ownership and PP is required.)

- Total Plot area (sq mt):** 15900 Sq. m.
- GIDC Plot Allotment letter/ NA documents:** Transfer of industrial plot no. 830-4 at Jhagadiya industrial Estate; GIDC/RM/ANK/CO/PRO/JHA2/3 date:01/08/2022
- Rent agreement, if any** Not Applicable
- Other Land Possession documents, if any** Not Applicable

7) **IF IT IS EXPANSION WHETHER CCR/EARLIER EC COMPLIANCE GIVEN:**

Sr. no.	Particulars	Brief Information/Details	Remarks
1	Earlier Environmental	Company does not have EC for	--

		Clearance (EC) details[EC letter no. and date & obtained from MoEF&CC/SEIAA.]	existing unit.	
	2	In case EC not obtained for existing project: Copy of first CTE (NOC) & CCA obtained from GPCB i.e. before 14/09/2006. (For justification that you have not obtained EC for existing project).	Company does not have EC for existing unit.	Company has a valid CC&A (for Inorganic product manufacturing). Company has obtained CCA vide letter no. AWH-111101 date of issue 12/01/2021 valid up to 29/10/2025 & CTE – Amendment Order No: 114651; date of issue 30/10/2021 valid up to 30/5/2028.
	3	Certified Compliance Report (CCR) from the concern authority(IRO-MoEF&CC/MS-GPCB)for existing EC/ CCA as per the MoEFCC's OM no.F.No: IA3-22/10/2022-IA.III [E 177258] dated: 08/06/2022.	Certified CCA Compliance Report from GPCB, Gandhinagar has been obtained vide file no. GPCB/ANK-CCA-2085(1)/ID-72536 dated 16/12/2023. Date of Site Visit for this Monitoring report : 7/11/2023	--
	4	Summary of CCR and Time bound action taken report/ plan of conditions i.e partly complied/ non-complied	Out of 47 Conditions, it may seen that 44 are complied, 1 is partly complied and 2 are Not complied. Action taken report of CCR is	Action taken report has been submitted to GPCB

		submitted dated on 21/12/2023 to GPCB Gandhinagar.	Ankleshwar dated 21/12/2023.										
5	Details of latest Consent to Operate (CTO/CC&A) obtained from GPCB along with date of issue and validity	Company has a valid CC&A (for Inorganic product manufacturing). Company has obtained CCA vide letter no. AWH-111101 date of issue 12/01/2021 valid up to 29/10/2025 & CTE –Amendment Order No: 114651; date of issue 30/10/2021 valid up to 30/5/2028.	--										
6	Details of Improvement notice, Show- cause notice, Notice of direction, Directions, Closure direction etc. issued by the GPCB to the existing unit in last 3 years . Details in tabular format comprise issues, actions taken and current status . As per the latest XGN screen shot.	<div>Closure direction under Section-31A of the Air Act 1981 dated 08/09/2022. (Vide order no. 684882)</div> <table><tr><th>Revocation order</th><th>Date</th></tr><tr><td>Stay over direction under sect. 31-A (vide order no.700521)</td><td>06/01/2023</td></tr><tr><td>Closure revocation application</td><td>2/3/2023</td></tr><tr><td>Stay over direction under sect. 31-A (vide order no.752770)</td><td>8/9/2023</td></tr><tr><td>Closure revocation application (Site visit is not carried out yet)</td><td>23/10/2023 (Ongoing application process)</td></tr></table>	Revocation order	Date	Stay over direction under sect. 31-A (vide order no.700521)	06/01/2023	Closure revocation application	2/3/2023	Stay over direction under sect. 31-A (vide order no.752770)	8/9/2023	Closure revocation application (Site visit is not carried out yet)	23/10/2023 (Ongoing application process)	--
Revocation order	Date												
Stay over direction under sect. 31-A (vide order no.700521)	06/01/2023												
Closure revocation application	2/3/2023												
Stay over direction under sect. 31-A (vide order no.752770)	8/9/2023												
Closure revocation application (Site visit is not carried out yet)	23/10/2023 (Ongoing application process)												
7	Details of Public	No public Complaints	--										

		Complaints(If any)			
	8	Details of litigation pending before any court of Law against the Project (If any)	No litigation pending before any court of Law against the Project	--	
-					
<u>Comments:</u>					
As per MoEF&CC's OM dated: 08.06.2022, PP has submitted CCR from concerned authority with action taken report of non-complied/ partly complied conditions which is found satisfactory. Also, PP has submitted that closure was issued by GPCB in last three years and stay over on closure order was issued for three months and they have applied for further revocation. Further stated that there is no litigation pending and public complaints against the unit.					
8)	PUBLIC HEARING APPLICABILITY AND ITS COMPLIANCE:				
	Main Issues raised by stake holders	Commitments by Project proponent and Action Plan	Action Plan		
	Not Applicable. Unit is located within Notified Industrial Estate of GIDC Jhagadia.				
<u>Comments:</u>					
The public consultation is not applicable as per paragraph 7(i) III (i) (b) of the Environment Impact Assessment Notification-2006.					
9)	SITING CRITERIA DETAILS (OTHER THAN GIDC):				
	Sr. no	Environmental Sensitivity	Name/Specific details	Siting criteria as per GPCB guidelines dated: 05.06.2022 & its amendment	Aerial Distance in Km
	1	Habitat (Residential Area)	Dadheda Village	250 meter	0.40 Km
	2	Water Bodies			
		River	Narmada River	--	9.77 Km
		Natural Nallah/Drain	--	--	--
		Lake/Pond/Wetlands	Sengpur Pond	--	4.65 Km
		Water supply Tanks/Reservoirs	GIDC Reservoir	--	4.00 Km
		Canal	--	--	--
	3	Protected Monuments/Heritage sites/Public Buildings	St. Xavier's High School	--	7.76 Km

	i.e School, colleges, etc.			
4	National/State Highway OR Express way	State Highway-165 NH-8	--	2.95 Km 7.83 Km
5	Coastal Regulation Zone (CRZ) (In case of Coastal area projects)	Gulf of Khambhat	NA	82.75 Km

-

Comments:

This unit is located in GIDC area, so siting criteria is not applicable.

10) **A. APPLICABILITY OF GENERAL CONDITIONS AND COMMENTS WITH SPECIFIC CLARIFICATION OF MOEF&CC GUIDELINES:** Any project or activity specified in Category 'B' will be appraised at Central level as Category 'A' if located in whole or in part within 5 Km radius from the project boundary of:-

Sr No	Particulars	Aerial Distance in Km
1.	Protected Areas notified under the Wildlife (Protection) Act 1972 (53 of 1972)	No Protected Areas within 10 km radius from the project site. Shoolpaneshwar Wildlife Sanctuary is 37.96 Km away from the project site
2.	CPA/SPA (Critically Polluted Area/Severely Polluted Area) as identified by the CPCB	This unit is located in GIDC Jhagadia which is not fall in CPA. Ankleshwar GIDC is 7.5 km from the Project Site.
3	Eco sensitive areas as notified under sub-section (2) of section 3 of EPA-1986	No Eco sensitive areas within 10 km radius from the project site. Sanctuary is 37.96 Km away from the project site
4	Interstate boundaries and international boundaries	No Interstate boundaries and international boundaries Interstate boundaries of Gujarat and Maharashta is 85.58 Km away from the project site

Comments:

As per MoEF&CC's notification dated: 25.06.2014 and as per details submitted by PP, General condition is not applicable.

B. Ensure compliance of category as defined in the amendment to EIA Notification, 2006 vide SO 1599 (E) dated 25/06/2014. i.e. Conditions of small units: (in case of 5 (f) category units and outside the GIDC)

Sr no.	Condition	Compliance with justification
1	Water consumption less than 25 M3/day;	No. Total Water Requirement is 68.2 KL/Day (Fresh: 38.5 KL/Day + Reuse: 29.7 KL/Day)
2	Fuel consumption less than 25 TPD;	Yes, Imported Coal- 12.5 MT/Day; Briquette - 15 MT/Day D.G. Set (HSD)- 500 Liter/Day
3	Not covered in the category of MAH units as per the Management, Storage, Import of Hazardous Chemical Rules (MSIHC Rules), 1989 as per the legal undertaking submitted with EIA report.	Yes

Comments:

Unit is located within the GIDC so this “small scale” condition is not applicable

11) AREA ADEQUACY AND COMMENTS

Total Land area: 15900 Sq. m.

Floor-wise land area break-up table

SR. NO.	LAND USE	AREA SQ. MT .	G+1	G+2	Total	%
1	Pant-1	674.18	674	674	674.18	4.24
2	Pant-2	674.18	674	674	674.18	4.24
3	Admin Block & OHC	168	168	168	168	1.06
4	Existing Godown (For manufacturing of inorganic products)	1495	1495	1495	1495	9.40
5	Raw material Store-1	416.87	416	416	416.87	2.62
6	Chlorine Yard	36	--	--	36	0.23
7	Utility	884.4	--	--	884.4	5.56
8	ETP & MEE Area	200	--	--	200	1.26
9	Security Cabin	9	--	--	9	0.06
10	Solvent Yard	174.34	--	--	174.34	1.10
11	Hazardous Waste Storage Area	397.3	--	--	397.3	2.50
12	Tank Farm Area	493.51	--	--	493.51	3.10
13	Fly Ash Storage	24	--	--	24	0.15

14	Coal Storage	24	--	--	24	0.15
15	Road & Open Area	4929.22	--	--	4929.22	31.33
16	Existing Green Belt	4800	--	--	4800	30.00
17	Proposed Greenbelt	500	--	--	500	3.00
Total		15900	--	--	15900	100.00

Area Adequacy table:

Sr No	Components	Area required (Sq m)	Area Provided (sq m)	Percentage
1	Pant-1	674.18	674.18	4.24
2	Pant-2	674.18	674.18	4.24
3	Admin Block & OHC	168	168	1.06
4	Existing Godown (For manufacturing of inorganic products)	1495	1495	9.40
5	Raw material Store-1	416.87	416.87	2.62
6	Chlorine Yard	36	36	0.23
7	Utility	884.4	884.4	5.56
8	ETP & MEE Area	200	200	1.26
9	Security Cabin	9	9	0.06
10	Solvent Yard	174.34	174.34	1.10
11	Hazardous Waste Storage Area	397.3	397.3	2.50
12	Tank Farm Area	493.51	493.51	3.10
13	Fly Ash Storage	24	24	0.15
14	Coal Storage	24	24	0.15
15	Road & Open Area	4929.22	4929.22	31.33

Comments:

SEAC has examined it w.r.t.to total monthly production, maximum products, manufactured per month, the total raw material required, weekly storage requirement of each raw material,

	their mode of storage, their compatibility (flammability, corrosive, toxic), area needed by each raw material, one week storage of finished goods. Area adequacy, from overall safety perspective, has been provided in proposal and is satisfactory.												
12)	GREEN BELT CONDITIONS AND MEASURES ALONG WITH AREA: <table><tr><th>Total Plot area (Sq meter)</th><th>Total Green belt area (Sq meter)</th><th>% of Greenbelt</th></tr><tr><td>15900</td><td>Inside: 5247 Outside:NA</td><td>33%</td></tr></table> <p>Details of copy of permission letter of concern GIDC/ Panchayat/etc. for greenbelt development (in case of greenbelt development outside the premises: Not applicable</p> <p><u>Comments:</u></p> <p>➤ The PP shall develop green belt within premises (5247 Sq. m i.e. 33 % of the total plot area) as submitted before SEAC. Green belt shall be developed with native plant species that are significant and used for the pollution abatement as per the CPCB guidelines. It shall be implemented within 3 years of operation phase in consultation with GPCB.</p>	Total Plot area (Sq meter)	Total Green belt area (Sq meter)	% of Greenbelt	15900	Inside: 5247 Outside:NA	33%						
Total Plot area (Sq meter)	Total Green belt area (Sq meter)	% of Greenbelt											
15900	Inside: 5247 Outside:NA	33%											
13)	EMPLOYMENT GENERATION: <table><tr><th>Permanent</th><th>Contractual</th><th>Total</th></tr><tr><td>45</td><td>5</td><td>50</td></tr></table> <p>-</p>	Permanent	Contractual	Total	45	5	50						
Permanent	Contractual	Total											
45	5	50											
14)	SOURCE OF WATER SUPPLY WITH QUANTITY AND PERMISSION (DETAILS OF CGWA IF BOREWELL <p>a) Source of water supply: GIDC water supply, Jhagadiya</p> <p>b) Total Fresh water quantity (KLD): 38.5 KL/Day</p> <p>c) Permission of concerned authority (Name and quantity (in KLD): Permission of 68.2 KL/Day vide letter no. OW No. NAA/CO/JHG/154 dated 10/03/2021.</p> <p><u>Comments:</u></p> <p>PP has obtained permission from GIDC water supply, Jhagadiya for procurement of water of 68.2 KLD which is found satisfactory.</p>												
15)	WATER CONSUMPTION RELATED DETAILS WITH COMMENTS <table><tr><th>Category</th><th>Water Consumption KL/Day</th><th>Remark</th></tr><tr><td>(A) Domestic</td><td>3.0</td><td></td></tr><tr><td>(B) Gardening</td><td>3.0</td><td></td></tr><tr><td>Industrial</td><td></td><td></td></tr></table>	Category	Water Consumption KL/Day	Remark	(A) Domestic	3.0		(B) Gardening	3.0		Industrial		
Category	Water Consumption KL/Day	Remark											
(A) Domestic	3.0												
(B) Gardening	3.0												
Industrial													

Process	25.0	
Washing	5.0	
Boiler	20.0	
Cooling	10.0	
Others (scrubbing)	2.2	
Total water consumption	68.2	

Comments:

PP has submitted the above water consumption which is calculated considering the worst case scenario and in no case the water requirement shall not exceed the same which is found satisfactory.

16) WASTE WATER GENERATION AND DISPOSAL

Category	Wastewater Generation KL/Day	Remark
(A) Domestic	2.7	Sent to STP and treated water will be reused in toilet flushing or in gardening.
(B) Gardening	0.0	--
Industrial		
Process	26.0	Due to use of Solvents, NaOH, Thionyl chloride in process waste water generation is higher than water consumption.
Washing	5.0	--
Boiler	2.0	One-time fresh water in boiler: 20 KL/Day after onwards boiler condensate will be 14 KL/Day & 6 KL/Day makeup water. (i.e. 2 KL/Day Boiler blow down + 4 KL/Day Loss)
Cooling	1.0	--
Others (scrubbing)	3.0	--
Total Industrial water consumption	37.0	

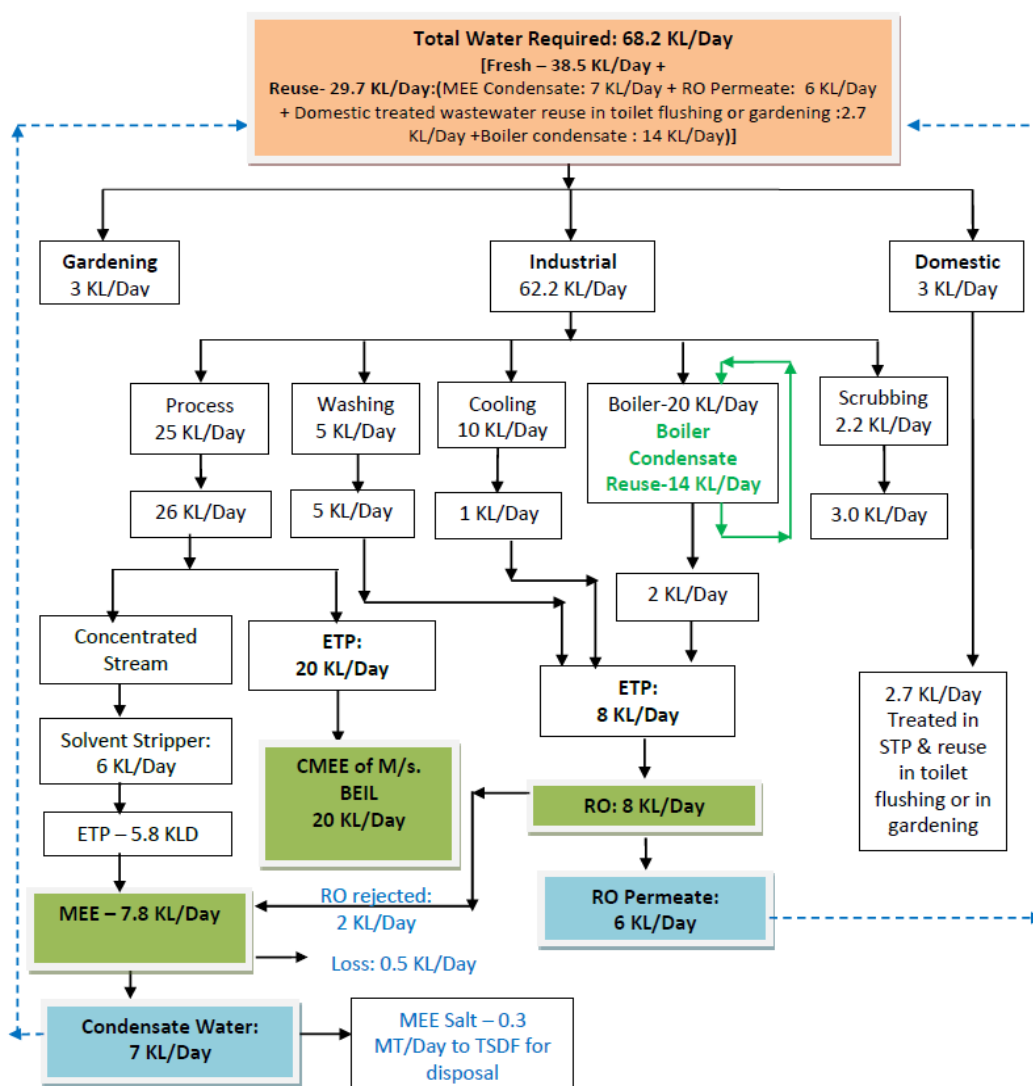
Justification in case of increase/ drastic reduction in wastewater generation than water Consumption:

Due to use of Solvents, NaOH, Thionyl chloride in process waste water generation is higher than water consumption.

Comments:

PP has submitted the above wastewater generation which is calculated considering the worst case scenario and in no case the wastewater generation shall not exceed the same

	which is found satisfactory.
17)	<p>SIMPLIFIED WATER BALANCE DIAGRAM</p> <p>The Total wastewater generation will be 39.7 KL/Day. (Industrial Wastewater: 37 KL/Day + Domestic Wastewater: 2.7 KL/Day)</p> <ul style="list-style-type: none"> • Low COD Stream: Low COD Effluent (20 KL/Day) from process will be treated in ETP which consist of phenton treatment. After phenton treatment, effluent (20 KL/Day) will be treated in secondary and tertiary treatment. Treated effluent (20 KL/Day) will be sent to CMEE of M/s. BEIL. • High COD Stream: High COD Effluent from process (6 KL/Day) will be passed through solvent stripper and treated into Primary ETP (5.8 KL/Day). And then effluent will be sent to in house MEE along with RO Reject (2 KL/Day). MEE Condensate (7KL/Day) will be reused in plant premises. • Utility Stream: Effluent (8 KL/Day) from boiler blow down, cooling and washing will be treated in ETP followed by RO. • Scrubbing media: 3.0 KL/Day scrubbing media will be sold to end user having rule-9 permission. <p>2.7 KL/Day domestic waste water will be treated in STP and treated waste water will be reuse in toilet flushing or in gardening.</p>

18) **BREAKUP OF WASTE WATER DISPOSAL (DOMESTIC & INDUSTRIAL BOTH)**

Sr. no.	Quantity KLD	Facility
1	20 KL/Day	Low COD Effluent (20 KL/Day) from process will be treated in ETP which consist phenton treatment. After phenton treatment, effluent (20 KL/Day) will be treated in secondary and tertiary treatment. Treated effluent (20 KL/Day) will be sent to CME of M/s. BEIL .
2	6 KL/Day	Effluent 6 KL/Day from process will be passes through solvent stripper and treated in Primary ETP (5.8 KL/Day). And then effluent will be sent to in house MEE along with RO Rejected (2

		KL/Day). MEE Condensate (7KL/Day) will be reused in plant premises.
3	8 KL/Day	Effluent (8 KL/Day) from boiler blow down, cooling and washing will be treated in ETP followed by RO.
4	3 KL/Day	3.0 KL/Day scrubbing media will be sold to end user having rule-9 permission.
Total	37 KL/Day	

Comments for Domestic Effluent:

- Domestic wastewater generation shall not exceed 2.7 KL/day for proposed project and it shall be treated in STP. It shall not be disposed off through soak pit/ septic tank. Treated sewage shall be utilized for gardening and plantation purpose within premises after achieving on-land discharge norms prescribed by the GPCB.

Comments for Industrial Effluent:

1. Management of Industrial effluent shall be as under:

Concentrated Stream (6 KLD)

- ✓ 6 KLD high concentrated stream generated from process (6 KLD) shall be segregated and shall be treated in Solvent Stripper followed by ETP-1 and then treated effluent shall be send to in-house MEE and MEE condensate shall be reuse in plant premises and MEE salt (0.3 MT/Day) shall be sent to TSDF site.

Dilute Stream (31 KLD):

- 20 KLD effluent generated from process (low COD) shall be treated into ETP-2 treated effluent shall be send to common MEE of BEIL -Dahej after conforming to the norms prescribed by GPCB.
- 8 KLD effluent generated from Washing (5 KLD), cooling (1 KLD) and Boiler (2 KLD) shall be treated into ETP-3 followed by RO and RO permeate shall be reused and RO reject shall be taken into in-house MEE and MEE condensate shall be reused within premises.
- 3.0 KLD scrubbing media shall be sold to end user having rule-9 permission under Hazardous Waste Rules-2016.

19) **MECHANISM AND METHODOLOGY OF STREAM SEGREGATION**

We have Segregated our waste water into High COD / High TDS & Low COD / Low TDS Stream as explained below:

Sr. No.	Product Name	High COD / High TDS	Low COD / Low TDS	Treatment

	1.	3, CPC – Chloro Pivaloylchloride	--	11.85	ETP followed by phenton treatment
	2.	MITC (Methyl Iso Thio Cyanate)	6.00	--	Primary Treatment followed by MEE
	3.	Glutaraldehyde	--	0.72	ETP followed by phenton treatment
	4.	Diethyl Phosphite (DEP)	--	3.70	ETP followed by phenton treatment
	5.	Dimethyl Phosphite (DMP)	--	3.70	ETP followed by phenton treatment
	6.	Diphenyl methyl phosphate	--	--	ETP followed by phenton treatment
	7.	TriButyl Phosphate (TBPO)	--	0.09	ETP followed by phenton treatment
			6.00	20.04	
--					

20)

STP AND/OR ETP SPECIFICATION AND DESIGN AND ITS CAPACITY

STP Capacity – 5 KL/Day.
2.7KL/Day from Domestic waste water will be sent to STP & treated waste water will be reused for toilet flushing & gardening purposes.

Sr. No.	Name of Unit	Capacity/Size	Nos.	MOC
1.	Screen Chamber (SC-01)	1 KL	1	RCC M30
2.	O & G Trap (OGT-01)	4 KL	1	RCC M30
3.	Collection Tank (CT-01)	5 KL	1	RCC M30
4.	MBBR Tank (MBBR-01)	10 KL Tank with side platform, MS ladder with railing	1	MSFRP
5.	Tube Settler Tank (TST-01)	8 KL hopper bottom	1	MSFRP
6.	Intermediate Tank (IT-01)	5 KL, close tank with manhole & vent	1	HDPE
7.	Hypochlorite Dosing System (SHDS-01)	200 Lit., Vertical circular tank with Mixer & dosing Pumps	1 Lot	HDPE/PP
8.	Pressure sand Filter (PSF-01)	2 m ³ /hr., Vertical type, Dia 300 mm X Ht 1500 (HOS),	1	FRP
9.	Activated Carbon Filter (ACF-01)	2 m ³ /hr., Vertical type, Dia 300 mm X Ht 1500 (HOS),	1	FRP
10.	Treated Water Tank (TWT-01)	10 KL, Close Tank with manhole & vent, vertical circular Tank	1	HDPE
11.	Sludge Drying Beds (SDB-01)	1.5 x 2.0 with media filling	2	MSFRP /Bk. Masonry

Capacity of ETP & its specification

S.N.	Name of unit	Size (m x m x m)	No.	MOC/ Remark
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Stream-I (Low COD stream) 20.0 KLD				
1	Collection cum Equalization Tanks (CETs-01)	10 KL	1	RCC M25+A/A Bk. Lining.
2	Neutralization Tank (NT-01)	12 KL	1	RCC M25
3	Flash Mixer (FM-01)	10 KL	1	RCC M25/MS
4	Primary Clariflocculator (PCLF-01)	10KL	1	RCC M25/MS
5	Aeration Tank (AT-01)	25 KL	1	RCC M25/MS
6	Secondary Clarifier (SCL-01)	10 KL	1	RCC M25/MS
7	Intermediate Sump (IS-01)	15 KL	1	RCC M25/HDPE/MS
8	Pressure Sand Filter-1 (PSF-01)	10 m3/hr	1	MSEP
9	Activated Carbon Filter-1 (ACF-01)	10 m3/hr	1	MSEP
10	Alkaline Dosing Tanks (ADTs-01)	200 lit	2	HDPE/MSFRP
11.	Coagulant Dosing Tanks (CDTs-01)	200 lit	2	HDPE/MSFRP
12	Poly Dosing Tanks-1/2 (PEDT-01)	200 lit	2	HDPE
13	Nutrient Dosing Tank (NDT-01)	200 lit	2	HDPE
14	Filter Press- (FP-01)	20 m3/D	2	MS+PP
15	Sludge Drying Beds (SDBs-01)	3.0 x 4.0	2	Bk. With PCC bedding
Stream II (High COD stream) 6 KLD				
1	High COD Collection Tank (HCCT-01)	10 KL	1	RCC M25+A/A Bk. Lining
2	Neutralization Tank-2 (NT-02)	5 KL	1	RCC M25/MS
3	Flash Mixer-2 (FM-02)	5 KL	1	RCC M25/MS
4	Primary Settling Tank-2 (PST-02)	10 KL	1	RCC M25/MS
5	Primary Treated Water Tank (PTWT-01)	10 KLD	1	RCC M25
6	Multi Effect Evaporator (MEE-01) with Agitated Thin Film Dryer (ATFD-01)	10 m3/hr	1	SS316L
7	Condensate Storage Tank	4.0 x 4.0 x (2.0 +0.2)	1	RCC M30
Stream III (RO Stream) – 8 KLD				
1	Collection tank (CT-01)	5 KL	1	RCC M25/MS
2	Pressure Sand Filter-2 (PSF-02)	1 m3/hr	1	MSEP/FRP
3	Activated Carbon Filter-2 (ACF-02)	1 m3/hr	1	MSEP/FRP
4	RO Feed Tank (ROFT-	10 KL	1	RCC M25

	01)			
5	RO-01 Unit (RO-01)	10 M3/D	1	Polyamide/SS

Stream I (20.0 KLD)-Low COD

First all Low stream of wastewater effluent shall be collected in Collection cum Neutralization Tanks-01 (CNT-01). Mixer is provided at bottom of the CNTs-01 to keep all suspended solids in suspension and to provide proper mixing. Added Caustic solution done to maintain neutral pH of wastewater from Caustic Dosing Tanks (CDT) as per requirement by gravity.

Then after, Neutralized wastewater shall be pumped to Flash Mixer (FM-01) where the continuous addition and stirring of Alum Solution shall be dosed from Alum Dosing Tanks (ADT-01-A/B) and then Polyelectrolyte shall be dosed from Polyelectrolyte Dosing Tank-1 (PEDT-01) with help of pumps to carry out flocculation with help of Dosing Pumps. Then coagulated effluent shall be collected in Primary Settling Tank (PST-01) where sludge will be settled at the bottom and clear supernatant shall be collected in Aeration tank (AT-01) by gravity. Here, biodegradation of organic matter of the wastewater shall be carried out by bacteria (suspended growth) in the AT-1 and for that oxygen shall be supplied by 2 nos. of air blowers (B-02) through diffusers. Air blowers also keep MLSS in suspension.

Then after, wastewater shall go to Secondary Settling Tank-1 (SST-1) from AT. Here, the suspended solids shall be settled. Sludge shall be removed from bottom of SST-1 and pumped to AT-1 to maintain MLSS and excess activated sludge shall be sent to Sludge Drying Bed (SDBs-01-A/B). then Clear effluent is the collected in of Intermediate Sump (IS) by gravity.

Thereafter, the wastewater shall be passed through Pressure Sand Filter (PSF-01) to remove left out TSS and Dual Media Filter (DMF-01) for final effluent polishing. After tertiary treatment, effluent shall be collected in Treated Effluent Sump (TES-01) before sent to CMEE of M/s. BEIL. Sludge settled in PST-01, SST-01 shall be collected in Sludge Drying Bed (SDBs-01) Then, dewatered sludge shall be stored in in HWSA and then ultimate disposal to TSDF. And backwash from PSF-01 and DMF-01 shall be collected in Drain Pit and pumped back to CNT-01 for further treatment.

Stream II (6.0 KLD Process) High COD

All High COD streams of wastewater shall be collected in Collection cum Equalization Tanks-2 (CETs-02). Mixer is provided to keep all suspended solids in suspension and to provide proper mixing before pumped to strippers (ST-01). Then effluent shall be pumped to Neutralization Tank-2(NT-02) where Lime shall be added from Lime Dosing tank. Then after, effluent shall have sent to Flash Mixer-2 (FM-02) where Alum and poly shall be added from ADT and PDT-01 respectively. Then after, coagulated wastewater shall be settled in Primary Settling Tank-2 (PST-02).

Clear effluent from PST-02 shall be collected in Holding Tank (HT-01). Effluent from Holding Tank collected in MEE Feed Tank (MFT-01) where RO reject will be mixed with it. Then effluent shall be sent to Multiple Effect Evaporator (MEE-01) for further treatment. Condensate from MEE & ATFD shall collect in Condensate Storage Tank – (CST-01).

Stream III (8.0 KLD)-RO

First all streams of wastewater shall be collected in Collection Tank (CT-01) And then waste water passed through Dual Media Filter (DMF-01) & Pressure Sand Filter (PDF-01) to remove left out TSS and polishing treatment. Then Wastewater shall be Collected in RO Feed Tank (ROFT-01).

Then after effluent shall be pumped to RO Unit (RO-01) for further treatment. RO treated water shall be reuse in Plant. RO reject water shall be sent to in house MEE for further treatment and disposal.

21) TREATABILITY OF WATER**Stream-I: LOW COD Stream:**

Sr. No.	Parameter	Characteristics (mg/L)				CMEE of M/s. BEIL discharge norms
		Untreated	Primary Treated	Secondary treated	Tertiary Treatment	
1.	pH	3.5	7.5	7.5	7.5	6.5-8.5
2.	TDS	3000	3500	3500	3000	8000
3.	COD	1500	1200	300	200	3500
4.	BOD ₃	500	400	100	70	1000

Stream-2: High COD Stream:

Sr. No.	Parameters	Untreated Effluent Characteristics	After Primary Treatment	Solvent Stripper	After MEE
1	pH	3.9	7.0	7.0	7.0
2	COD (mg/L)	10000	5200	1000	200
3	BOD ₃ (mg/L)	1500	1000	300	80
4	TDS (mg/L)	20000	20800	5000	100

Stream-3: Utilities Stream:

Sr. No.	Category of Wastewater	Before Treatment	RO Permeate for Re-use
1	pH	8.5	6.5
2	COD (mg/L)	400	30
3	BOD ₃ (mg/L)	100	10
4	TDS (mg/L)	800	50

22) SUMMARY OF WATER USE AND REQUIREMENT OF FRESH/REUSED WATER

Summary of water requirement	Quantity KLD	Remarks
Total water requirement for the project (A)	68.2 KL/Day	
Quantity to be recycled (B)	29.7 KL/Day	

	Total fresh water requirement (C)		38.5 KL/Day																															
	Ensure Total water requirement = Recycled water + Fresh water i.e. A = B + C																																	
23)	REUSE, REDUCE, RECYCLE RECOVERY MEASURES ADOPTED																																	
a) Reduce																																		
<table><tr><td>Sr. No.</td><td>Item</td><td>Quantity</td><td>% percentage</td></tr><tr><td>--</td><td>--</td><td>--</td><td>--</td></tr><tr><td></td><td></td><td></td><td></td></tr></table>							Sr. No.	Item	Quantity	% percentage	--	--	--	--																				
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24)	FLUE GAS EMISSION																																	
<table><tr><th>Sr. no.</th><th>Source of emission With Capacity</th><th>Stack Height (meter)</th><th>Type of Fuel</th><th>Quantity of Fuel MT/Day</th><th>Type of emissions i.e. Air Pollutants</th><th>Air Pollution Control Measures (APCM)</th></tr><tr><td>1</td><td>Steam Boiler (2 TPH)</td><td>30</td><td>Briquette /Imported Coal</td><td>10 MT/Day or 8.5 MT/Day</td><td>PM SO2 NOx</td><td>Multicyclone Separator with bag filter + Water Scrubber</td></tr><tr><td>2</td><td>Thermic Fluid Heater (4 Lac Kcal)</td><td>30</td><td>Briquette /Imported Coal</td><td>5 MT/Day or 4 MT/Day</td><td>PM SO2 NOx</td><td>Multicyclone Separator with bag filter + Water Scrubber</td></tr><tr><td>3</td><td>D G Set (250 KVA)</td><td>9</td><td>HSD</td><td>500 Liter/Day</td><td>PM SO2 NOx</td><td>Adequate Stack Height</td></tr></table>							Sr. no.	Source of emission With Capacity	Stack Height (meter)	Type of Fuel	Quantity of Fuel MT/Day	Type of emissions i.e. Air Pollutants	Air Pollution Control Measures (APCM)	1	Steam Boiler (2 TPH)	30	Briquette /Imported Coal	10 MT/Day or 8.5 MT/Day	PM SO2 NOx	Multicyclone Separator with bag filter + Water Scrubber	2	Thermic Fluid Heater (4 Lac Kcal)	30	Briquette /Imported Coal	5 MT/Day or 4 MT/Day	PM SO2 NOx	Multicyclone Separator with bag filter + Water Scrubber	3	D G Set (250 KVA)	9	HSD	500 Liter/Day	PM SO2 NOx	Adequate Stack Height
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3	D G Set (250 KVA)	9	HSD	500 Liter/Day	PM SO2 NOx	Adequate Stack Height																												

Comments:

- The proposed fuel to be used is approved fuel for the requirement of the heat energy and proposed the Air pollution Control measures and stack height so as to achieve the emission norms prescribed by the competent authorities are found satisfactory.

25) PROCESS GAS EMISSION

Sr. no.	Specific Source of emission (Name of the Product & Process)	Type of emission	Stack/Vent Height (meter)	Air Pollution Control Measures (APCM)
1	Process Vent -1 (3, CPC – Chloro Pivaloylchloride)	HCL/CL ₂ SO ₂	11	Two Stage Chilled Water + Alkali Scrubber
2	Process Vent -2 (Methyl Iso Thio Cyanate)	H ₂ S	11	Two Stage Alkali Scrubber
3	Process Vent -3 (Dimethyl Phosphite)	NH ₃	11	Two Stage Acid Scrubber
4	Process Vent -4 (Tri Butyl Phosphate)	HCL	11	Two Stage Water Scrubber

Comments:

- The proposed Air pollution Control measures and stack height so as to achieve the emission norms prescribed by the competent authorities are found satisfactory.

26) FUGITIVE GAS EMISSION

Sr. No.	Source	Probable Pollutant Emission	Control Measures/ APCM
1	Solvent storage tank	Air pollutant (VOC)	i) Carry out work place area monitoring to find out concentration level in ambient air Close handling system. ii) Provision of breather valve cum flame arrester.
2	Solvent recovery system	Air pollutant (VOC)	i) Solvent recovery system with steam condensation system. Pumps & motors are Mechanical seal type.

	3	Handling of raw material bags in storage area	Air pollutant (PM)	i) Provision of exhaust ventilation Provision of PPE. ii) Provision of Job rotation to reduce exposure.
	4	Flange joints of pipeline, pump & motors	Air pollutant (VOC)	vi) Routine & periodic inspection to check leakage. vii) Preventive maintenance, Follow SOP for maintenance. viii) Pumps & motors will be mechanical seal type. LDAR program will be followed. Provision of Flange guard.
	5	Solid raw material transferring to reactor	Air pollutant (PM)	Hopper will be provided with powder transfer system.
	6	Liquid raw material transferring to reactor	Air pollutant (VOC)	Feeding of liquid raw material will be carried out by closed pipeline and mechanical seal pump.
	7	Loading /unloading at storage area	Air pollutant (VOC)	Unloading through pipeline to tank in a close system.
	<p><u>Comments:</u></p> <p>The air pollution control measures proposed for fugitive gas emission are found satisfactory.</p>			
	27) HAZARDOUS PROCESSES AND ITS SAFETY MEASURES			
		Types of process	Safety measures including Automation	
		Amination	<ul style="list-style-type: none"> DCS System will be provided for control the process Valve, pipeline will be checked and maintain, in good condition. All Gaskets will be checked periodically & if new one replaces found defective. Joints will be checked regularly to found any Leakage. ADEQUATE PPE will be kept to handle the Hazard. ISI Portable fire extinguisher & Hydrant line will be provided as per TAC norms. Sufficient amount of sand/soil are kept to control any spillage. Flame proof fitting provided. Eye washer cum shower will be provided near tank-farm area. Spark arrester will be installed on all vehicles inside the premises. SBA set, Canister mask and airline mask will be provided. Earthing& bonding on tanks will be provided. Vent line dipped in water will be provided. 	
		Bromination	Not applicable	
		Chlorination	<ul style="list-style-type: none"> DCS System will be provided for control the process FLP type area will be provided. Total enclosed process system. Instrument & Plant Air System. Nitrogen blanketing in Chlorination reactor. 	

		<ul style="list-style-type: none">• Safety valve and Rupture disc provided on reactor.• Cooling Chilling and power alternative arrangement have been made on reactor.• Chlorine and Nitrogen Cylinder bank away from the auto clave reactor.• PRV station with shut off valve, safety valve provision will be made for chlorination reaction safety.• Flame arrestor will be provided on vent line of reactor and it will be extended up to roof level.• Open well-ventilated and fragile roofs will be provided to on reactor.• Safe Catalyst charging method will be adopted.								
	Hydrogenation	Not applicable								
	Nitration	Not applicable								
	Sulphonation	Not applicable								
	Others, if any	Not applicable								
	-									
28)	SOLVENT MANAGEMENT (For example)									
	Pro duct No.	Product Name	Solvent	Qty. Use d MT/ MT	Qty. Reco vered MT/M T	solv ent Los ses in air (A)	solv ent Los s in (Effl uen t - stri ppe d out) (B)	Distil lation Resi due (C)	Tot al Los ses (A + B+ C)	Solve nt Recov ery %
	1	3, CPC – Chloro Pivaloylchloride	DMF (N,N Dimethyl Formamide)	1.60	0.11	0.01	1.27	1.49	2.77	97
	2	MITC (Methyl Iso Thio Cyanate)	MDC (Di chlorometha ne)	9.77	8.01	0.18	1.23	1.76	3.16	96
			Methyl Di Amine (40%)	2.94	1.15	0.18	1.35	1.80	3.33	96
	3	Glutaraldehy de	Methyl vinylether	4.44	2.49	0.02	1.46	1.95	3.43	96
			Acrolein	3.57	2.42	0.01	0.86	1.15	2.02	97

		2-Methoxy 3,4 Dihydropyran	0.82	0.13	0.01	0.52	0.69	3.21	96
4	Diethyl Phosphite (DEP)	TEP	0.86	0.14	0.01	0.54	0.72	3.27	96
		H ₃ PO ₃	0.21	0.18	0.02	0.10	0.13	2.23	97
5	Dimethyl Phosphite (DMP)	TMP	0.84	0.14	0.01	0.53	0.70	3.23	96
		H ₃ PO ₃	0.25	0.12	0.00	0.10	0.13	3.6	96
6	DPMP- diphenyl methyl phosphate	TPPI (Triphenyl phosphite)	0.95	0.17	0.01	0.58	0.77	1.36	97
		TMP (Trimethyl phosphite)	0.19	0.05	0.00	0.11	0.14	3.25	96
7	TriButyl Phosphate (TBPO)	n-Butanol	1.20	0.13	0.01	0.80	1.06	2.87	97
		POCl ₃	0.59	0.08	0.01	0.38	0.51	2.90	96

29) **VOC EMISSION AND MITIGATION MEASURES FOR ACHIEVING MAXIMUM SOLVENT RECOVERY AND MINIMUM VOC GENERATION**

Sr. No.	Emission Source	Probable Pollutant Emission	Control measures
1	Solvent Storage are	VOC (Air Pollutant)	Carry out work place area monitoring to find out concentration level in ambient air. Connected with vent condensers with child brine circulation. Close handling system. Provision of breather valve cum flame arrester
2	Solvent Recovery System	VOC (Air Pollutant)	Vacuum distillation Close handling system. There will be recovery of more than 96% solvent.
3	Solvents & Liquid raw material transferring to reactor	VOC, Acid fumes (Air Pollutant)	Feeding of Solvents & liquid raw materials will be carried out by closed pipeline and mechanical seal pump
4	Flange joints of pipeline, pump & motors	VOC	Routine & periodic inspection to check leakage. Preventive

Comments for Sr No: 27,28 and 29:

- Measures for achieving maximum solvent recovery and minimize VOC generation,

inclusive of VOC detectors, pumps, maintenance of pipelines, proper ventilation etc., provided are as per requirement.

- Spent solvents shall be recovered by in-house distillation in such a manner that recovery shall be achieved to the maximum extent and recovered solvent shall be reused in the process. Solvent recovery system with adequate reflux condensers shall be provided for controlling escape of low boiling solvents (VOCs).

30) LDAR PROPOSED

S. N.	Component	Frequency of monitoring	Repair preventive maintenance schedule
1.	Valves / Flanges	Quarterly (semi-annual after two consecutive period with < 2% leaks and annual after 5 periods with < 2% leaks)	Repair shall be started within 5 working days and shall be completed within 15 working days after detection of leak.
2.	Pump seal	Quarterly	
3.	Compressor seals	Quarterly	
4.	Pressure relief devices	Quarterly	
5.	Pressure relief devices (after venting)	Within 24 hrs.	
6.	Process drains	Annually	Repair shall be started within 5 working days and shall be completed within 15 working days after detection of leak.
7.	Components that are difficult to monitor	Annually	
8.	Pump seals with visible liquid dripping	Weekly	Immediately
9.	Any component with visible leaks	Weekly	Immediately
10.	Any component after repair / replacement	Within a week	-

The Following methodology to be adopted during LDAR study:

- 1) Identify the Chemical streams that must be monitored.
- 2) Types of components (pumps, valves, connectors, etc.) to be monitored
- 3) Frequency of monitoring.
- 4) Actions to be taken if a leak is detected.
- 5) Length of time in which an attempt to repair the leak must be performed.
- 6) Actions that must be taken if a leak cannot be repaired within guidelines.
- 7) Record-keeping and reporting requirements.

31) LDAR FOR SPECIFIC SOLVENT

S r. N o.	Solvent Name	Type of Storage	Mode of Transfer	Charging	Sources of Leakage	Mitigation Measure For find out leakages	Mitigation Measure (If leakages shall be occur)	Action taken for prevention of leakages
1	Butanol, Carbon Disulfide, Acrolein, Tri Phethyl Phosphite, Tri Methyl Phosphite	Tank/drum	By Pump & Fix Pipe line	Direct Vessel	<ul style="list-style-type: none"> Leak from Valve (failure of the valve packing & O-ring) Leak from pump (Occur at seal) Leak from tank Leak from Connectors Leak from open ended lines 	<ul style="list-style-type: none"> For using Gas Detector by PID Sensor technology. 	<ul style="list-style-type: none"> If valve shall be leak stop pumping system and replace with new valve. When pump seal shall be leak immediately stop solvent transfer and immediately repair or replace with new seal. 	<ul style="list-style-type: none"> Check Thickness of tank Using fix pipeline for solvent transfer Minimum use of Connectors & Joins Provided sufficient Space (Solvent Unloading area) for Solvent Tanker
2	Thionyl chloride, Phosphorus Oxy Chloride	Drum	By Pump & Fix Pipe line	Direct Vessel	<ul style="list-style-type: none"> Leak from Valve (failure of the valve packing & O-ring) Leak from pump (Occur at seal) Leak from tank Leak from Connectors Leak from open ended lines 	<ul style="list-style-type: none"> For using Gas Detector by PID Sensor technology. 	<ul style="list-style-type: none"> If valve shall be leak stop pumping system and replace with new valve. When pump seal shall be leak immediately stop solvent transfer and immediately repair or replace with new seal. 	<ul style="list-style-type: none"> Check Thickness of tank Using fix pipeline for solvent transfer Minimum use of Connectors & Joins Provided sufficient Space (Solvent Unloading area) for Solvent Tanker

3	Phosphoric Acid	Tank/drum	By Pump & Fix Pipeline	Direct Vessel	<ul style="list-style-type: none"> Leak from Valve (failure of the valve packing & O-ring) Leak from pump (Occur at seal) Leak from tank Leak from Connectors Leak from open ended lines 	<ul style="list-style-type: none"> For using Gas Detector by PID Sensor technology. Annexure 1. 	<ul style="list-style-type: none"> If valve shall be leak stop pumping system and replace with new valve. ❖ When pump seal shall be leak immediately stop solvent transfer and immediately repair or replace with new seal. 	<ul style="list-style-type: none"> Check Thickness of tank Using fix pipeline for solvent transfer Minimum use of Connectors & Joins
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32) HAZARDOUS WASTE MANAGEMENT MATRIX

Sr. no.	Type/Name of Hazardous waste	Specific Source of generation (Name of the Activity, Product etc.)	Category and Schedule as per HW Rules.	Quantity (MT/Annum)	Management of HW
1	ETP Sludge	ETP	SCH-I/35.3	40	Collection, Storage, Transportation and Disposal at TSDF
2	Distillation Residue	Distillation	SCH-I/20.3	144	Collection, Storage, Transportation and sell to Cement Industry for Co-processing or Disposal at Common Incineration Site
3	Residue from Stripper	Stripper	SCH-I/28.1	100	
4	Used Oil	Utilities	SCH-I/5.1	1.0	Collection, Storage, Transportation and Selling to authorized recyclers.
5	Discarded liners/Bags Carboy	RM & FG	SCH-I/33.1	180 (Nos.)	Collection, Storage, Transportation and Selling to authorized

	Drums				recyclers after decontamination.
6	Salt from MEE	MEE	SCH-I/35.3	100	Collection, Storage, Transportation and Disposal at TSDF
7	Sodium bisulfite (20%)	Process	SCH-I/28.1	4950	Collection, Storage, Transportation & Sell to end user which have rule-9 permission with MOU.
8	HCl (30%)	Process & Scrubber	SCH-I/28.1	1001 & 5	Collection, Storage, Transportation & Sell to end user which have rule-9 permission with MOU.
9	NaHS Solution (30%)	Process & Scrubber	SCH-I/28.1	228 & 60	Collection, Storage, Transportation & Sell to end user which have rule-9 permission with MOU.
10	Sodium Chloride	Process	SCH-I/28.1	1526	Collection, Storage, Transportation & Sell to end user which have rule-9 permission with MOU or dispose to TSDF.
11	Spent Catalyst	Process	SCH-I/28.2	0.6	Collection, Storage, Transportation & Sell to end user which have rule-9 permission with MOU.
12	Organic Residue	Process	SCH-I/28.1	1137	Collection, Storage, Transportation and sell to Cement Industry for Co-processing or Disposal at Common Incineration Site
13	Sodium Hypochlorite Sol (7%)	Process	SCH-I/28.1	1330	Collection, Storage, Transportation & Sell to end user which have rule-9 permission
14	Ammonium Sulphate	Scrubber	SCH-I/28.1	144	Collection, Storage, Transportation & Sell to end user which have rule-9 permission
<u>Comments:</u>					

- Hazardous waste management includes collection, storage, transportation and disposal at TSDF, captive/ common incineration, co-processing/ pre-processing, sold to authorized actual users having Rule-9 permission and recycle/ reuse of waste. SEAC examined the details provided and found it as per requirement.

33) **NON-HAZARDOUS WASTE MANAGEMENT MATRIX**

Sr. no.	Type/Name of non-hazardous waste	Specific Source of generation (Name of the Activity, Product etc.)	Quantity (MT/Annum)	Management of HW
1	Fly Ash	Boiler	3600	Collection, Storage, Transportation and sell to brick manufacturers
2	STP Sludge	STP	45	Collection, Storage and used as a manure.

Comments:

- Other wastes management includes collection, storage, transportation and disposal by selling to actual users and recycle / reuse of waste. SEAC examined the details provided and found it as per requirement.

34) **STORAGE SAFETY MEASURES**

a) **Storage of Hazardous chemicals in Tanks**

Sr. no	Name of Chemical	Capacity of Tank	Number of Tanks	Hazardous Characteristics of Chemical
TANK FARM (NON-PESO)				
1	Methyl Di Amine (40%)	20 KL	1	Flammable/Corrosive
2	Caustic Lye	20 KL	1	Toxic
TANK FARM (PESO)				
4	Butanol	20 KL	1	Toxic/Flammable
5	Carbon Disulfide	20 KL	1	Toxic/Flammable
6	Chlorine (Tonner)	1.8 MT	2	Toxic

Safety Measures for PESO Underground storage tank farm:Not applicable as PESO Tanks will be install above the ground.

Safety Measures for PESO storage tank farm

- Isolated storage area, away from process area.

- Full-fledged fire hydrant system with fire water storage tank is provided within plant premises
- Water sprinkler system/ hydrant system is provided at all flammable material storage area.
- Static dissipation points for control of static hazards is provided.
- Fire extinguishers and foam trolleys are provided at strategic locations.
- Online gas detectors system is provided near hydrogen yard, and tank farm.
- Safety instruction boards are displayed for handling & emergency response.
- Dyke walls are provided for containment of liquid spills.
- DCS based safety interlocks, control valves and emergency relief system is provided.
- Flame proof fitting is installed at all areas as per Hazardous Area Classification.
- Double earthing& grounding to the system is provided.
- Earthing relays with interlock is provided to stop transfer of material if earthing continuity is not there.
- Lock & key arrangements are provided for critical chemicals pipeline valves.
- Tanker loading stations with retractable life lines are provided.

b) Storage of Hazardous chemicals other than Tanks i.e. Drum, Barrels, Carboys, Bags etc.

Sr. no	Name of Chemical	Capacity of Drum/Bag/ Cylinder/ Glass Bottle	Number of Drum/Bag/ Cylinder/ Glass Bottle	Hazardous Characteristics of Chemical
1	Thionyl chloride	200 lit	10	Corrosive
2	Pivalic Acid	200 lit	20	Toxic
3	Acrolein	200 lit	10	Toxic/Flammable
4	Tri Phethyl Phosphite	200 lit	25	Toxic/Flammable
5	Tri Ethyl Phosphite	200 lit	25	Flammable
6	Tri Methyl Phosphite	200 lit	25	Toxic/Flammable
7	Phosphoric Acid	200 lit	15	Toxic
8	Phosphorus Oxy Chloride	200 lit	15	Corrosive
9	Liq. Ammonia	200 lit	5	Toxic

- FLP type light fittings will be provided.
- DCS System will be provided
- Proper ventilation will be provided in Godown.
- Proper label and identification board /stickers will be provided in the storage area.
- Conductive drum pallets will be provided.
- Drum handling trolley / stackers/fork lift will be used for drum handling.
- Separate dispensing room with local exhaust and static earthing provision will be made.
- Materials will be stored as per its compatibility study and separate area will be made for flammable, corrosive and toxic chemical drums storage.
- Smoking and other spark, flame generating item will be banned from the Gate.
- Ensured that all storage areas have doors with locks.

- Ensured that all containers are properly closed.
- Handling of materials from Drum shall be done only through Mechanical Transfer System.

Safety measures for Hazardous Chemicals:

Type of Hazardous Chemicals	Safety measures
FLAMMABLE & EXPLOSIVE CHEMICALS	<ul style="list-style-type: none"> ➤ Storage in compatible storage unit with flame proof fitting, also provide firefighting measures. ➤ Only trained person allowed handling. Safety Shower cum eye washer provided. ➤ Drums to be stored on pallet with the suitable trap. Cautionary notice boards will be displayed. ➤ FLP type light fittings will be provided. ➤ Proper label and identification board /stickers will be provided in the storage area. ➤ Conductive drum pallets will be provided. Proper earthing will be provided. ➤ Provision of earth pit and its regular inspection. ➤ Drum handling trolley / stackers/fork lift will be used for drum handling. ➤ Separate dispensing room with local exhaust and static earthing provision will be available. ➤ Materials will be stored as per its compatibility study and separate area will be available for flammable, corrosive and toxic chemical drums storage. ➤ Smoking and other spark, flame generating item will be banned from the Gate. ➤ NFPA labels will be provided on drums for hazard identification of the chemicals. ➤ Exhaust will be provided at ground level and upper level of drum storage area for proper ventilation. ➤ Drum loading unloading procedures will be prepared and implemented. ➤ Fire extinguishers are providing as per class of fire. ➤ Provide Spill Kit for any kind of leakage control.
CORROSIVE CHEMICALS	<ul style="list-style-type: none"> ➤ Storage in compatible storage unit with flame proof fitting, also provide firefighting measures. ➤ Only trained person allowed handling. ➤ Safety Shower cum eye washer provided. Drums to be stored on pallet with the suitable trap. ➤ Cautionary notice boards will be displayed. ➤ Preventing or minimizing contact between corrosive substances and skin, mucous membranes and eyes. ➤ Corrosive substances should not be allowed to come in contact with materials that may react. ➤ All the containers, pipes, apparatus, installations and structures used for the manufacture, storage, transport or use of these substances may be protected by suitable coatings, impervious to and unaffected by corrosives. ➤ All containers or receptacles should be clearly labelled to indicate their contents and should bear the danger symbol for corrosives. ➤ A high standard of maintenance and good housekeeping is essential. ➤ Adequate ventilation and exhaust arrangement whether general or local, should be provided whenever corrosive toxic gases or dust are present. Personal protective devices should be used depending upon the nature of work viz. <p>(a) Corrosion-resistant and impervious suits, or hand-gloves, aprons</p>

		<p>etc.</p> <p>(b) Respirator, gas mask or self-contained breathing apparatus,</p> <p>(c) Barrier cream when exposure is not severe.</p> <p>First aid treatment facilities should be provided and all concerned should be instructed to follow safe practices such as</p> <p>(a) Prolonged washing with water</p> <p>(b) Removing contaminated clothing</p> <p>(c) Seeking immediate medical help.</p> <p>Safety showers and eye washers should be provided.</p>
	TOXIC CHEMICALS	<ul style="list-style-type: none"> ➤ Storage area should be cool, dry, well ventilated, and clean and protected from external heat source. ➤ It should be remote from elevators, gangways or ventilating systems. ➤ Ventilation must be sufficient to prevent accumulation of vapour pockets. All fan switches should be outside the storage area. ➤ The building for the storage should be entirely of noncombustible construction and separate from other building. In case the storage is not in a different building it should be ground floor with at least two exists opening outside and separated from other parts of the building by fire resisting walls and floors. ➤ Keep "emergency kits" handy and in proper working condition to control leakage and train workers in their use. ➤ Appropriate facility for absorption through caustic soda/lime/soda ash solutions should be established and maintained in the event of leakage. The containers should not be immersed in same absorption media. ➤ Self-breathing apparatus, gas mask and 'emergency kits' should be located at strategic points under working condition and to be easily accessible in the event of emergency. ➤ Appropriate minimum safety distances as stipulated in the above mentioned rules have to be maintained.
	REACTIVE CHEMICALS	--
	Others, if any	--
	-	
35)	FIRE LOAD CALCULATION	
	Total Plot Area:	15900 Sq. mt
	Area utilized for plant activity:	5690.54 Sq. mt
	Area utilized for Hazardous Chemicals Storage:	1911.87
	Number of Floors:	Ground floor + 2 floor
	Water requirement for firefighting in KLD:	200 KLD*2
	Water storage tank provided for firefighting in KL:	200 KLD*2
	Details of Hydrant Pumps:	Kirloskar make one Fire pump (137 m3/hr, 88-meter head) and one Jockey pump (10.8 m3/hr 56 M Head) will be provided.
	Nearest Fire Station :	By Road Distance Jhagadia Fire Station is 850 meter away from the Project Site.
	Applicability of Off Site Emergency Plan:	-
	<u>Comments:</u>	

	The project proponent has proposed fire safety plan which includes fire hydrant line, sprinkler system, fire extinguishers, fire suits, covering the project area and provides for fire water storage tank of 200 KL*2 . SEAC found it as per the requirement.											
36)	<p>WORKERS SAFETY AND OCCUPATIONAL HEALTH MANAGEMENT</p> <ul style="list-style-type: none">• The Occupational health center (OHC) will be declared as Emergency communication center (ECC) which is near the administrative building and out of reach all the hazardous area. Its internal telephone contacts will be provided.• A well-equipped Occupational Health Center (OHC) will be developed with PFT Machine, Blood Pressure Monitor, First Aid Kit, etc. First-Aid Center with necessary arrangements, 2 Nos. of Bed facility will be available at OHC, 1 Nos. of Room will be available, 1 Nos. of stretcher, 1 Nos. of set have medicated Oxygen Cylinder and Permanent Medical Officer. It is equipped all necessary medicines and Antidotes. <p>Occupational Health and Safety Program will be established Considering following:</p> <p>Pre-employment Medical Check Up Lung Function test Cardiogram Audiometry Hematological Examination Urine examination Vision test Colour blindness test Biomarker in Blood & Urine</p> <p>Periodical Medical Check up Lung Function test Cardiogram Audiometry Hematological Examination Urine examination Vision test Colour blindness test Biomarker in Blood & Urine</p> <p><u>Comments:</u></p> <p>Project proponent has provided PPEs, Occupational health center (OHC) with adequate provision of manpower, equipment and operational cost. SEAC finds it as per the provisions of Gujarat Factory Rules 1963.</p>											
37)	<p>DETAILS OF MEMBERSHIP OF COMMON FACILITIES:</p> <table><tr><th>Sr. No</th><th>Membership for Common Facility</th><th>Membership Certificate issuing agency along with Date of Issue and validity of membership</th></tr><tr><td>01</td><td>CETP</td><td>Name of CETP: -- Date of Issue of membership along with validity: Capacity of CETP (KLD): -- Allotted Capacity (KLD) to member unit: -- Spare Capacity (KLD) of CETP: --</td></tr><tr><td>02</td><td>TSDF site</td><td>Name of TSDF: M/s. BEIL Infrastructure Limited Date of Issue of membership along with validity:</td></tr></table>			Sr. No	Membership for Common Facility	Membership Certificate issuing agency along with Date of Issue and validity of membership	01	CETP	Name of CETP: -- Date of Issue of membership along with validity: Capacity of CETP (KLD): -- Allotted Capacity (KLD) to member unit: -- Spare Capacity (KLD) of CETP: --	02	TSDF site	Name of TSDF: M/s. BEIL Infrastructure Limited Date of Issue of membership along with validity:
Sr. No	Membership for Common Facility	Membership Certificate issuing agency along with Date of Issue and validity of membership										
01	CETP	Name of CETP: -- Date of Issue of membership along with validity: Capacity of CETP (KLD): -- Allotted Capacity (KLD) to member unit: -- Spare Capacity (KLD) of CETP: --										
02	TSDF site	Name of TSDF: M/s. BEIL Infrastructure Limited Date of Issue of membership along with validity:										

		Issue date: 07/10/2023 Capacity of TSDF (MT): 5098000 MT Allotted Capacity (MT) to member unit: 3818807.625 MT Spare Capacity (MT) of TSDF: 1279192.375 MT
03	Common Hazardous Waste Incineration Facility	M/s. BEIL Infrastructure Limited Membership Certificate issued date 07/10/2023
04	Common Spray Drying Facility	Not Applicable
05	Common MEE Facility	CMEE of M/s. BEIL Infrastructure Limited Membership Certificate issued date 22/01/2024
06	Common Conveyance System	Not Applicable
07	PESO permission	Unit will obtain Fire NOC after getting EC and before getting CTO.
08	FIRE permission	Unit will obtain Fire NOC after getting EC and before getting CTO.
09	Health Certificate	Pre-Employment medical checkup will be carried out.
-		
38)	EMERGENCY MEASURES PROPOSED AND PREPAREDNESS ACTION PLAN The management structure at M/s. Pentaphos Industries Pvt Ltd The following personnel for onsite emergency plan <ul style="list-style-type: none"> • Chief Emergency Controller • Incident Controllers and Deputy Incident Controllers • Site Main Controllers • Essential Workers • Assembly points • Emergency control center • Fire control arrangements • Medical arrangements STANDARD OPERATING PROCEDURE (SOP) - (EMERGENCY) <ul style="list-style-type: none"> • As soon as emergency alarm will have heard, all essential workers shall report to IC or SMC. • They shall carefully listen to the instructions given by IC or SMC • According to the type of emergency/accident, they shall get equipped with PPE/Firefighting equipment and devices. • The runner among the workers shall inform SMC/IC and key personnel if they are not at site. • The messenger amongst the workers shall deliver messages to nearby units as per the instructions of SMC/IC. • The in-charge of medical arrangements shall prepare first-aid and other required facilities for the injured. • The other essential workers shall try to control the emergency as per the instructions given to IC. • IC would keep SMC informed about the status of control measures being taken at the site and ask for other requirements e.g. Mutual aid, equipment etc., if necessary. • SMC would co-ordinate with outside agencies regarding control measures being taken, need for external help, evacuation, medical treatment etc. 	
39)	CER ACTIVITIES PROPOSED YEAR WISE/ IN CASE OF EXPANSION ANY	

ADDITIONALITY SUGGESTED AND ITS COMPLIANCE (AS PER THE MOEF & CC GUIDELINES)

Total cost of Project (Rs in Crores)	Total Cost of CER (Rs in Crores or Lakhs)	Percentage (%)
Rs. 10 Crores	Rs. 20 Lakhs	2%

Sr No	Activities	Name of Villages	Cost (Rs in Lakhs or Crores)
1	Installation of Solar panels (10 KW) in Selod Village to promote green energy. [18 Nos. of panels] [Operating Voltage-24V]	Selod Village	6,00,000/-
2	Tree Plantation at Dadheda Village [Total 2000 Nos. of Trees with protection Cage] Cost= 2000 Nos. of trees* 700 Rs. = 14 Lakh]	Dadheda Village	14,00,000/-
			Rs. 20,00,000/-

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Comments:

As per MoEF&CC's OM dated: 01.05.2018 and 30.09.2020, SEAC examined that the proposed cost of CER i.e 2 % (Rs 20 Lakhs) which is as per the requirement.

40) ENVIRONMENT MANAGEMENT PLAN (ESPECIALLY WITH CEPI AND NON CEPI GUIDELINES, AS MAY BE APPLICABLE)

Sr. No	Unit	Detail	Capital Cost (Rs. In Lakhs or Crores)	Total Recurring Cost (Rs. In Lakhs or Crores per Annum)
1	Wastewater	Cost of Membership of CETP ,Cost of in-house MEE with Solvent Stripper, Construction Cost of Low COD effluent &Utility effluent	76.00 Lakhs	343.06 Lakhs
2	Air	Cost of dust collector during construction, Cost of Multi cyclone separator with bag filter + water scrubber, Cost of stack installation, Cost of LADR, Cost of maintenance of APCM System	48.00 Lakhs	6.00 Lakhs
3	Hazardous Management	Cost of TSDF/CHWIF membership letter of M/s.	16.21 Lakhs	182.52 Lakhs

		BEIL, Construction of Hazardous waste storage yard, Cost for TSDF disposal, Cost for incineration disposal		
4.	Fire & Safety	Fire Hydrant, Fire Safety & fire water storage tank, Trailer Driven Pump, PPEs; Proximity Suit, DCS + Flame proof electrical fittings, Fire Extinguishers; Foam Type Trolley, automatic control system, mock drills, etc.	98.64 Lakhs	2.60 Lakh
5	Green Belt Development	--	10.49 Lakhs	2.50 Lakhs
6.	Occupational Health	O.H.C, OHS Training of staff, Miscellaneous, etc.	28.5 Lakhs	8.50 Lakhs
7.	Noise Control	Acoustic enclosure; Silencer ; Vibration pads;Noise PPEs, etc.	15.00 Lakhs	1.00 Lakh
8.	VOC Control & LDAR	LDAR System: Cooling and Chilling units and DCS System for Distillation	80 Lakhs	20 Lakhs
9	Environment Monitoring Program	Risk analysis, safety audit, maintenance expenses details, etc.	10.00 Lakhs	2.50 Lakhs
10	CER Activity	<ul style="list-style-type: none"> • Installation of Solar panels in Selod Village of to promote green energy • Tree Plantation at Dadheda Village 	20.00 Lakhs	--
11	Cost of conservation plan of Schedule-I species, if any	--	2.80 Lakhs	--
Total			405.65 Lakhs	568.68 Lakhs
<p><u>Comments:</u></p> <p>The overall environment management plan (EMP) provided for capital and recurring cost for wastewater treatment, air emission control, noise control, hazardous waste disposal, fire & safety, occupational health, environment monitoring program, green belt and corporate environmental responsibility was deliberated and found satisfactory.</p>				
41)	<p>RECOMMENDATIONS OF SEAC</p> <p>"On the basis of information provided to SEAC on project, its location, technical, physical and environmental infrastructure, products, quantity to be manufactured, its raw material, storage, waste disposal, water treatment, safety measures, green belt development</p>			

	<p>planning, regulatory compliance assured of related statutory provisions, necessary documents of requisite permissions provided from concerned departments and overall environmental management planning for the project, along with financial resources committed for operation and maintenance, and on the basis of presentation made before SEAC, modification suggested by SEAC and incorporated by project proponent, SEAC finds the project as per the requirement and unanimously recommends the same to SEIAA for environmental clearance."</p> <p>Conditions with which Environment Clearance is recommended:</p>
42)	<p>GENERAL CONDITIONS</p> <p><u>Construction Phase</u></p> <ul style="list-style-type: none"> a) "Wind – breaker of appropriate height i.e. 1/3rd of the building height and maximum up to 10 meters shall be provided. Individual building within the project site shall also be provided with barricades. b) "No uncovered vehicles carrying construction material and waste shall be permitted." c) "No loose soil or sand or construction & demolition waste or any other construction material that cause dust shall be left uncovered. Uniform piling and proper storage of sand to avoid fugitive emissions shall be ensured." d) Roads leading to or at construction site must be paved and blacktopped (i.e. – metallic roads). e) No excavation of soil shall be carried out without adequate dust mitigation measures in place. f) Dust mitigation measure shall be displayed prominently at the construction site for easy public viewing. g) Grinding and cutting of building materials in open area shall be prohibited. h) Construction material and waste should be stored only within earmarked area and road side storage of construction material and waste shall be prohibited. i) Construction and demolition waste processing and disposal site shall be identified and required dust mitigation measures be notified at the site. (If applicable). <p><u>SPECIFIC CONDITIONS:</u></p> <ol style="list-style-type: none"> 1. Unit shall install CEMS [Continuous Emission Monitoring System] in line to CPCB directions to all SPCB vide letter no. B-29016/04/06PCI-1/5401 dated 05/02/2014 for effluent discharge and air emission as per pollutants discharge/emission from respective project and an arrangement shall also be done for reflecting the online monitoring results on the company's server, which can be assessable by the GPCB/CPCB on real time basis. [For Small/Large/Medium (Red Category) & Whichever (Air emission & Effluent discharge) is applicable].

2. The National Ambient Air Quality Emission Standards issued by the Ministry vide G. S. R. No. 826 (E) dated 16th November, 2009 shall be complied with.
3. National Emission Standards for Organic Chemicals Manufacturing Industry issued by the Ministry vide G. S. R. 608 (E) dated 21/07/2010 and amended from time to time shall be followed.
4. National Emission Standards for Bulk drug and formulation (Pharmaceuticals) Industry issued by the Ministry vide G. S. R. 541 (E) dated 06/08/2021 and amended from time to time shall be followed.
5. Unit shall have to adhere to the prevailing area specific policies of GPCB with respect to the discharge of pollutants, and shall carry out the project development in accordance & consistence with the same.
6. All measures shall be taken to avoid soil and ground water contamination within premises.
7. **Safety & Health:**
 - a) PP shall obtain PESO permission for the storage and handling of hazardous chemicals. (If applicable).
 - b) PP shall provide Occupational Health Centre (OHC) as per the provisions under the Gujarat Factories Rule 68-U.
 - c) PP shall obtain fire safety certificate / Fire No-Objection certificate (NOC) from the concern authority as per the prevailing Rules / Gujarat Fire Prevention and Life Safety Measures Act, 2016.
 - d) Unit shall adopt functional operations/process automation system including emergency response to eliminate risk associated with the hazardous processes.
 - e) PP shall carry out mock drill within the premises as per the prevailing guidelines of safety and display proper evacuation plan in the manufacturing area in case of any emergency or accident.
 - f) PP shall install adequate fire hydrant system with foam trolley attachment within premises and separate storage of water for the same shall be ensured by PP.
 - g) PP shall take all the necessary steps for control of storage hazards within premises ensuring incompatibility of storage raw material and ensure the storage keeping safe distance as per the prevailing guidelines of the concerned authority.
 - h) PP shall take all the necessary steps for human safety within premises to ensure that no any harm is caused to any worker/employee or labour within premises.
 - i) Flame proof electrical fittings shall be provided in the plant premises, wherever applicable.
 - j) Unit shall never store drum/barrels/carboys of incompatible material/chemical

together.

- k) Unit shall provide effective Isolation for Process area and storage of hazardous chemicals.
- l) The project management shall prepare a detailed Disaster Management Plan (DMP) for the project as per the guidelines from Directorate of Industrial Safety and Health.
- m) Provide double earthing to solvent storage tanks: (1) Unit shall provide effective fire hydrants, water monitors & foam application system at solvent storage tank farm area. (2) Unit shall provide adequate safety system such as water sprinklers, water curtains, foam pouring system etc. to restrict cascade fire emergency in solvent tank farm.
- n) Unit shall never store drum/barrels/carboys of incompatible material/chemical together.
- o) Unit shall provide water sprinkler to the ammonia storage cylinder.
- p) Unit shall provide chlorine leakage control emergency kit and FRP hood with scrubber system for chlorine safety.

WATER

- 8. Total water requirement for the project shall not exceed 68.2 KLD. Unit shall reuse 29.7 KLD of treated effluent within premises. Hence, fresh water requirement shall not exceed 38.5 KLD and it shall be met through GIDC water supply only. Prior permission from concerned authority shall be obtained for procurement of water.
- 9. The industrial effluent generation from the project shall not exceed 37 KLD.
- 10. Management of Industrial effluent shall be as under:

Concentrated Stream (6 KLD)

- ✓ 6 KLD high concentrated stream generated from process (6 KLD) shall be segregated and shall be treated in Solvent Stripper followed by ETP-1 and then treated effluent shall be send to in-house MEE and MEE condensate shall be reuse in plant premises and MEE salt (0.3 MT/Day) shall be sent to TSDF site.

Dilute Stream (31 KLD):

- 20 KLD effluent generated from process (low COD) shall be treated into ETP-2 treated effluent shall be send to common MEE of BEIL -Dahej after conforming to the norms prescribed by GPCB.
- 8 KLD effluent generated from Washing (5 KLD), cooling (1 KLD) and Boiler (2 KLD) shall be treated into ETP-3 followed by RO and RO permeate shall be reused and RO reject shall be taken into in-house MEE and MEE condensate shall be reused within premises.

- ✓ 3.0 KLD scrubbing media shall be sold to end user having rule-9 permission under Hazardous Waste Rules-2016.

11. Domestic wastewater generation shall not exceed 2.7 KL/day for proposed project and it shall be treated in STP. It shall not be disposed off into soak pit. Treated sewage shall be utilized for gardening and plantation purpose within premises after achieving on-land discharge norms prescribed by the GPCB.
12. During monsoon season when treated sewage may not be required for the plantation / Gardening / Green belt purpose, it shall be stored within premises. There shall be no discharge of waste water outside the premises in any case.
13. Unit shall provide buffer water storage tank of adequate capacity for storage of treated waste water during rainy days.
14. Treated waste water shall be sent to common facilities (Common MEE) only after complying with the inlet norms of common facilities prescribed by GPCB to ensure no adverse impact on Human Health and Environment.
15. The PP shall ensure to dispose off Waste water to the Common Facilities having valid CTO of GPCB.
16. Unit shall feed wastewater to in-house MEE only after ensuring content of effluent for COD/VOC so as not to get air borne during evaporation in order to achieve no adverse impacts on Environment and Human Health.
17. Unit shall provide STP and ETP with adequate capacity.
18. The unit shall provide metering facility at the inlet and outlet of ETP and maintain records for the same.
19. Proper logbooks of ETP; reuse/ recycle of treated/ untreated effluent; chemical consumption in effluent treatment; quantity & quality of treated effluent sent to common facilities; power consumption etc. shall be maintained and shall be furnished to the GPCB from time to time.

AIR:

20. Unit shall not exceed fuel consumption for Steam Boiler, Thermic Fluid Heater and D G Set as per the point no. 24 as mentioned above.
21. PP shall use approved fuels only as fuel in Steam Boiler, Thermic Fluid Heater and D G Set.
22. Unit shall provide adequate APCM with flue gas generation sources to achieve the norms prescribed by GPCB.
23. Unit shall provide adequate APCM with process gas generation sources as the point no. 25 as mentioned above.

24. The fugitive emission in the work zone environment shall be monitored. The emission shall conform to the standards prescribed by the concerned authorities from time to time (e.g. Directors of Industrial Safety & Health). Following indicative guidelines shall also be followed to reduce the fugitive emission.
- Internal roads shall be either concreted or asphalted or paved properly to reduce the fugitive emission during vehicular movement.
 - Air borne dust shall be controlled with water sprinklers at suitable locations in the plant.
 - A green belt shall be developed all around the plant boundary and also along the roads to mitigate fugitive & transport dust emission.
25. Regular monitoring of Volatile Organic Compounds (VOCs) shall be carried out in the work zone area and ambient air.
26. For control of fugitive emission, VOCs, following steps shall be followed :
- a. Closed handling and charging system shall be provided for chemicals.
 - b. Reflux condenser shall be provided over Reactors / Vessels.
 - c. Pumps shall be provided with mechanical seals to prevent leakages.
 - d. Air borne dust at all transfers operations/ points shall be controlled either by spraying water or providing enclosures.
27. Solvent management shall be carried out as follows:
- ✓ Measures shall be taken to reduce the process vapors emissions as far as possible. Use of toxic solvents shall be minimum. All venting equipment shall have vapour recovery system
 - ✓ Reactor shall be connected to adequate chilling system to condensate solvent vapors and reduce solvent losses.
 - ✓ Reactor and solvent handling pump shall have mechanical seals to prevent leakages.
 - ✓ The condensers shall be provided with sufficient HTA and residence time so as to achieve maximum solvent recovery.
 - ✓ Solvents shall be stored in a separate space specified with all safety measures.
 - ✓ Proper earthing shall be provided in all the electrical equipment wherever solvent handling is done.
 - ✓ Solvent storage and handling area shall be flame proof. The solvent storage tanks shall be provided with breather valve to prevent losses.
28. Close loop solvent recovery system with adequate condenser system shall be provided to recover solvent vapours in such a manner that recovery shall be maximum and recovered solvent shall be reused in the process within premises.
29. Leak Detection and Repair (LDAR) program shall be prepared and implemented as per

the CPCB guidelines. LDAR Logbooks shall be maintained.

30. Regular monitoring of ground level concentration of PM₁₀, PM_{2.5}, SO₂, NO_x, HCl, Br₂, H₂S, NH₃ and VOCs shall be carried out in the impact zone and its records shall be maintained. Ambient air quality levels shall not exceed the standards stipulated by the GPCB. If at any stage these levels are found to exceed the prescribed limits, necessary additional control measures shall be taken immediately. The location of the stations and frequency of monitoring shall be decided in consultation with the GPCB.

HAZARDOUS / SOLID WASTES:

31. All the hazardous/ solid waste management shall be taken care as per the point no. 32 and 33 as mentioned above.
32. Authorized end-users shall have permissions from the concerned authorities under the Rule 9 of the Hazardous and Other Wastes (Management and Transboundary Movement) Rules 2016.
33. Unit shall explore the possibilities for environment friendly methods like co-processing of hazardous waste for disposal of Incinerable & land fillable wastes before sending to CHWIF & TSDF sites respectively.
34. The project proponent has to obtain membership of TSDF site & CHWIF before obtaining CTO of GPCB.
35. STP sludge shall be collected and used as manure in gardening activity or send to TSDF site for landfilling.
36. Management of fly ash shall be as per the Fly ash Notification 2009 & its amendment time to time and it shall be ensured that there is 100% utilization of fly ash to be generated from the unit.
37. The unit shall submit the list of authorized end users of hazardous wastes along with MoU signed with them at least two months in advance prior to the commencement of production. In the absence of potential buyers of these items, the unit shall restrict the production of the respective items.

GREENBELT AREA

38. The PP shall develop green belt within premises (5247 Sq. m i.e. 33 % of the total plot area) as submitted before SEAC. Green belt shall be developed with native plant species that are significant and used for the pollution abatement as per the CPCB guidelines. It shall be implemented within 3 years of operation phase in consultation with GPCB.

OTHERS:

	<p>39. The project proponent shall carry out the activities of amount of Rs.20 Lakhs (Installation of Solar panels (10 KW) in Selod Village to promote green energy [18 Nos. of panels] [Operating Voltage-24V] at Selod Village and Tree Plantation at Dadheda Village [Total 2000 Nos. of Trees with protection Cage] Cost= 2000 Nos. of trees* 700 Rs. = 14 Lakh] at Dadheda Village proposed under CER and it shall be part of the Environment Management Plan (EMP) as per the MoEF&CC's OM no. F. No. 22-65/2017-IA.III dated 30.09.2020. This shall be monitored and the monitoring report shall be submitted to the regional office of MoEF&CC as a part of half-yearly compliance report and to the District Collector. The monitoring report shall be posted on the website of the project proponent.</p> <p>40. As proposed, at least Rs. 2.80 lakhs shall be allocated for the conservation plan Schedule- I species. (MoEF&CC)</p> <p>41. All the recommendations, mitigation measures, environmental protection measures and safeguards proposed in the EIA report of the project prepared by M/s. Aqua Air Environmental Engineering Pvt. Ltd. and submitted by the project proponent and commitments made during presentation before SEAC and proposed In the EIA report shall be strictly adhered to in letter and spirit.</p>
43)	<p>COMPLIANCE AND ADMINISTRATION/APEAL OF EC ORDERS</p> <ol style="list-style-type: none"> 1. Project proponent shall inform to all the concerned authorities including Municipal Corporation and District Collector and shall also give wide publicity through advertisement in minimum two local newspapers within seven days, about the Environment Clearance order accorded. 2. Project proponent shall appoint a key person in the organization who shall be responsible for compliance of above condition fully on behalf of the proponent. It will not mean that appointing a key person will exempt the project proponent from the responsibility of compliance. Any change in key person shall immediately be informed to SEIAA and all concerned authorities. 3. Designated key person shall submit six monthly compliance report to SEIAA/SEAC, MOEF&CC, GPCB and Nodal Department of the Government. 4. The Nodal Department or any authority or officer authorized by MOEF&CC/SEIAA can inspect the site of the project and all the facilities, for verification of compliances of environment clearance conditions. 5. In case of violation reported upon, the project proponent shall be responsible for all the legal actions as per Environment Protection Act, 1986 including SEIAA may cancel, withdraw or keep in abeyance, the Environment Clearance accorded. 6. Any person including the project proponent affected by this Environment Clearance order

	<p>may file appeal to Honorable National Green Tribunal West Zone branch, Pune, preferably within a period of thirty days from the date of issue of Environment Clearance as prescribe under section 16 of National Green Tribunal Act 2010.</p> <p>7. All complains and public grievance or representations may be addressed to SEIAA/SEAC in the email addresses (a) msseiaagj@gmail.com& (b) seacgujarat@gmail.com</p>
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7.	SIA/GJ/IND3/432115/2023	M/s. Nivaan Industries Private Limited Plot no 1218,/1219/1220, G.I.D.C. Sarigam, Taluka: Umbergaon, District: Valsad, Gujarat	EC – Reconsideration
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Category of the unit: **5 (f) – B1**

Project status: **Expansion**

Project located either in CEPI or non CEPI : non CEPI

PP submitted salient features of the project including Water, Air and Hazardous waste management are as under from Sr. No. 1, 3 to 40. And in Sr. No. 2 detailed deliberation of Committee is mentioned. Comments of SEAC is given in relevant points.

1)	DETAILS OF APPLICATION:	
	1.1. Type of application:	EC Fresh
	1.2. Proposal no.	SIA/GJ/IND3/432115/2023
	1.3. Category of Project:	B1
	1.4. Date of application:	03/06/2023
	1.5. Date of EDS by SEIAA a) EDS Raised b) Reply by PP	a) 13/06/2023 b) 14/06/2023
	1.6. Date of EDS by SEAC a) EDS Raised b) Reply by PP c) Accepted by SEAC	a) 21/06/2023 b) 15/07/2023 c) 21/07/2023
	1.7. TOR No. & Date:	ToR issued vide no. SIA/GJ/118507/2022 dated 07 th July 2022
	1.8. Date and place of Public Hearing	Not Applicable because the project is located in GIDC Sarigam Notified Industrial Estate.
	1.9. Name of accredited Environmental Consultant & address along with Accreditation No. & Validity	Shree Green Consultants NABET/EIA/2124/IA0072 validity till February 24, 2024
	1.10. SEAC Meeting No. and Date:	696 th meeting of the State Level Expert Appraisal Committee held on 22 nd September 2023 [IND]

	<p>1.11. ADS raised by SEAC meeting No & date:</p> <p>1.12. Reply Submitted by PP dated:</p> <p>1.13. Revised Consideration Meeting No. and Date:</p> <p>-</p>	<p>ADS raised in 696th meeting of the State Level Expert Appraisal Committee dated on 22nd September 2023.</p> <p>10/01/2023</p> <p>764th meeting of the State Level Expert Appraisal Committee to be held on 19th January 2024.</p>
2)	<p>DELIBERATIONS OF SEAC:</p> <ol style="list-style-type: none"> 1) This is a new project proposed for manufacturing of synthetic organics chemicals. 2) The project falls under B1 category of project activity 5(f) as per the schedule of EIA Notification 2006. 3) SEIAA has issued standard ToR (Auto ToR) vide letter No. File No. SIA/GJ/118507/2022 dated 07.07.2022. 4) The proposal was considered in the SEAC video conference meeting dated 25.09.2023. 5) Project proponent (PP) and their Consultant M/s Shree Green Consultants remain present during video conference meeting. 6) Committee noted that the Consultant M/s. Shree Green Consultants has not submitted undertaking regarding valid NABET accreditation certificate and entire EIA/EMP work related details as per SEAC minutes dated 23.06.2023. 7) Committee noted that this is a Greenfield project proposed for manufacturing of "Synthetic Organic Chemicals" (Dyes & Dyes Intermediates product) at Plot no. 1218,/1219/1220, G.I.D.C. Sarigam, Taluka: Umnbergaon, District: Valsad. 8) Committee deliberated on Product profile, Layout plan, Storage details, Process safety, Fire safety, water balance & waste water management, Flue gas and process gas emission & Air Pollution Control System, Hazardous waste matrix, EMP, CER, Green belt, etc. 9) During meeting, PP presented and Committee noted the following documents: <ul style="list-style-type: none"> • Committee noted that Total land area of the proposed project site is around 2188.29 m². Out of which 165.00 m² (i.e 7.5 %) land will be developed as green belt. Around 1032 m² land of Sarigam GIDC will be developed as green belt, so committee asked PP to justify about constraint of not developing greenbelt within the premises. • Unit is obtained CTE Amendment (CTE No. 114467 Issued vide letter no. GPCB/CCA-SRG-704/ID: 23516/600136 for blending of Crude Dyes (only blending & mixing) -450 MT/month. Unit has obtained CCA no. AWH: 126668 issued on 1.06.2023 valid upto 31.03.2028 for blending of Crude Dyes (only 	

blending & mixing) -450 MT/month. PP has submitted self compliance report of CCA conditions.

- Product profile shows that Sulpho Tobias Acid, VS dyes (Vinyl Sulphone) and other dirty products are proposed as product.

10) Committee noted that as per GPCB Circular dated: 03.11.2018 regarding 11 dirty products, Sulpho Tobias Acid, Vinyl Sulphone are the products which cannot be permitted outside the PCPIR region.

11) **In view of the above, the Committee unanimously decided to defer the proposal and consider the same in upcoming SEAC meeting after submission of revised proposal by removing “products mentioned in GPCB circular dated 03.11.2018” from product profile.**

12) PP has submitted reply of above query generated on SEAC VC meeting, through Parivesh portal.

13) This proposal is reconsidered in SEAC VC meeting dated: **19.01.2024.**

14) PP along with their consultant, M/s. Shree Green Consultants remains present in the meeting and made presentation before Committee.

15) Technical Expert/Consultant M/s. Shree Green Consultants has submitted undertaking dated: 08.12.2023 stating that they valid NABET accreditation certificate and entire EIA/EMP work including field study, data collection, data analysis is been carried out by their EIA team and Shree Green Environmental laboratories team. They have NABL accredited laboratory (Shree Green Environmental laboratories - sister concern) and done MoU between them.

16) During meeting, Committee noted that PP submitted following details:

- Total land area 2188.29 m², out of which 438 m² (i.e.20%) land area is already used for greenbelt development. Approximately 515 m² (i.e.23.5%) area greenbelt development will be done outside the premises in collaboration with Sarigam Industries Association inside the GIDC estate. This will constitute a total of 43.5 % greenbelt area development by M/s. Nivaan Industries Pvt. Ltd. PP has submitted letter dated: 25.06.2022 of Sarigam Industries Association for greenbelt development.
- PP has submitted self certified compliance report of existing CCA as CCA obtained on 1.06.2023 i.e within one year of EC application made so as per MoEF&CC's OM dated 08.06.2022, self certified compliance report is acceptable.
- We have removed the dirty products from the product profile. Accordingly, there is change in technical details specifically in water consumption, waste water

generation & hazardous waste generation & disposal details. All details are submitted.

- d) Committee deliberated on baseline environmental data and quality has been assessed for various components of the environment viz. air, noise, water, biological and socioeconomic aspect.
- e) Risk assessment including prediction of the worst-case scenario and maximum credible accident scenarios has been carried out. The detailed proposed safeguard measures including On-Site / Off-Site Emergency Plan has been covered in the RA report.
- f) PP has submitted Plot transfer letter issued by GIDC vide letter No GIDC/RM/VAP/TRF/FTO/SAR3/112 dated 06.10.2020 for plot no. 1218 +1219+1220 in favour of Nivaan Industries Pvt. Ltd.
- g) PP mentioned that there is no any action taken by GPCB in last three years and there is no any compliant or litigation pending.

17) During meeting committee asked for following details:

- ✓ Submit the revised Environment Management Plan as all components are not included only 07 are given.
- ✓ Submit the Technical summary before and after removing dirty products.
- ✓ Submit the raw material storage, handling & mitigation measures.
- ✓ Justification for Self-certified CCA Compliance report.
- ✓ Submit Revised Area Adequacy for Finish Good Storage Area, Raw Material Storage Area.
- ✓ Submit the conclusion of baseline monitoring.

18) Later on PP has submitted following details through email dated 22.01.2024:

- ✓ PP has submitted revised Environment Management Plan and same details in mentioned in format at Sr. No. 40. Here they have included all components.
- ✓ PP has submitted technical summary before and after removing dirty products.

Name	Before removing dirty products	After removing dirty products	Remark
Total No. of products	54	50	Sulpho Tobias Acid, MPDDSA, VS dyes and Sulpho J Acid are removed
Production capacity	485 MT/Month	485 MT/Month	No change
Water consumption	250 KLD	124.5 KLD	Decrease
Wastewater generation	105 KLD	65 KLD	Decrease

	Fuel Consumption			
	Natural Gas	900 SCM/day	900 SCM/day	No change
	Diesel	100 Liter/Hr.	100 Liter/Hr	No change
	Hazardous Waste Generation (MT/M)			
	ETP sludge	50	90	Increase
	Discarded containers / drums / Barrels / Bags	5	5	No change
	Spent Oil/Used Oil	0.1	0.1	No change
	Distillation residue	2	2	No change
	Dil. HCl	150	106	Decrease
	Spent H ₂ SO ₄	350	130	Decrease
	Spent Solvent	8	6	Decrease
	Ammonia solution	10	9	Decrease
	<p>✓ PP has submitted Safe Storage & Safety Precaution during Handling of chemicals and its mitigation measures.</p> <p>✓ PP has mentioned that as per notification dated 08.06.2022 "Self-certified compliance report for CTO shall be sufficient If applicant apply for expansion application within a period of one year from the Grant/ renewal of CTO." We have obtained CCA fresh No. 126668 for blending of crude dyes (only blending & mixing) dated 03/06/2023 valid up to 31/03/2028. Hence, we have submitted the self-certified CCA compliance.</p> <p>✓ PP has submitted revised area adequacy and same details in given in format at Sr. No. 11.</p> <p>✓ PP has submitted conclusion of baseline monitoring report.</p> <p>19) Committee found presentation and reply submitted by PP was satisfactory.</p> <p>20) Since the proposed project is located in notified industrial area, public consultation is not required as per paragraph 7(i) (III) (I) (b) of the Environment Impact Assessment Notification 2006.</p>			
	3) EIA REPORT (BASELINE STUDIES AND RISK ANALYSIS)			
	Sr . n o.	Particulars	Details (Give brief note / Conclusion of the particular subject)	Page no., Section no. & chapter no. of EIA report
	a	Ensure that there is no change in EIA report w. r. t. ToR i.e. Form-1 & PFR	Yes	--
	b	Baseline environmental monitoring period	3 month (1 st March 2022 to 31 st May 2022)	Please refer Section 3.4 on page no. 3-3 of

			Chapter –3																	
c	Whether baseline data is primary or secondary data? 1) If baseline data carried out by other NABL accredited laboratory then MoU between both. 2) If baseline data is taken from another EIA report, then MoU between NABET consultant and industry whose data used in preparing present EIA report and time period of baseline data shall be as per MoEF&CC's OM dated: 08.06.2022.	Primary 1) Baseline data carried out by other NABL accredited laboratory our Shree Green Environmental Laboratory.	-																	
d	Baseline study area (Km)	Study region within 10 km radius of the Project Site	Please refer Section 3.2 on page No. 3-2 of Chapter-3																	
AIR																				
e	No. of AAQM stations including project site	AAQ data (except monsoon) at 8 nos.locations.	Please refer Section 3.5.2, Table No. 3.2 on page No. 3-6 of Chapter-3																	
f	Parameters considered for AAQM including project specific parameters.	AQM including PM ₁₀ , PM _{2.5} , SO ₂ , NO _x , CO, Cl ₂ , NH ₃ , HCl, HF and VOC has been incorporated in EIA Report. The monitoring stations are based on CPCB guidelines and predominant wind direction, population zone and sensitive receptors including reserved forests are taken into account.	Please refer Section 3.5.4, Table No. 3.3 on page No. 3-7 of Chapter-3																	
<table border="1"> <thead> <tr> <th>Sr. no.</th><th>Parameters</th><th>Range of Concentrations (µg/m³)</th><th>Remarks</th></tr> </thead> <tbody> <tr> <td>1</td><td>PM10</td><td>37.9 to 75.0 µg/m³</td><td rowspan="4">All parameters are within NAAQS within study area.</td></tr> <tr> <td>2</td><td>PM2.5</td><td>23.7 to 46.8 µg/m³</td></tr> <tr> <td>3</td><td>SO2</td><td>19.9 to 34.8 µg/m³</td></tr> <tr> <td>4</td><td>NOx</td><td>24.8 to 39.5 µg/m³</td></tr> </tbody> </table>				Sr. no.	Parameters	Range of Concentrations (µg/m ³)	Remarks	1	PM10	37.9 to 75.0 µg/m ³	All parameters are within NAAQS within study area.	2	PM2.5	23.7 to 46.8 µg/m ³	3	SO2	19.9 to 34.8 µg/m ³	4	NOx	24.8 to 39.5 µg/m ³
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		5	CO	0.4 to 1.1 mg/m ³										
		6	NH3	BDL										
		7	HCL	BDL										
		8	HF	BDL										
		9	CL ₂	BDL										
		10	VOC	BDL										
g	Whether the results of AAQM is within the norms prescribed in NAAQS?If no, give reasons as per EIA report	All parameters are within NAAQS within study area.			Please refer Section 3.5.5, Table No. 3.3 on page No. 3-8 of Chapter-3									
h	Comments for AAQM results w. r. t. NAAQS	All the results of ambient air quality parameters have been found within the limit as per NAAQS standards. Based on comparison study of results for tested parameters with NAAQS, it is interpreted that current ambient air quality of studied locations is well within the NAAQS limits and it can be considered satisfactory based on AQI index calculated.			Please refer Section 3.5.5, Table No. 3.3 on page No. 3-8 of Chapter-3									
i	Software used for the mathematical Modelling for anticipated incremental GLCs (Ground Level Concentrations	AERMOD View Gaussian Plume Dispersion model is being used. The air quality contours are plotted on a location map showing the location of project site and maximum incremental GLC of pollutant			Please refer Section 4.3.2.4, page No. 4-6 of Chapter-4									
j	The resultant concentrations w. r. t. NAAQS and its conclusion.	After the establishment of the proposed project, these concentrations are found to be well below the permissible NAAQs norms for rural/residential zone and industrial zone. Therefore, the proposed activity will not have any adverse impact on the air environment.			Please refer Section 3.5.4, Table No. 3.3 on page No. 3-7 of Chapter-3									
		Concentration in µg/m ³												
		Baseline				Predicted				Resultant				
		PM ₁₀	SO ₂	NO _x	CO	PM ₁₀	SO ₂	NO _x	CO	PM ₁₀	SO ₂	NO _x	CO	
	1	Project site (A1)	75.0	34.8	39.5	1.1	0.303	0.378	0.969	0.037	75.303	35.178	40.469	1.137
	2	Manda (A2)	49.3	30.4	32.8	1.1	0.284	0.353	0.108	0.034	49.584	30.753	32.908	1.134
	3	Sarai (A3)	47.2	19.9	24.8	0.7	0.267	0.331	0.099	0.032	47.467	20.231	24.899	0.732
	4	Punat (A4)	37.9	22.8	25.2	0.4	0.252	0.311	0.053	0.030	38.152	23.111	25.253	0.43
	5	Angam (A5)	40.9	24.9	27.3	0.55	0.237	0.292	0.051	0.028	41.137	25.192	27.351	0.578
	6	Karanj (A6)	42.4	25.9	28.3	0.70	0.225	0.275	0.037	0.027	42.625	26.175	28.337	0.727
	7	Sarigam (A7)	61.3	27.4	32.3	0.99	0.213	0.260	0.069	0.026	61.513	27.66	32.369	1.016
	8	Maroli (A8)	57.7	25.5	30.4	0.97	0.203	0.247	0.112	0.025	57.9	25.7	30.5	0.9

										03	47	12	95
WATER													
k	No. of monitoring stations including project site wrt water a) Groundwater b) Surface water	a) Groundwater: 8 b) Surface water: 8	Please refer Section 3.11, Table No. 3.11 on page No. 3-25 of Chapter-3										
l	Conclusion of the Monitoring during baseline study of water (ground water and surface water)	c) Groundwater Based on comparison study of test results and summary report with drinking water norms as per Drinking Water Specification IS 10500: 2012, it is interpreted that ground water sample collected from all the locations are meet with the permissible range expect TDS, Total Hardness, Magnesium, Chloride, Iron and turbidity. The pH varied in the range of (7.10 – 7.42), TDS (548-695 mg/l), DO (2.4-3.5mg/l), Chlorides (221-335 mg/l), sulphate (13-28 mg/l), nitrate (0.53-1.7 mg/l), Total Hardness (205-310 mg/l), Turbidity (<1 NTU), Total alkalinity (225-308 mg/l) etc. All the parameters of collected ground water sample at all the location within the permissible limit. Ground water is suitable for domestic and agricultural purpose after primary treatment and disinfection. d) Surface water Based on test result data comparison study with CPCB standard for inland surface water classification, it is interpreted surface water quality meet with the criteria “E”- (Irrigation, industrial cooling or controlled waste disposal) for locations. The pH varied in the range of 07.22-8.04, TDS (432-2287 mg/l), TSS (20-45 mg/l), Chlorides (70-136 mg/l), sulphate (37-220 mg/l), nitrate (<0.1 mg/l), COD (13.8-26.8 mg/l), BOD (6.9-13.8mg/l), Total hardness (115-470 mg/l) etc. All the parameters of collected ground water sample at all the location within the permissible limit. All the heavy metals measured in collected samples of the surface water were BDL at all the locations. Thus, surface water can be used for domestic and agricultural purpose after primary treatment as well as after disinfection.	Please refer Section 3.11, Table No. 3.12 on page No. 3-28&Table No. 3.13 on page No. 3-29 of Chapter-3										
m	No. of monitoring stations including	8	Please refer Section 3.10,										

	project site wrt. soil		Table No. 3.9 on page No. 3-23 of Chapter-3																																													
n	Conclusion of the Monitoring during baseline study of land / soil	In order to establish the baseline status of soil characteristics, soil samples were collected from 8 sampling locations. Based on the study, the pH (7.28-7.98), Total Nitrogen (115-148 mg/kg), Total Phosphorus (30-40 mg/kg), Total Organic Carbon (0.42-0.74%) etc.The concentration of available Nitrogen, Phosphorous and Potassium in the soil samples signifies that the soil of the area is moderately fertile.	Please refer Section 3.10, Table No. 3.10 on page No. 3-24 of Chapter-3																																													
o	No. of monitoring stations including project site wrt Noise	8	Please refer Section 3.6, Table No. 3.4 on page No. 3-8 of Chapter-3																																													
p	Conclusion of the Monitoring during baseline study of Noise	Ambient noise levels were measured at 08 locations around the proposed project site and also on the project site location. Noise levels monitoring was done during the day as well as night time. The minimum and maximum noise levels recorded during the day time was 49.6 to 66.7 Leq dB(A) and during night time was 42.6 to 59.7 Leq dB(A). It was observed that the noise levels in the study area are well within the prescribed limits as prescribed by the CPCB	Please refer Section 3.6, Table No. 3.5 on page No. 3-9 of Chapter-3																																													
q	Any other details: a) Details of carbon footprint: <table><tr><th>Sr. no.</th><th>Category</th><th>Unit</th><th>Quantity</th></tr><tr><td>1</td><td>Natural Gas</td><td>SCM /day</td><td>900</td></tr><tr><td>2</td><td>Diesel</td><td>Liters/day</td><td>100</td></tr><tr><td>3</td><td>Electricity</td><td>KWA</td><td>800</td></tr></table> <table><tr><th>Scope</th><th>Description</th><th>Applicability</th></tr><tr><td colspan="3">DIRECT GHG EMISSIONS</td></tr><tr><td rowspan="2">1</td><td>Direct emissions from stationary combustion</td><td>Yes</td></tr><tr><td>Direct emissions from mobile combustion</td><td>Yes</td></tr><tr><td colspan="3">INDIRECT GHG EMISSIONS FROM IMPORTED ENERGY</td></tr><tr><td rowspan="2">2</td><td>Indirect emissions from imported electricity</td><td>Yes</td></tr><tr><td>Indirect emissions from imported energy</td><td>NA</td></tr></table> Anticipated Carbon Emission Direct Carbon emission <table><tr><th>Utility</th><th>Consumption</th><th>CO₂ Factor</th><th>tCO₂ per Day</th><th>tCO₂ per Year</th></tr><tr><td colspan="5">From Fuel</td></tr></table>			Sr. no.	Category	Unit	Quantity	1	Natural Gas	SCM /day	900	2	Diesel	Liters/day	100	3	Electricity	KWA	800	Scope	Description	Applicability	DIRECT GHG EMISSIONS			1	Direct emissions from stationary combustion	Yes	Direct emissions from mobile combustion	Yes	INDIRECT GHG EMISSIONS FROM IMPORTED ENERGY			2	Indirect emissions from imported electricity	Yes	Indirect emissions from imported energy	NA	Utility	Consumption	CO ₂ Factor	tCO ₂ per Day	tCO ₂ per Year	From Fuel				
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Utility	Consumption	CO ₂ Factor	tCO ₂ per Day	tCO ₂ per Year																																												
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Natural Gas	900 SCM/day	1.86 KgCO ₂ per SCM	1.674	602.64
Diesel	100 Liters/Day	2.68 KgCO ₂ per Liter	0.268	96.48
A.C	10 Nos	35.81 KgCO ₂ per No.	0.3581	128.916
From Transportation				
Trucks	24 Nos	0.105 kgCO ₂ per km	0.063	22.68
Cars	60 Nos	0.127 kgCO ₂ per km	0.1905	68.58
Motorcycle	240 Nos	0.082 KgCO ₂ per km	0.492	177.12
Indirect Carbon emission				
Electricity	Consumption KWH	KgCO₂ per KWH of Power	Tco₂ per Day	tCO₂ per Year
	800	0.659	0.656	236.16
Total t CO2 emission per year				1332.576

Total emission

Scope	Gross Emissions (t CO ₂ eq./year)
Scope-1	1096.416
Scope-2	236.16
Total emissions (t CO₂ eq. /year)	1332.576

NOTE: Scope 1 - Stationary Combustion, Mobile Combustion, and Fugitive Emissions from Air Conditioning

Scope 2 - Purchased Electricity and Purchased Heat/Steam Commuting

Details of carbon sequestration:

Sr. No.	Common Name	No. of tree
1	Gulmohar	17
2	Champa	14
3	Vad	20
4	Pipal	35
5	Ashok	33
6	Neem	38
7	Bahava	15
8	Kadamb	13
9	Shegva	12
10	Ghaneri	24
11	Jagli Badam	19
Total		240

The total carbon sequestered through trees (240 trees) = 562.7 t CO₂ eq. /year

Total emissions reduction due to carbon sequestration	562.7 t CO ₂ eq. /year
Net emissions (gross emissions – emission reduction)	1332.576-562.7 t CO ₂ eq. /year =769.88 t CO₂ eq. /year
The emission reduction percentage	42.23 %

Emission Reduction Plan in future

Category	Emission calculation	CO ₂ saving (tCO ₂ eq. /Annum)
Greenbelt development – 100 Number of trees will plant outside plant premises (after 5 years when tree will be matured CO ₂ Absorption rate will be increase)	100 X 1.01	101
Use of Renewable energy sources (Solar Panel, LED) (No. 201 W solar panel with LED light)	201 KW = (0.820X201X360)/1000 0.787 emission factor for electricity	59.33
Total CO ₂ saving in future planning		160.33
Total emissions reduction due to carbon sequestration		562 t CO ₂ eq. /year +160.33 t CO ₂ eq. /year = 722.33 t CO ₂ eq. /year
Net Emission After Comply future planning		1332.576– 722.33 t CO ₂ eq. /year =610.25 t CO ₂ eq. /Year
The emission After Comply future planning reduction percentage		54.21 %
<p>b) Details of water footprint: Detailed disposal mode of effluent is as below;</p> <ul style="list-style-type: none"> ➤ Approximately 65 KLD (2.0 KLD Domestic + 63 KLD Industrial) Effluent will be generated from proposed project. ➤ Generated industrial effluent (63 KLD) will be segregated into high concentration stream and Low concentration stream. Low concentration will be treated through ETP and ETP treated water will be sent to CETP of Sarigam for final disposal ➤ High concentration waste water will be sent directly to Common Spray Dryer for final discharge ➤ Domestic effluent (2 KLD) will be treated in in-house STP and treated water will be reused for gardening purpose. <p>c) Details of carbon sequestration:</p> <ul style="list-style-type: none"> ➤ M/s. Nivaan Industries Private Limited will using Hybrid power supply i.e. solar and wind energy as an alternative to GEB power. ➤ We have phasing out traditional light bulbs with LED lights. Resulting into a reduction 3/4th of the total energy consumption. ➤ The cooling tower fans are connected to temperature sensor, as soon as the sump temperature reaches the desired value the cooling tower switches off. ➤ The chillers and brine plants are installed with VFD's whereby there is huge savings during startup. ➤ Further, when the chilling load reduces, the power drawn for operating automatically reduces power saving devices installed in Boilers also. ➤ Use of solar energy for street lights, lifts, common area lights etc in entire complex. ➤ The selection of appropriate sustainable building materials for construction of factory buildings. ➤ A motion sensor light will be installed in Admin building, canteen wherever possible. ➤ Computers installed are with a system which will make sure to put it into hibernation 		

- mode when not in use.
- We are collecting the canteen waste and decompose it to manure.
 - Provision of common transport facility to employees to reduce carbon foot print.
 - We will shift to electrical vehicles for senior executive's travel.
 - We are going to develop 43.5 % Total plot area is 2188.29 m²; out of this 438 m² (i.e. 20 % of total area) will be developed as greenbelt inside premises. Approximately 515 m² area will be developed as greenbelt outside the premises.
 - We will use "cyanobacteria", a microbial species which converts CO₂ content waste containing CO₂ like Paper, Carboards, etc. into a material, which can be used as raw material for the production of bio plastics and cosmetic items.

d) Details of roof top rain water harvesting and reuse within premises:

Rain Water Harvesting

Rain water harvesting means arresting rainwater during monsoon and storing it in natural reservoirs and artificial tanks. The rain is available everywhere in India and the end user can store this water at marginal cost. The harvested rainwater can be used for flushing, washing, gardening, irrigation, firefighting and even consumption with necessary treatment. Rainwater is the purest form of water available to us. Experts opine that the major source of water, rain must be saved to solve the problem of water scarcity.

To reduce ground water pollution

- To argument the ground water storage and decline of water level
- To improve the quality of ground water
- To reduce the soil erosion

Method of rain water harvesting:

In Rooftop rain water harvesting the rain water is collected from roof of the buildings i.e Admin, Fire water tank & Security and stored in rain water collection tank (Capacity : 80 KL) The size of the catchment area and tank should be enough to supply sufficient water for the users.

Rainwater Harvesting Calculation

Particular	Details	
	Rooftop area	Green belt area
Annual Rainfall (m)	2.14	
No. rainy days per year	30	
Catchment area available m ²	1035	438
co-efficient of runoff (as per CGWA guideline)	0.85	0.15
Area wise volume of rain water can be harvested (KL/year)	1882.67	140.60
Total volume of rainwater can be harvested (KL/year)	2023.27	
Average volume of rainwater can be harvested (KL/year) during 30 rainy days	67.44	
Volume of storage tank to be provided by unit for rain water storage (KL)	80	

Rainwater Harvesting Calculation

Run off from the proposed project site is calculated using rational formula

$$Q = C \times I \times A$$

Q = Run-off in m³/annum

A = Catchment Area (sq.mt)

C = Coefficient of Run-off

I = Intensity of Rainfall in m/annum

r	Details of Schedule-I species and its conservation plan, if any					
	Sr. No.	Scientific Name	Local Name	IUCN status	Schedule As Per (WPA, 1972 & Its Amendment 2022)	
	Not applicable,proposed project site is located at notified industrial area.					
-						
4)	RISK ANALYSIS & ITS MITIGATION MEASURES IN GENERAL AS GIVEN IN EIA REPORT					
	S.NO	HAZCHEN NAME	TPQ/ STORAGE	FLAMMA RADIANT HEAT	TOXIC VAPOUR CLOUD	RISK SCENARIO ILLUSTRATION
	1	ACETIC ACID CAS: 64-19-7	25 MT 200 LITRE DRUMS	FLAMMABLE	TOXIC TLV: 5	SUPPLY LORRY CAPSIZES AND SPILLS THE LIQUID 5000 LITRES ON THE ROAD JUNCTION.INSIDE PLANT LOCATION
	2	ACETIC ANHYDRIDE CAS: 108-24-7	30 KL TANK 1 NO	FLAMMABLE	TOXIC TLV : 0.5 ppm	DECANTING HOSEPIPE LOOSENED AND LEAKAGE OF HAZCHEM 20000 LITES NEAR THE TANK FARM.FLAMMABLE VAPORS AND FIRE ACCIDENT. TOXIC VAPORS AND TOXICITY SPREAD
	3	ANILINE CAS: 62-53-3	17.22 MT 200 LITRE DRUMS	NO	TOXIC TLV 1 ppm	SUPPLY LORRY CAPSIZES AND SPILLS THE LIQUID 5000 LITRES ON THE ROAD JUNCTION.INSIDE PLANT LOCATION.
	4	AQUEOUS AMMONIA 23% CAS: 7664-41-7	5 KL TANK 1 NO	NO	TOXIC TLV: 30 ppm	DECANTING HOSEPIPE LOOSENED AND LEAKAGE OF HAZCHEM 3000 LITES NEAR THE TANK FARM TOXIC VAPORS AND TOXICITY SPREAD
	5	HYDRO CHLORIC ACID	30 KL TANKS 4 NOS			DECANTING HOSEPIPE LOOSENED AND LEAKAGE OF HAZCHEM 20000 LITES NEAR THE TANK FARM TOXIC VAPORS AND TOXICITY SPREAD
	6	NITRIC ACID	30 KL TANK 1 NO			DECANTING HOSEPIPE LOOSENED AND LEAKAGE OF HAZCHEM 20000 LITES NEAR THE TANK FARM TOXIC VAPORS AND TOXICITY SPREAD
	7	SULFURIC ACID	30 KL TANKS 2 NOS			DECANTING HOSEPIPE LOOSENED AND LEAKAGE OF HAZCHEM 20000 LITES NEAR THE TANK FARM TOXIC VAPORS AND TOXICITY SPREAD
		HYDROGEN	2 TRACOR TRAILER MODULAR UNITS 10.88 MT			FIRE IN THE MODULAT INTER CYLINER CONNECTION PIPELINES ON TRACTOR TRAILER.
	10	HYDROGEN PEROXIDE	30 KL TANK 1 NO			DECANTING HOSEPIPE LOOSENED AND LEAKAGE OF HAZCHEM 20000 LITES NEAR THE TANKFARM .TOXIC VAPORS AND TOXICITY SPREAD
	7	MAA CAS: 108-11-2	19.68 MT	FLAMMABLE	NO	SUPPLY LORRY CAPSIZES AND SPILLS THE LIQUID 5000 LITRES ON THE ROAD JUNCTION.INSIDE PLANT LOCATION. FLAMMABLE VAPOURS ON THE ROAD
	8	MEA	15.63 MT	NNONO	TOXIC	SUPPLY LORRY CAPSIZES AND

		CAS: 141-43-5			TLV: 6 ppm	SPILLS THE LIQUID 5000 LITRES ON THE ROAD JUCTION.INSIDE PLANT LOCATION. TOXIC VAPOURS ON THE ROAD
9	METHANOL CAS: 67-56-1	30 KL TANK 1 NO	FLAMMABLE	NO		DECANTING HOSEPIPE LOOSENED AND LEAKAGE OF HAZCHEM 20, 000 LITES NEAR THE TANK FARM.FLAMMABLE VAPORS AND FIRE ACCIDENT.
10	OLEUM 65% CAS: 8014 95 7	30 KL TANLS 2 NOS	NO	TOXIC TLV: 0.6 54 ppm		DECANTING HOSEPIPE LOOSENED AND LEAKAGE OF HAZCHEM 5000 LITES NEAR THE TANK FARM TOXIC VAPORS AND TOXICITY SPREAD
11	VINYL SULPHONE	30 KL TANK 1 NO	FLAMMABLE			DECANTING HOSEPIPE LOOSENED AND LEAKAGE OF HAZCHEM 20, 000 LITES NEAR THE TANK FARM FLAMMABLE VAPORS AND FIRE ACCIDENT
5)	REVISED PRODUCT PROFILE AND BRIEF NOTE OF PRODUCT PROFILE IS AS UNDER after removing dirty products:					
	Sr No	Group	Product	CAS No.	Quantity MT/Month	
	1	Acid Dyes	Acid Black 1	1064-48-8	27.5	
	2		Acid Black 52	1328-24-1		
	3		Acid black 84	6408-22-6		
	4		Acid black 107	12218-96-1		
	5		Acid black 172	57693-14-8		
	6		Acid black 194	61931-02-0		
	7		Acid Black 210	99576-15-5		
	8		Acid Blue 5	129-17-9		
	9		Acid Blue 9	2650-18-2		
	10		Acid blue 15	5863-46-7		
	11		Acid blue 25	6408-78-2		
	12		Acid blue 40	6424-85-7		
	13		Acid blue 80	4474-24-2		
	14		Acid blue 113	3351-05-1		
	15		Acid blue 171	51053-44-2		
	16		Acid brown 75	8011-86-7		
	17		Acid brown 282	12219-65-7		
	18		Acid brown 355	60181-77-3		
	19		Acid brown 365	63641-88-3		
	20		Acid green 1	19381-50-1		
	21		Acid orange 86	12220-07-4		
	22		Acid orange 156	72827-75-9		
	23		Acid red 52	3520-42-1		
	24		Acid red 151	6406-56-0		
	25		Acid red 195	93050-79-4		
	26		Acid red 357	61951-36-8		
	27		Acid red 362	61814-58-2		
	28		Acid red 405	83833-37-8		
	29		Acid red 426	118548-20-2		
	30		Acid yellow 17	6359-89-4		
	31		Acid yellow 151	12715-61-6		
	32		Acid yellow 194	61814-52-6		
	33	Direct Dyes	Direct yellow 86	50925-42-3	25	
	34	Sulphonated Products	para cresidine orthosulphonic acid	6471-78-9	25	
	35		R SALT	525-05-3		

	36	Amines	2:5 DMA	2801-68-5	25																					
	37		5 NAP/4 NAP	131721-28-3																						
	38		3 Amino 4 methoxy acetanilide	6375-47-9																						
	39		6 NAPSA	96-93-5																						
	40		4 NAPSA	91-29-2																						
	41		Aniline 2:4 Disulphonic acid	137-51-9																						
	42		Aniline 2:5 Disulphonic acid	98-44-2																						
	43		2 Pyridone	20577-27-9																						
	44		PAABSA	104-23-4																						
	45	Other Intermeidates	1 Amino Anthaquinone	82-45-1	7.5																					
	46	Solvent Dyes	Solvent Red 195	164251-88-1	25																					
	47		Solvent Red 111	82-38-2																						
	48		Solvent Violet 13	81-48-1																						
	49	Reactive Dyes	Orange3R	12225-83-1	350																					
	50		Violet 5R	12226-38-9																						
	Total				485																					
# Brief Note of Product Profile:																										
1. No of Manufacturing Plants: 1																										
2. Brief Note regarding number of Products to be manufactured considering plant capacity: 2 products to be manufactured considering plant capacity																										
6)	PROJECT DETAILS (COST/LAND OWNERSHIP/NA PERMISSION ETC.)																									
a) Total cost of ProposedProject (Rs. in Crores): 13.25 Crore																										
Break-up of proposed project Cost:																										
<table><tr><th>Sr. No.</th><th>Description</th><th>Total in Cr</th></tr><tr><td>1</td><td>Land Cost</td><td>2.20</td></tr><tr><td>2</td><td>Building & Civil works</td><td>0.55</td></tr><tr><td>3</td><td>Plant and machineries</td><td>8.50</td></tr><tr><td>4</td><td>Capital Cost for EPCM</td><td>1.20</td></tr><tr><td>5</td><td>Miscellaneous cost</td><td>0.8</td></tr><tr><td colspan="2">Total Cost</td><td>13.25</td></tr></table>						Sr. No.	Description	Total in Cr	1	Land Cost	2.20	2	Building & Civil works	0.55	3	Plant and machineries	8.50	4	Capital Cost for EPCM	1.20	5	Miscellaneous cost	0.8	Total Cost		13.25
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b) Details of Land / Plot ownership details: (Linking between Land ownership and PP is required.)																										
i. Total Plot area (sq mt): Plot No. 1218/1219/1220 (Total area 2188.29 Sq. m.) is procured from GIDC Notified Industrial Estate, Sarigam forproposed project.																										
ii. GIDC Plot Allotment letter/ NA documents: Yes, GIDC allotment letter no. GIDC/RM/VAP/TRF/FTO/SAR3/112 dated 06.10.2020																										
iii. Rent agreement, if any: Not Applicable																										
iv. Other Land Possession documents, if any: Not Applicable																										
7)	IF IT IS EXPANSION WHETHER CCR/EARLIER EC COMPLIANCE GIVEN:																									
	Sr. no.	Particulars	Brief Information/Details		Remarks																					

1	Earlier Environmental Clearance (EC) details [EC letter no. and date & obtained from MoEF&CC/SEIAA.]	The existing project does not required EC as per EIA notification dated 14 th September 2006. Project is operational with CTE and CTO form GPCB	-
2	In case EC not obtained for existing project: Copy of first CTE (NOC) & CCA obtained from GPCB i.e. before 14/09/2006. (For justification that you have not obtained EC for existing project).	M/s. Nivaan Industries Private Limited has obtained CCA amendment No. 126668 vide Letter No: GPCB/SAR/CCA-704/ID-23516/743819 for blending of crude dyes (only blending & mixing) dated 03/06/2023 valid up to 31/03/2028	-
3	Certified Compliance Report (CCR) from the concern authority (IRO-MoEF&CC/MS-GPCB) for existing EC/ CCA as per the MoEFCC's OM no.F.No: IA3-22/10/2022-IA.III [E 177258] dated: 08/06/2022.	Self-Certified CCA compliance is attached here as Annexure-I This project applied for EC within one year of obtaining CCA amendment from SPCB and as per clause no. IV of notification File No. IA3-22/10/2022-IA.III [E 177258]dated 8 th June, 2022 self certified CCA compliance is valid for projects who have submitted ECC application within one year of obtaining CCA.	-
4	Summary of CCR and Time bound action taken report/ plan of conditions i.e partly complied/ non-complied	Not Applicable as this is a proposed project. Self certified CCA compliance is enclosed as annexure I	-
5	Details of latest Consent to Operate (CTO/CC&A) obtained from GPCB along with date of issue and validity	M/s. Nivaan Industries Private Limited has obtained CCA amendment No. 126668 vide Letter No: GPCB/SAR/CCA-704/ID-23516/743819 for blending of crude dyes (only blending & mixing) dated 03/06/2023 valid up to 31/03/2028	-
6	Details of Improvement notice, Show- cause	No Improvement notice, Show- cause notice, Notice of direction, Directions,	-

		notice, Notice of direction, Directions, Closure direction etc. issued by the GPCB to the existing unit in last 3 years . Details in tabular format comprise issues, actions taken and current status . As per the latest XGN screen shot.	Closure direction received from GPCB to the existing unit in last 3 years. Copy of undertaking submitted as annexure II.		
7	Details of Public Complaints (If any)	No Public complaints against the project. Undertaking attached here as Annexure-II .	-		
8	Details of litigation pending before any court of Law against the Project (If any)	No litigation pending against the project. Undertaking is attached here as Annexure-II .	-		
<p><u>Comments:</u></p> <p>As per MoEF&CC's OM dated: 08.06.2022, PP has submitted self certified compliance report of CCA as they have applied for EC within one year after obtained CCA which is found satisfactory. Also, PP has submitted that there is no action taken by GPCB in last three years, no litigation pending and public complaints against the unit.</p>					
8)	PUBLIC HEARING APPLICABILITY AND ITS COMPLIANCE:				
	Main Issues raised by stake holders	Commitments by Project proponent and Action Plan	Action Plan		
	Not applicable				
<p><u>Comments:</u></p> <p>The public consultation is not applicable as per paragraph 7(i) III (i) (b) of the Environment Impact Assessment Notification-2006</p>					
9)	SITING CRITERIA DETAILS (OTHER THAN GIDC):				
	Sr. no.	Environmental Sensitivity	Name/Specific details	Siting criteria as per GPCB guidelines dated: 05.06.2022 & its amendment	Aerial Distance in Km
	1	Habitat (Residential Area)	Vapi	500 m	10 km

2	Water Bodies			
	River	Darotha River	500 m	4.5 km
	Natural Nallah/Drain	Not Applicable	-	-
	Lake/Pond/Wetlands	GIDC Lake	500 m	1.55 km
	Water supply Tanks/Reservoirs	GIDC Water Supply	500 m	1.37 km
	Canal	Not Applicable	-	-
3	Protected Monuments/Heritage sites/Public Buildings i.e School, colleges, etc.	Geetanjali Academy	500 m	1.08 km
4	National/State Highway OR Express way	NH-48	500 m	4.62 km
5	Coastal Regulation Zone (CRZ) (In case of Coastal area projects)	Not Applicable	-	-
-				
<u>Comments:</u> This unit is located in GIDC area, so siting criteria is not applicable.				

10)	<p>A. APPLICABILITY OF GENERAL CONDITIONS AND COMMENTS WITH SPECIFIC CLARIFICATION OF MOEF&CC GUIDELINES: Any project or activity specified in Category 'B' will be appraised at Central level as Category 'A' if located in whole or in part within 5 Km radius from the project boundary of:-</p> <table><tr><th>Sr No</th><th>Particulars</th><th>Aerial Distance in Km</th></tr><tr><td>1.</td><td>Protected Areas notified under the Wildlife (Protection) Act 1972 (53 of 1972)</td><td>The project site is located at 17.05 Km from the Devka Reserve Forest.</td></tr><tr><td>2.</td><td>CPA/SPA (Critically Polluted Area/Severely Polluted Area) as identified by the CPCB</td><td>The project site is located at 11.67 Km from Vapi-CEPI area.</td></tr><tr><td>3</td><td>Eco sensitive areas as notified under sub-section (2) of section 3 of EPA-1986</td><td>The project site is located at 11 km from the eco-sensitive area.</td></tr><tr><td>4</td><td>Interstate boundaries and international boundaries</td><td>Nearest Interstate boundaries (Gujarat-Maharashtra)- 11.36 Km and International Boundaries (India-Pakistan) around 550 Km away from the projected site.</td></tr></table> <p><u>Comments:</u> As per MoEF&CC's notification dated: 25.06.2014 and as per details submitted by PP, General condition is not applicable.</p> <p>B. Ensure compliance of category as defined in the amendment to EIA Notification, 2006 vide SO 1599 (E) dated 25/06/2014. i.e. Conditions of small units: (in case of</p>	Sr No	Particulars	Aerial Distance in Km	1.	Protected Areas notified under the Wildlife (Protection) Act 1972 (53 of 1972)	The project site is located at 17.05 Km from the Devka Reserve Forest.	2.	CPA/SPA (Critically Polluted Area/Severely Polluted Area) as identified by the CPCB	The project site is located at 11.67 Km from Vapi-CEPI area.	3	Eco sensitive areas as notified under sub-section (2) of section 3 of EPA-1986	The project site is located at 11 km from the eco-sensitive area.	4	Interstate boundaries and international boundaries	Nearest Interstate boundaries (Gujarat-Maharashtra)- 11.36 Km and International Boundaries (India-Pakistan) around 550 Km away from the projected site.
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5 (f) category units and outside the GIDC)

Sr no.	Condition	Compliance with justification
1	Water consumption less than 25 M3/day;	Not applicable, As per SPCB circular, unit is fall under small scale industry and total Water consumption is 124.5 KLD. which is more than 25 KLD.
2	Fuel consumption less than 25 TPD;	Not applicable Fuel consumption Natural gas: 900 SCM/day, Diesel: 100 Liter/Hr. is more than 25 TPD
3	Not covered in the category of MAH units as per the Management, Storage, Import of Hazardous Chemical Rules (MSIHC Rules), 1989 as per the legal undertaking submitted with EIA report.	Not applicable, Unit is handled hazardous waste as per the Management, Storage, Import of Hazardous Chemical Rules (MSIHC Rules), 1989.

Comments:

Unit is located within the GIDC so this “small scale” condition is not applicable.

11) AREA ADEQUACY AND COMMENTS

Total Land area: 2188.29 Sq. m.

Area Adequacy table:

Sr No	Description	Area required (Sq m)	Area Provided (sq m)	Percentage (%)
1.	AdminBuilding	45	48	2.19
2.	StorageofChemic al,RMandFinished Product	205	235	10.74
3.	Greenbelt	395	438	20
4.	Internal Roads&Margin	69	75	3.43
5.	Effluent Treatment Plant	118	130	5.94
6.	PlantBuilding	811	892	40.76
7.	Hazardous waste	46	50	2.28
8.	Utilityblock	164	180	8.23
9.	OHC	45	50	2.28
10.	Securityoffice	9	10	0.46
11.	Parkingarea	27.26	30.29	1.38
12.	OpenSpace	46	50	2.28
Total		1979.26	2188.29	100

Area provided for the Raw materials Storage :- 85 Sq Meter

Area required for RM storage Room :- 75 sq Meter

Install Storage rack area details in RM storage room :-

Rack size for	Total Storage	Total number of	Total area require	Total storage
---------------	---------------	-----------------	--------------------	---------------

one rack	capacity in one rack	Rack	for racks	capacity
3 Mt x 5 Mtr	18 MT	03	45 Sq Mtr	72 MT

Bags/ Drums	Size of Bags & Drums	Area require for 1 number	Total no storage maxium at a time	Total quantity storage maximum	No of racks required	Area required (m ²)
50 Kg bags	0.8 * 0.4	0.32	20 bags	1000 kg	01	15 sqmeter
200 ltr Drums	0.87 x 0.58	0.50	30 Drum	6 MT	01	15 Sq meter

Area provided for the solvent tank farm :- 80 Sq Meter

Area required for solvent tank farm allocated :- 75.6 sq Meter

Area Adequacy of solvent Tank Fram :-

Solvent drum	Size of 1 tank sq Meter	Volume of tank	Total Volume of tank	No of Tank vertical direction	Area required (m ²)	Total area required (m ²)	Area provided For Tank (m ²)	Location
Tank	3.2x4.0	20 MT	100 MT	02	25.6	25.6 + 50 Sq mt additional as per peso norms total area required 75.6 Sq meter	80m ²	In solvent Drums storage area as mentioned in the plant layout

Area Adequacy of finish Goods

Area providedfor the Finish good Storage :- 70 Sq Meter

Area required for Finish good Storage :- 66 Sq Meter

Install Storage rack area details in RM storage room :-

Rack size for one rack	Total Storage capacity in one rack	Total number of Rack	Total area require for racks	Total storage capacity
3 Mt x 2 Mtr	18 Mt	08	42 Sq Mtr	144 MT

Item details	Size of storage	Area (m ²)	Total no storage maxium one time	Total quntity storage maximum at time	Storage in one rack	No of stacks required	Area require d (m ²)
50 Kg Pvc drum	0.5 *0.4	0.20	30 drum	1.5 MT	1.5 MT	01	6Sq Meter

	50 kg Cardboard drum	0.6x0.9	0.54	11 rum	0.55 MT	0.55 MT	01	6Sq meter																		
	200 ltr Tank	0.87x 0.58	0.50	10 drum	2.0 MT	2.0 MT	02	12 Sq meter																		
<p><u>Comments:</u></p> <p>SEAC has examined it w.r.t.to total monthly production, maximum products, manufactured per month, the total raw material required, weekly storage requirement of each raw material, their mode of storage, their compatibility (flammability, corrosive, toxic), area needed by each raw material, one week storage of finished goods. Area adequacy, from overall safety perspective, has been provided in proposal and is satisfactory.</p>																										
12)	<p>GREEN BELT CONDITIONS AND MEASURES ALONG WITH AREA:</p> <table><tr><th>Total Plot area (Sq meter)</th><th>Total Green belt area (Sq meter)</th><th>% of Greenbelt</th></tr><tr><td>2188.29</td><td>Inside: 438 Outside: 515</td><td>Inside: 20% Outside: 23.5%</td></tr></table> <p>Details of copy of permission letter of concern GIDC/ Panchayat/etc. for greenbelt development (in case of greenbelt development outside the premises:</p> <p>Approximately 514 m² area green belt development already done outside our premises in collaboration with another plant facility situated at Sarigam, inside the GIDC estate. (Letter No. SIA/2022-23/126 dated 25/06/2022</p> <p><u>Comments:</u></p> <p>➤ The PP shall develop green belt [438 Sq m (20 %) inside plant premises + 515 Sq m (23.5 %) at Sarigam GIDC estate (Outside plant premises) = Total: 953 Sq. m.) i.e. 43.5 % of total plot area] as submitted before SEAC. Green belt shall be developed with native plant species that are significant and used for the pollution abatement as per the CPCB guidelines. It shall be implemented within 3 years of operation phase in consultation with GPCB.</p>								Total Plot area (Sq meter)	Total Green belt area (Sq meter)	% of Greenbelt	2188.29	Inside: 438 Outside: 515	Inside: 20% Outside: 23.5%												
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13)	<p>EMPLOYMENT GENERATION:</p> <table><tr><th rowspan="2">Phase</th><th colspan="2">Total Workers in all Shifts</th><th rowspan="2">Total</th></tr><tr><th>Permanent</th><th>Contract</th></tr><tr><td>Construction</td><td>10</td><td>20</td><td>30</td></tr><tr><td>Operation</td><td>35</td><td>25</td><td>60</td></tr><tr><td>Total</td><td>45</td><td>45</td><td>90</td></tr></table>								Phase	Total Workers in all Shifts		Total	Permanent	Contract	Construction	10	20	30	Operation	35	25	60	Total	45	45	90
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14)	<p>SOURCE OF WATER SUPPLY WITH QUANTITY AND PERMISSION (DETAILS OF CGWA IF BOREWELL</p> <p>a) Source of water supply: GIDC SupplySarigam</p> <p>b) Total Fresh water quantity (KLD): 124.5 KLD</p>																									

- c) **Permission of concerned authority (Name and quantity (in KLD):** we will be obtained the fresh water supply permission from GIDC Sarigam .

Comments:

PP has obtained permission from Notified Area Authority, Sarigam dated 02.08.2023 for procurement of water of 250 KLD which is found satisfactory.

15) **WATER CONSUMPTION RELATED DETAILS WITH COMMENTS**

Sr. No.	Particulars	Water consumption Quantity (KLD)	Remark
1	Domestic	2.5	Fresh
2	Gardening	2	Reuse
3	Industrial		
	a) Process + washing	75	Fresh
	b) Boiler	30	Fresh
	c) Cooling (Make-up)	10	Fresh
	d) Scrubbing	5	Fresh
	Sub Total (a + b + c + d)	120	Fresh
	Total (1+2+3)	124.5	Fresh + Reuse

Comments:

PP has submitted the above water consumption which is calculated considering the worst case scenario and in no case the water requirement shall not exceed the same which is found satisfactory.

16) **WASTE WATER GENERATION AND DISPOSAL**

Sr. No.	Particulars	Waste Water Generation (KLD)
1	Domestic	2.0
2	Industrial	
	(a) Process + washing	50
	(b) Boiler	5
	(c) Cooling (Make-up)	3
	(d) Scrubbing	5
	Sub Total (a + b + c + d + e)	63
	Total (1+2)	65

Disposal Mode

- Approximately 65 KLD (2.0 KLD Domestic + 63 KLD Industrial) Effluent will be generated from proposed project.
- Generated industrial effluent (63 KLD) will be segregated into high concentration stream and Low concentration stream. Low concentration will be treated through ETP and ETP treated water will be sent to CETP of Sarigam for final disposal
- High concentration waste water will be sent directly to Common Spray Dryer for final discharge
- Domestic effluent (2 KLD) will be treated in in-house STP and treated water will be reused for gardening purpose.

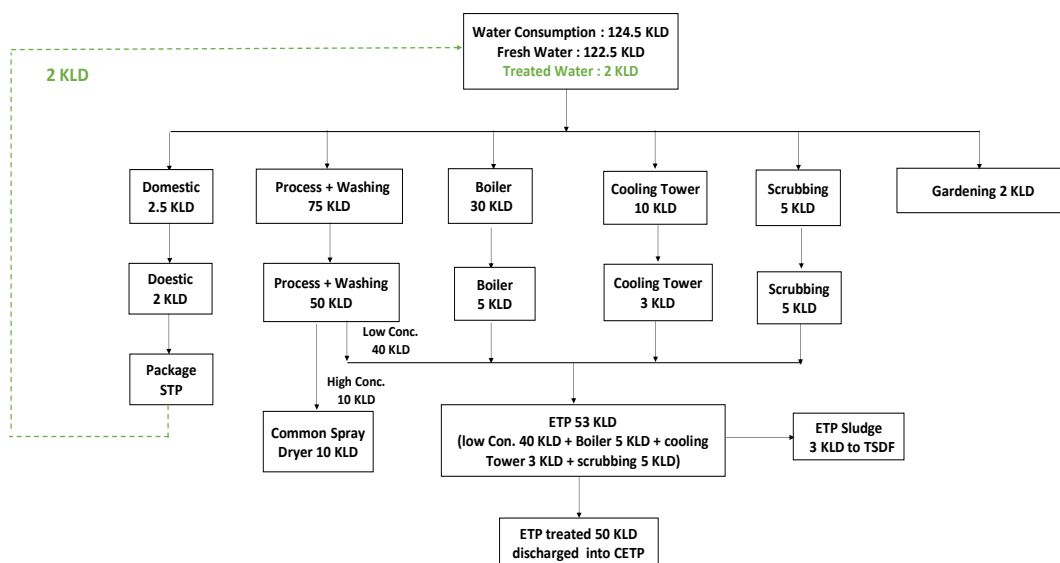
Justification in case of increase/ drastic reduction in wastewater generation than

water Consumption: Evaporation loss in Boiler & cooling tower bring this change. Out of total 124.5 water consumption in industrial component 32 KLD water is lost due to evaporation losses.

Comments:

PP has submitted the above wastewater generation which is calculated considering the worst case scenario and in no case the wastewater generation shall not exceed the same which is found satisfactory.

17) **SIMPLIFIED WATER BALANCE DIAGRAM**



18) **BREAKUP OF WASTE WATER DISPOSAL (DOMESTIC & INDUSTRIAL BOTH)**

Sr. no.	Quantity KLD	Facility
1	2	➤ Domestic effluent (2 KLD) will be treated in in-house STP and treated water will be reused for gardening purpose.
2	50	➤ Generated industrial effluent (63 KLD) will be segregated into high concentration stream and Low concentration stream. Low concentration will be treated through ETP and ETP treated water will be sent to CETP of Sarigam for final disposal ➤ High concentration waste water will be sent directly to Common Spray Dryer for final discharge.

Comments for Domestic Effluent:

- Domestic wastewater generation shall not exceed 2 KL/day for proposed project and it shall be treated in STP. It shall not be disposed off through soak pit/ septic tank. Treated sewage shall be utilized for gardening and plantation purpose within premises after achieving on-land discharge norms prescribed by the GPCB.

Comments for Industrial Effluent:

1. Management of Industrial effluent shall be as under:

High Concentrated Stream (10 KLD)

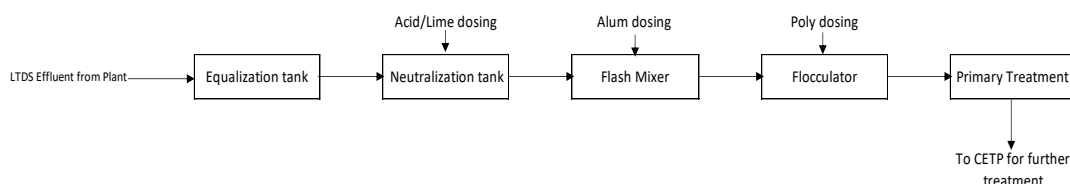
- 10 KLD high concentrated generated from process + washing (10 KLD) shall be send Common Spray Dryer.

Low Concentrated Stream (53 KLD):

- 53 KLD effluent generated from process + washing (low concentrated) (40 KLD), cooling tower (3 KLD), Boiler (5 KLD), and Scrubbing media (5 KLD) shall be treated into ETP and treated effluent (50 KLD) shall be discharge in to CETP- Sarigam only after complying with the inlet norms of CETP prescribed by GPCB to ensure no adverse impact on Human Health and Environment.

19) **MECHANISM AND METHODOLOGY OF STREAM SEGREGATION**

Low-concentration raw effluent from the manufacturing process and other auxiliary operations is collected in a collection tank. It will go through different ETP processes. It will first run through an equalization tank to equalize or buffer the properties of the wastewater. After that, the effluent will be moved to the neutralization tank, where the pH will be maintained by adding lime or sulfuric acid. The neutralized wastewater shall be pumped to the flash mixer (FM). Alum and polyelectrolyte shall be dosed into FM to bring about flocculator. Then, it will be transferred into a coagulation tank to make tiny pieces bigger by adding coagulants so they can be removed effectively during the sedimentation process in the primary clarifier. Then it will be sent to CETP for final disposal.



20) **ETP SPECIFICATION AND DESIGN AND ITS CAPACITY**

Sr. No.	ETP Unit	Capacity	Number of units
1	Equalization Tank	45	1
2	Neutralization Tank	0.6 KL	1
3	Flash Mixer	3 m ³ /hr.	1
4	Flocculator	21 KL	1
5	Primary Clarifier	120 KL	1
6	Treated collection tank	21 KL	1

21) **TREATABILITY OF WATER**

Sr. No.	Parameters	Primary treatment Inlet	Primary treatment Outlet	Inlet of CETP (GIDC Discharge norm)
1	pH	6.5-8.5	6.5-8.5	6.5-8.5
2	COD (mg/l)	2500	< 750	< 1000
3	TDS (mg/l)	3500-4000	1000-1500	2100

	4	TSS (mg/l)	2500	<100	< 100	
	5	NH ₄ -N (mg/l)	60	50	50	
22)	SUMMARY OF WATER USE AND REQUIREMENT OF FRESH/REUSED WATER					
	Summary of water requirement		Quantity KLD	Remarks		
	Total water requirement for the project (A)		124.5			
	Quantity to be recycled (B)		2	Domestic effluent (2 KLD) will be treated in in-house STP and treated water will be reused for gardening purpose.		
	Total fresh water requirement (C)		122.5			
	Ensure Total water requirement = Recycled water + Fresh water i.e. A = B + C					
23)	REUSE, REDUCE, RECYCLE RECOVERY MEASURES ADOPTED					
	a) Reduce					
	Sr. No.	Item	Quantity	% percentage		
	-	-	-	-		
	b) Reuse					
	Sr. No.	Item	Quantity	% percentage		
	1	Treated domestic water	2	1.61		
	c) Recycle					
	Sr. No.	Item	Quantity	% percentage		
	-	-	-	-		
	-					
24)	FLUE GAS EMISSION					
	Sr. No.	StackAttachedto	Fuel	StackHeight(m)	Parameter	APCM
	1	Steam Boiler (3 TPH)	Natural Gas 900 Nm ³ /Day	30	PM <150 mg/Nm ³ SO ₂ < 100 ppm NO _x < 50 ppm	Adequate Stack height
	2	Hot Air Generator (750 kg/hr.)		30		Adequate Stack height
	3	Thermic flued heater (6 L kcal)		30		Adequate Stack height
	4	DG Set (500 KVA)	Diesel 100 Lit/Hr.	11		Adequate Stack Height
	Comments:					
	➤ The proposed fuel to be used is approved fuel for the requirement of the heat energy and proposed the Air pollution Control measures and stack height so as to achieve the emission norms prescribed by the competent authorities are found satisfactory.					
25)	PROCESS GAS EMISSION					

Sr. No.	Plant	Stack Height (m)	Type of Pollutant	Permissible Limit	APCM
1	Reactionvesseld yesplant-1	15	HCl	20 mg/Nm ³	Two Stage Alkali scrubber
2	Reaction vessel dyes plant-2	15	SO ₂	40mg/Nm ³	Two Stage Alkali scrubber
3	Reaction vessel Intermediate plant-1 (R1 to R4)	15	HCl SO ₂ NO _x	20 mg/Nm ³ 40mg/Nm ³ 50 ppm	Two Stage Alkali scrubber
4	Reaction vessel Intermediate plant-1 (R5 to R9)	15	NH ₃	175 mg/Nm ³	Two Stage scrubber

Comments:

➤ The proposed Air pollution Control measures and stack height so as to achieve the emission norms prescribed by the competent authorities are found satisfactory.

26) **FUGITIVE GAS EMISSION**

Sr. No.	Source	Probable Pollutant Emission	Control Measures/ APCM
1	Solvent storage tank	Air pollutant (VOC)	<ul style="list-style-type: none"> ➤ Carry out work place area monitoring to find out concentration level in ambient airClose handling system. ➤ Provision of breather valve cum flame arrester.
2	Solvent recovery system	Air pollutant (VOC)	<ul style="list-style-type: none"> ➤ Solvent recovery system with steam condensation system ➤ Pumps & motors areMechanical seal type.
3	Handling of raw material bags in storage area	Air pollutant (PM)	<ul style="list-style-type: none"> ➤ Provision of exhaust ventilation ➤ Provision of PPE. ➤ Provision of Job rotation to reduce exposure.
4	Flange joints of pipeline, pump & motors	Air pollutant (VOC)	<ul style="list-style-type: none"> ➤ Routine&periodic inspection to check leakage. ➤ Preventive maintenance, Follow SOP for maintenance. ➤ Pumps & motors will be mechanical seal type. ➤ LDAR program will be followed. ➤ Provision of Flange guard.

	5	Solid raw material transferring to reactor	Air pollutant (PM)	➤ Hopper will be provided with powder transfer system.						
	6	Liquid raw material transferring to reactor	Air pollutant (VOC)	➤ Feeding of liquid raw material will be carried out by closed pipeline and mechanical seal pump.						
	7	Loading /unloading at storage area	Air pollutant (VOC)	➤ Unloading through pipeline totank in a close system.						
<u>Comments:</u>										
The air pollution control measures proposed for fugitive gas emission are found satisfactory.										
27)	HAZARDOUS PROCESSES AND ITS SAFETY MEASURES									
	<table><tr><th>Types of process</th><th>Safety measures including Automation</th></tr><tr><td>Chlorination</td><td><ul style="list-style-type: none">➤ Chlorine Emergency Kit will be procured and kept ready at process site.➤ Safety Shower and eye wash will be provided in process area➤ HCl Detectors will be placed at suitable locations. Vacuum system will be in place to capture HCl and transferred to water scrubber. Regular work place monitoring will be carried out.➤ Do not touch damaged containers or spilled material unless wearing appropriate protective clothing➤ Circulation of cooling water / chilling water in jacket of reactor.➤ Provision of pressure gauge and pressure release valve having capacity2.0 bar which will be below than reactor hydraulic pressure.➤ Provision of rupture disk.➤ Dosing of chemicals will be controlled by flow meters and is value.➤ End of Toxic vapour release line will be connected with alkali tank➤ A provision of life save kit containing oxygen mask is mandatory requirement to person whom are working near process area. So in case of any emergency first aid treatment shall be given immediately.</td></tr><tr><td>Sulphonation</td><td><ul style="list-style-type: none">➤ Provisions of safety valve & rupture disk on reactor.➤ Provisions of auto dumping Vessel.➤ Required PPEs like full body protection PVC apron, Hand gloves, gumboot, Respiratory mask etc. will be provided to operator.➤ To avoid runaway reaction, oleum charging will be done gradually & slowly.➤ Charging will be done only through closed line and system.</td></tr></table>				Types of process	Safety measures including Automation	Chlorination	<ul style="list-style-type: none">➤ Chlorine Emergency Kit will be procured and kept ready at process site.➤ Safety Shower and eye wash will be provided in process area➤ HCl Detectors will be placed at suitable locations. Vacuum system will be in place to capture HCl and transferred to water scrubber. Regular work place monitoring will be carried out.➤ Do not touch damaged containers or spilled material unless wearing appropriate protective clothing➤ Circulation of cooling water / chilling water in jacket of reactor.➤ Provision of pressure gauge and pressure release valve having capacity2.0 bar which will be below than reactor hydraulic pressure.➤ Provision of rupture disk.➤ Dosing of chemicals will be controlled by flow meters and is value.➤ End of Toxic vapour release line will be connected with alkali tank➤ A provision of life save kit containing oxygen mask is mandatory requirement to person whom are working near process area. So in case of any emergency first aid treatment shall be given immediately.	Sulphonation	<ul style="list-style-type: none">➤ Provisions of safety valve & rupture disk on reactor.➤ Provisions of auto dumping Vessel.➤ Required PPEs like full body protection PVC apron, Hand gloves, gumboot, Respiratory mask etc. will be provided to operator.➤ To avoid runaway reaction, oleum charging will be done gradually & slowly.➤ Charging will be done only through closed line and system.
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		<ul style="list-style-type: none"> ➤ Scrubber attached with closed system. ➤ Make sure the absorber unit (two stage Alkali scrubber) is working and capable of handling vented SO₂ fumes. ➤ Neutralizing agent will be kept ready for tackle any emergency spillage. ➤ Safety Shower and eye wash will be provided near process area. ➤ Evacuate area in down wind direction up to 0.3 km (300 meter) in small leakage. ➤ Emergency siren and wind sock will be provided. ➤ Tele Communication system and mobile phone will be used in case of emergency situations for communication. ➤ Total close process will be adopted for charging. ➤ Caution note and emergency first aid will be displayed and train for the same to all employees. ➤ First Aid Boxes will be available in process area. ➤ Emergency organization and team will be prepared as per On site- Off site emergency planning. ➤ Emergency team will be prepared and trained for scenario base emergency. Like Toxic control team, Fire control team, First aid team, communication and general administration team, Medical team etc. ➤ Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. ➤ Use water spray to reduce vapors; do not put water directly on leak, spill area or inside container. Keep combustibles (wood, paper, oil, etc.) away from gas storage area.
	Nitration	<ul style="list-style-type: none"> ➤ SOP will be displayed for safe charging of Nitric acid for nitration process ➤ Required PPEs like full body protection PVC apron, Hand gloves, gumboot, Respiratory mask etc. will be provided to operator at time of nitric acid charging. ➤ Make sure the absorber unit (two stage Alkali scrubber) will be working and capable of handling vented NO₂ fumes. Neutralizing agent will be kept ready for tackle any emergency spillage. ➤ Safety Shower and eye wash will be provided near process area. ➤ Total close process will be adopted (from storage to measured vessel & then to reactor) for Nitric Acid charging. Caution note and emergency first aid will be displayed and train for the same to all employees. ➤ First Aid Boxes will be available in process area.

		<ul style="list-style-type: none"> ➤ Prevention measures for runaway reaction of nitration reaction. ➤ Flushing water (chilled water / ice quenching) to control the runaway reaction.
	Hydrogenation	<ul style="list-style-type: none"> ➤ Provision of Safety Valve & Rupture Disk on reactor. ➤ PLC (Programmable Logical Control) base process controls and operation of plant will be installed. ➤ All electrical equipment's shall be installed as per Hazardous Area Classification. ➤ Total enclosed process system. ➤ Instrument & Plant Air System. ➤ Nitrogen blanketing in Hydrogenation reactor. ➤ Emergency dumping vessel will be provided during unforeseen circumstances. ➤ Safety valve and Rupture disc provided on reactor. ➤ Cooling, Chilling and alternate power arrangement have been made on reactor. ➤ Process area and Hydrogen cylinder bank shall be far away as per standards practice. ➤ PRV station with shut off valve, safety valve provision will be made for hydrogenation reaction safety. ➤ Standard Operating procedure shall be followed during operation of Hydrogen Gas charging in to reactor and after completion of reaction Nitrogen purging will be done. ➤ Flame arrestor will be provided on vent line of reactor and it will be extended above the roof level. ➤ Safe Catalyst charging method will be adopted. ➤ SOP will be displayed and operators will be trained for the same. ➤ Static earthing and electric earthing (Double) will be provided. ➤ Jumpers for static earthing on pipeline flanges of flammable chemical will be provided.
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28)	SOLVENT MANAGEMENT Process Steps for solvent recovery is as below: <ul style="list-style-type: none"> ➤ All the solvents as above are/ shall be recovered from reaction vessels ➤ Each reaction vessels are shall have overhead condenser (primary and a vent condenser) ➤ The primary condenser shall have the utility connection of either cooling water (32-37°C) or chilled water (5-10°C) or both. ➤ The vent condenser is/shall have a utility connection of either chilled water (<7°C) or brine (-15 to-20) or both. 	

- By these measures the utilities in the condensers are/ shall always be below the condensing temperature of various solvents and there for least vapour pressure or mole fraction at condensing temperature.
- Unit is/shall be using dry vaccum pump with vaccum control device to maintain constant pressure.
- Each vaccum device is/shall also have a knockout pot and a condenser after suction of the vaccum pump.
- The reactor and solvent handling pumps is/shall have double mechanical seal/seal less pumps to prevent leakages. Also, tank is/shall be provided with breather valve to prevent losses.
- Solvent is/will be taken from storage tank to reactors through closed pipe line. The Storage Tank is/shall be vented through trap receiver & condenser operated on cooling water.
- The condenser is/shall be provided with sufficient HTA and residence time so as to prevent any loss of solvent.

29) **VOC EMISSION AND MITIGATION MEASURES FOR ACHIEVING MAXIMUM SOLVENT RECOVERY AND MINIMUM VOC GENERATION**

- Adequate dust collector will be installed for control of fugitive emission during loading of raw material and product. Condensers will be provided to trap VOC.
- All the rotating equipment like pumps will be installed with Mechanical Seals to arrest any sort of emissions VOC detectors will be installed at various places to identify any fugitive emissions.
- Proper gland packing will be always maintained for pumps and valves and to the extent possible pumps will be with mechanical seal.
- A regular preventive maintenance schedule is in place to replace or rectify all gaskets and joints etc., as a part of ISO systems to ensure no fugitive emissions takes place

Sr. No.	Emission Source	Probable Pollutant Emission	Control measures
1	Solvent Storage are	VOC (Air Pollutant)	Carry out work place area monitoring to find out concentration level in ambient air. Connected with vent condensers with child brine circulation. Close handling system. Provision of breather valve cum flame arrester
2	Solvent Recovery System	VOC (Air Pollutant)	Vacuum distillation Close handling system. There will be recovery of more than 95-98% solvent.
3	Solvents & Liquid raw material transferring to reactor	VOC, Acid fumes (Air Pollutant)	Feeding of Solvents & liquid raw materials will be carried out by closed pipeline and mechanical seal pump.

	4	Flange joints of pipeline, pump & motors	VOC	Routine & periodic inspection to check leakage. Preventive.MSW Gaskets in solvent pipelines to prevent leakage from flanges.Leak Free Pumps for transfer of solvents.
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Comments for Sr No: 27, 28 and 29:

- Measures for achieving maximum solvent recovery and minimize VOC generation, inclusive of VOC detectors, pumps, maintenance of pipelines, proper ventilation etc., provided are as per requirement.
- Spent solvents shall be recovered by in-house distillation in such a manner that recovery shall be achieved to the maximum extent and recovered solvent shall be reused in the process. Solvent recovery system with adequate reflux condensers shall be provided for controlling escape of low boiling solvents (VOCs).

30) **LDAR PROPOSED**

S.N	Component	Frequency of monitoring	Repair preventive maintenance schedule
1.	Valves / Flanges	Quarterly (semi-annual after two consecutive period with < 2% leaks and annual after 5 periods with < 2% leaks)	Repair shall be started within 5 working days and shall be completed within 15 working days after detection of leak.
2.	Pump seal	Quarterly	
3.	Compressor seals	Quarterly	
4.	Pressure relief devices	Quarterly	
5.	Pressure relief devices (after venting)	Within 24 hrs.	
6.	Process drains	Annually	Repair shall be started within 5 working days and shall be completed within 15 working days after detection of leak.
7.	Components that are difficult to monitor	Annually	
8.	Pump seals with visible liquid dripping	Weekly	Immediately
9.	Any component with visible leaks	Weekly	Immediately
10.	Any component after repair / replacement	Within a week	-

The Following methodology to be adopted during LDAR study:

- Identify the Chemical streams that must be monitored.
- Types of components (pumps, valves, connectors, etc.) to be monitored
- Frequency of monitoring.
- Actions to be taken if a leak is detected.
- Length of time in which an attempt to repair the leak must be performed.
- Actions that must be taken if a leak cannot be repaired within guidelines.

14) Record-keeping and reporting requirements.

31) **LDAR FOR SPECIFIC SOLVENT**

Sr. No.	Solvent Name	Type of Storage	Mode of Transfer	Charging	Sources of Leakage	Mitigation Measure For find out leakages	Mitigation Measure (If leakages shall be occur)	Action taken for prevention of leakages
1	Aniline/ Acetic Acid/ Methanol	Tank/ drum	By Pump & Fix Pipeline	Direct Vessel	<ul style="list-style-type: none"> Leak from Valve (failure of the valve packing & O-ring) Leak from pump (Occur at seal) Leak from tank Leak from Connectors Leak from open ended lines 	<ul style="list-style-type: none"> For using Gas Detector by PID Sensor technology. 	<ul style="list-style-type: none"> If valve shall be leak stop pumping system and replace with new valve. When pump seal shall be leak immediately stop solvent transfer and immediately repair or replace with new seal. 	<ul style="list-style-type: none"> Check Thickness of tank Using fix pipeline for solvent transfer Minimum use of Connectors & Joins Provided sufficient Space (Solvent Unloading area) for Solvent Tanker

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32) **HAZARDOUS WASTE MANAGEMENT MATRIX**

Sr. No.	Type of Waste	Source	Category No.	Total Quantity (MT/M)	Mode of Disposal
1	ETP sludge	ETP Plant	I-35.3	90	Collection, Storage, Transportation And final disposal at common TSDF site
2	Discarded containers / drums / Barrels / Bags	Storage Facility	I-33.1	5	Collection, Storage, Decontamination, Transportation, by sent to authorized vendor

3	Spent Oil/Used Oil	Process Unit	I-5.1	0.1	Collection, Storage, Transportation, disposal by selling to GPCB authorized & registered recyclers or reuse as lubricants in Plant machinery within unit.
4	Distillation residue	Distillation Plant	I-29.1	2	Collection, Storage, Transportation and final disposal at common TSDF site or incineration at common incineration facility or sent for Co-Processing unit
5	Dil. HCl	Scrubber	Sch-II/ B15	106	Collection, storage and reuse in manufacturing process or sell to end users having rule-9 permission.
6	Spent H ₂ SO ₄	Manufacturing Process	Sch-I/26.3	130	Collection, Storage and Reuse in manufacturing process or sell to end users having rule-9 permission.
7	Spent Solvent	Manufacturing Process	Sch-I/26.4	6	Collection, Storage, Distillation and Reuse within premises or sell to solvent recovered plant having Rule 9 Permission.
8	Ammonia solution	Scrubber	-	9	Collection, Storage, for captive consumption and sell to end user under Rule 9 Permission.
9	Bleed Liquor	Scrubber	-	15	Collection, Storage and treated in Primary ETP

Comments:

- Hazardous waste management includes collection, storage, transportation and disposal at TSDF, captive/ common incineration, co-processing/ pre-processing, sold to authorized actual users having Rule-9 permission and recycle/ reuse of waste. SEAC examined the details provided and found it as per requirement.

33) **NON-HAZARDOUS WASTE MANAGEMENT MATRIX**

Sr. No.	Type of Waste	Source	Total Quantity (KLD)	Mode of Disposal
1	STP sludge	STP Plant	2	Use as manure for gardening.

Comments:

- Other wastes management includes collection, storage, transportation and disposal by selling to actual users and recycle / reuse of waste. SEAC examined the details provided and found it as per requirement.

34) **STORAGE SAFETY MEASURES**a) **Storage of Hazardous chemicals in Tanks**b) **Storage of Hazardous chemicals other than Tanks i.e. Drum, Barrels, Carboys, Bags etc.**

Sr · N o.	Raw material	Total (TPM)	Source (Local / Import)	Means of Transport (Road / Rail)	Types of Linkage (Open Market / MoU)	State	Mode of Storage (Drums , Tanks, Bags)	No. of Tanks / Bags / Drums	Capacit y of each Bags/ Drums
1	H-Acid	209.69	Local	GIDC Road	Open Market	Solid	Bag	5	50 Kgs
2	1-2-4 Diazoacid	13.88	Local	GIDC Road	Open Market	Liquid	Drum	1	25 lit
3	2 4 DNCB	28.7	Local	GIDC Road	Open Market	Liquid	Drum	2	25 lit
4	2-Pyridone	5	Local	GIDC Road	Open Market	Solid	Bag	1	10 Kgs
5	4-NAPSA	67.45	Local	GIDC Road	Open Market	Solid	Bag	2	50 kgs
6	5-NAP	51.83	Local	GIDC Road	Open Market	Solid	Bag	3	25 Kgs
7	6 NAPASA	10	Local	GIDC Road	Open Market	Solid	Bag	1	25 Kgs
8	6-Nitro	65.21	Local	GIDC Road	Open Market	Liquid	Drum	2	50 Kgs
9	6-Nitro-1- Diazo acid	15.3	Local	GIDC Road	Open Market	Solid	Bag	1	25 Kgs
10	AAA	18.85	Local	GIDC Road	Open Market	Solid	Bag	1	25 Kgs
11	Acetic Acid	25	Local	GIDC Road	Open Market	Liquid	Drum	1	25 Kgs
12	Acetic Anhydride	126.88	Local	GIDC Road	Open Market	Liquid	Bag	3	50Kgs
13	Ammonium Sulphate	1.65	Local	GIDC Road	Open Market	Solid	Bag	1	5 Kgs
14	Aniline	17.22	Local	GIDC Road	Open Market	Liquid	Drum	1	25 Kgs
15	Anthranilic acid	10.78	Local	GIDC Road	Open Market	Liquid	Drum	1	25 Kgs
16	Anthraquinone	6.48	Local	GIDC Road	Open Market	Solid	Bag	1	10kgs
17	Basic Chromium Sulphate	45.92	Local	GIDC Road	Open Market	Solid	Bag	1	50kgs
18	Benzaldehyde disulfonic Acid (BDSA)	44.05	Local	GIDC Road	Open Market	Liquid	Drum	1	50 Kgs
19	Beta Naphthol	105.19	Local	GIDC Road	Open Market	Solid	Bag	3	50 kgs
20	Carbon	2.27	Local	GIDC Road	Open Market	Liquid	Drum	1	5 Kgs
21	Catalyst	0.38	Local	GIDC Road	Open Market	Liquid	Drum	1	5 Kgs
22	Caustic Flakes	35.5	Local	GIDC Road	Open Market	Solid	Bag	1	5 Kgs
23	Caustic lye	182.81	Local	GIDC Road	Open Market	Solid	Bag	2	100 Kgs
24	Caustic potash	13.88	Local	GIDC Road	Open Market	Solid	Bag	1	25Kgs

25	ChromeSalam	115.75	Local	GIDC Road	Open Market	Solid	Bag	3	50 Kgs
26	ChromiumFluoride	5.65	Local	GIDC Road	Open Market	Solid	Bag	1	10 kgs
27	ChromiumFormate	25.1	Local	GIDC Road	Open Market	Solid	Bag	1	25Kgs
28	CobaltSulphate, 20%	24.95	Local	GIDC Road	Open Market	Solid	Bag	1	25 Kgs
29	Copper Sulphate	161	Local	GIDC Road	Open Market	Solid	Bag	2	100 Kgs
30	CuSO4.5H2O	4.23	Local	GIDC Road	Open Market	Solid	Bag	1	5 Kgs
31	Cyanuric Chloride	19.55	Local	GIDC Road	Open Market	Solid	Bag	1	25 Kgs
32	DASA	5.5	Local	GIDC Road	Open Market	Solid	Bag	1	10 Kgs
33	Dedamol	0.01	Local	GIDC Road	Open Market	Solid	Bag	1	5 Kgs
34	Diethyl Meta Aminophenol	20.33	Local	GIDC Road	Open Market	Solid	Bag	1	25 Kgs
35	Dimethoxy Benzene	15	Local	GIDC Road	Open Market	Solid	Bag	1	25 Kgs
36	Ferricchloride	7.28	Local	GIDC Road	Open Market	Solid	Bag	1	10 Kgs
37	Formaldehyde	18.65	Local	GIDC Road	Open Market	Solid	Bag	1	25 Kgs
38	HNO3	21.08	Local	GIDC Road	Open Market	Liquid	Drum	2	25 Lit
39	Hydrazine hydrate	4.56	Local	GIDC Road	Open Market	Liquid	Drum	1	10 lit
40	Gammaacid	35.58	Local	GIDC Road	Open Market	Solid	Bag	1	50 Kgs
41	G-salt ML	729.2	Local	GIDC Road	Open Market	Solid	Bag	8	100 Kgs
42	H- acid	235.56	Local	GIDC Road	Open Market	Solid	Bag	3	100 Kgs
43	Sulphuric Acid	340.64	Local	GIDC Road	Open Market	Liquid	Drum	4	100 Lit
44	HCHO	10	Local	GIDC Road	Open Market	Solid	Bag	1	10 Kgs
45	HCL	730.29	Local	GIDC Road	Open Market	Liquid	Drum	8	100 Lit
46	Hydrogen	10.88	Local	GIDC Road	Open Market	Liquid	Drum	1	25 Lit
47	Hydrozen Peroxide	108.5	Local	GIDC Road	Open Market	Liquid	Drum	3	50 lit
48	Hyflow	0.18	Local	GIDC Road	Open Market	Solid	Bag	1	5 Kgs
49	J. acid	1.01	Local	GIDC Road	Open Market	Liquid	Drum	1	5 Kgs
50	K Acid	5.75	Local	GIDC Road	Open Market	Liquid	Drum	1	10 kgs
50	Liquid Ammonia	12.6	Local	GIDC Road	Open Market	Liquid	Drum	2	10 Kgs
52	Lorrentacid	3.88	Local	GIDC Road	Open Market	Liquid	Drum	1	5 Kgs
53	MAA	19.68	Local	GIDC Road	Open Market	Liquid	Drum	2	10 Kgs
54	MCA	15.63	Local	GIDC Road	Open Market	Liquid	Drum	2	10 Kgs
55	Methanol	85.13	Local	GIDC Road	Open Market	Liquid	Drum	1	100 Kgs
56	MgO	3.03	Local	GIDC Road	Open Market	Solid	Bag	1	5 Kgs
57	MPD	1.75	Local	GIDC	Open	Liquid	Drum	1	5 Kgs

				Road	Market				
58	MPDDSA	59.75	Local	GIDC Road	Open Market	Liquid	Drum	1	100 Kgs
59	MUA	2.25	Local	GIDC Road	Open Market	Liquid	Drum	1	5 Kgs
60	Na ₂ SO ₄	45.92	Local	GIDC Road	Open Market	Solid	Bag	1	5 Kgs
61	NaOH	125.32	Local	GIDC Road	Open Market	Solid	Bag	2	Kgs
62	NapthaSultan	12.23	Local	GIDC Road	Open Market	Solid	Bag	1	50 Kgs
63	NaSH	153.06	Local	GIDC Road	Open Market	Solid	Bag	2	100 Kgs
64	NH ₄ SO ₄	15.31	Local	GIDC Road	Open Market	Solid	Bag	1	50 Kgs
65	Nitric Acid	64.48	Local	GIDC Road	Open Market	Liquid	Drum	1	100 lit
66	Nitrite	5.85	Local	GIDC Road	Open Market	Solid	Bag	1	10 Kgs
67	O.T.5SA	6.25	Local	GIDC Road	Open Market	Liquid	Drum	1	10 Kgs
68	OAP	31.25	Local	GIDC Road	Open Market	Liquid	Drum	1	50 Kgs
69	Oleum	260.88	Local	GIDC Road	Open Market	Solid	Bag	3	100 Kgs
70	ONCB	23.57	Local	GIDC Road	Open Market	Liquid	Drum	1	25 Litr
71	OxalicAcid	3.85	Local	GIDC Road	Open Market	Solid	Bag	1	5 Kgs
72	Palladium Carbon	0.53	Local	GIDC Road	Open Market	Solid	Bag	1	5 Kgs
73	P-Anisidine	2	Local	GIDC Road	Open Market	Solid	Bag	1	5 Kgs
74	Para Cresidine	6.61	Local	GIDC Road	Open Market	Solid	Bag	1	10 Kgs
75	ParanitroAniline	2.05	Local	GIDC Road	Open Market	Solid	Bag	1	5 Kgs
76	Picramic acid	7.8	Local	GIDC Road	Open Market	Solid	Bag	1	Kgs
77	PMP	28.55	Local	GIDC Road	Open Market	Solid	Bag	1	50 kgs
78	PNA	10.13	Local	GIDC Road	Open Market	Solid	Bag	1	15 Kgs
79	PNCB	23.47	Local	GIDC Road	Open Market	Solid	Bag	1	25 Kgs
80	Resorcinol	13.98	Local	GIDC Road	Open Market	Solid	Bag	1	20 kgs
81	SalicylicAcid	17.11	Local	GIDC Road	Open Market	Solid	Bag	1	20 Kgs
82	Salt	295.29	Local	GIDC Road	Open Market	Solid	Bag	3	100 kgs
83	SBC	83.45	Local	GIDC Road	Open Market	Solid	Bag	1	100 Kgs
84	SBS	14.98	Local	GIDC Road	Open Market	Solid	Bag	1	25 Kgs
85	Soda ash	176.18	Local	GIDC Road	Open Market	Solid	Bag	1	100 kgs
86	Sodium Bicarbonate	19.25	Local	GIDC Road	Open Market	Solid	Bag	1	25 Kgs
87	Sodium Acetate	16.15	Local	GIDC Road	Open Market	Solid	Bag	1	25 kgs
88	Sodium Carbonate	28	Local	GIDC Road	Open Market	Solid	Bag	1	50 Kgs
89	Sodium Dichomate	1.25	Local	GIDC Road	Open Market	Solid	Bag	1	5 Kgs

90	Sodium Formate	9.3	Local	GIDC Road	Open Market	Solid	Bag	1	10 kgs
91	Sodium Nitrite	177.67	Local	GIDC Road	Open Market	Solid	Bag	2	100 kgs
92	Sodium Bi-chromate	11.13	Local	GIDC Road	Open Market	Solid	Bag	1	20 kgs
93	Sodium bisulphite	26.5	Local	GIDC Road	Open Market	Solid	Bag	1	30 Kgs
94	Sodium Picramate	16.93	Local	GIDC Road	Open Market	Solid	Bag	1	25 Kgs
95	Sorbitol	5.33	Local	GIDC Road	Open Market	Solid	Bag	1	10 kgs
96	STA	10.43	Local	GIDC Road	Open Market	Solid	Bag	1	50 Kgs
97	Sulfamic Acid	1.4	Local	GIDC Road	Open Market	Solid	Bag	1	5 Kgs
98	Sulphanilic Acid	53.44	Local	GIDC Road	Open Market	Solid	Bag	1	100 Kgs
100	Sulphuric Acid	361.22	Local	GIDC Road	Open Market	Solid	Bag	3	100 Kgs
101	SVS	100.1	Local	GIDC Road	Open Market	Solid	Bag	1	100 kgs
102	Vinyl Sulphone	140.03	Local	GIDC Road	Open Market	Liquid	Drum	2	100 lit
103	VSA	5.25	Local	GIDC Road	Open Market	Solid	Bag	1	10 kgs

Safety measures for Hazardous Chemicals:

Type of Hazardous Chemicals	Safety measures
FLAMMABLE & EXPLOSIVE CHEMICALS	<ul style="list-style-type: none"> ➤ Separate Isolated Storage Area is constructed as per explosive department requirement and separation distance will be maintained, accordingly. ➤ Workers and Operators handling such materials will be trained for the hazards (fire/explosion, health, and chemical reactivity) associated with them. ➤ Lightning arrestor will be provided on the top of tallest structure. ➤ NFPA label (hazard identification) capacity and content will be displayed on respective barrels. ➤ Every time it will be ensured that barrels are cleaned and no chemicals are as a residue to avoid mixing and causing explosion or any mishap ➤ While decanting chemicals proper earthing arrangement will be ensured to avoid static charge ➤ Good housekeeping will be maintained. ➤ Work Instructions shall be prepared and followed. ➤ Proper ventilation will be provided in storage room. ➤ Proper label and identification board /stickers will be provided in the storage area. ➤ Area shall be marked as "Hazardous Chemical Storage", "No Smoking", "Hot work Restricted". No cell phones ➤ MSDS of chemicals stored will be available in storage area
CORROSIVE CHEMICALS	<ul style="list-style-type: none"> ➤ Preventing or minimizing contact between corrosive substances and skin, mucous membranes and eyes. ➤ Corrosive substances should not be allowed to come in contact with materials that may react. ➤ All the containers, pipes, apparatus, installations and structures used for

		<p>the manufacture, storage, transport or use of these substances may be protected by suitable coatings, impervious to and unaffected by corrosives.</p> <ul style="list-style-type: none"> ➤ All containers or receptacles should be clearly labelled to indicate their contents and should bear the danger symbol for corrosives. ➤ Adequate ventilation and exhaust arrangement whether general or local, should be provided whenever corrosive toxic gases or dust are present. ➤ Personal protective devices shall be used ➤ First aid treatment facilities shall be provided and all concerned should be instructed to follow safe practices such as (a) Prolonged washing with water (b) Removing contaminated clothing (c) Seeking immediate medical help. ➤ Safety showers and eye washers is provided.
	TOXIC CHEMICALS	<ul style="list-style-type: none"> ➤ Ventilation must be sufficient to prevent accumulation of vapor pockets. All fan switches should be outside the storage area ➤ Self-breathing apparatus, gas mask and 'emergency kits' should be located at strategic points under working condition and to be easily accessible in the event of emergency. ➤ Appropriate minimum safety distances as stipulated in the abovementioned rules have to be maintained from buildings or group of buildings or adjacent property.
	REACTIVE CHEMICALS	<ul style="list-style-type: none"> ➤ Store minimum quantities ➤ Segregate chemicals, e.g., from water, air, incompatible chemicals, sources of heat, ignition sources. ➤ Spillage control; bund, spray, blanket, containment. Drain to collection pit ➤ Decontamination and first-aid provisions, e.g., neutralize/destroy, fire-fighting ➤ Contain/vent pressure generated to a safe area ➤ Split-up stocks into manageable lots, e.g., with reference to fire loading/spillage control. ➤ Ensure appropriate levels of security, hazard warning notices, fences, patrols. Control access including vehicles ➤ Appropriate gas/vapour/fume/pressure venting, e.g., flame arrestors, scrubbers, absorbers, stacks ➤ Ensure adequate natural or forced general ventilation of the storage area ➤ Provide adequate, safe lighting ➤ Label (name and number); identify loading/unloading/transfer couplings ➤ Provide appropriate fire protection (sprinkler, dry powder, gas) ➤ Ensure adequate access for both normal and emergency purposes with alternative routes
-		
35)	FIRE LOAD CALCULATION	
	Total Plot Area:	2188.29 Sq. m.
	Area utilized for plant activity:	612.5 sq.m
	Number of Floors:	Ground + First Floor + Second Floor
	Water requirement for firefighting in KLD:	5KL
	Water storage tank provided for firefighting in KL:	10 KL
	Details of Hydrant Pumps:	Necessary Fire Hydrant Pumps will be provided as per the GFR
	Nearest Fire Station :	Sarigam GIDC fire station
	Applicability of Off Site Emergency Plan:	-
	<u>Comments:</u>	

	The project proponent has proposed fire safety plan which includes fire hydrant line, sprinkler system, fire extinguishers, fire suits, covering the project area and provides for fire water storage tank of 10 KL. SEAC found it as per the requirement.																															
36)	WORKERS SAFETY AND OCCUPATIONAL HEALTH MANAGEMENT																															
	Number of permanent employee:	45																														
	Number of contractual person/labour	45																														
	Area provided for OHC:	50 m ²																														
	Number of First Aid Boxes:	2																														
	Nearest General Hospital:	Basrehi Kadaura (General hospital)- Sarigam																														
	Name of Antidotes to be store in plant:	Dilute lactic acid, soframycin, Benzocaine solution, Diazepam, Epicake Syrup, Milk of magnesia, Sodium Hydro-Carbonate, Cyanide Kit.																														
	<p><u>Comments:</u></p> <p>Project proponent has provided PPEs, Occupational health center (OHC) with adequate provision of manpower, equipment and operational cost. SEAC finds it as per the provisions of Gujarat Factory Rules 1963.</p>																															
37)	DETAILS OF MEMBERSHIP OF COMMON FACILITIES:																															
	<table border="1"> <thead> <tr> <th>Sr. No</th><th>Membership for Common Facility</th><th>Membership Certificate issuing agency along with Date of Issue and validity of membership</th></tr> </thead> <tbody> <tr> <td>01</td><td>CETP</td><td>Name of CETP: M/s. Sarigam Clean Initiative</td></tr> <tr> <td>02</td><td>TSDF site</td><td>Name of TSDF: M/s.Vapi Green Enviro Limited</td></tr> <tr> <td>03</td><td>Common Hazardous Waste Incineration Facility</td><td>We will obtained the permission of Common Hazardous Waste Incineration Facility.</td></tr> <tr> <td>04</td><td>Common Spray Drying Facility</td><td>We will obtained the permission of Common Spray Drying Facility</td></tr> <tr> <td>05</td><td>Common MEE Facility</td><td>Not applicable</td></tr> <tr> <td>06</td><td>Common Conveyance System</td><td>Name of CETP: M/s. Sarigam Clean Initiative.</td></tr> <tr> <td>07</td><td>PESO permission</td><td>We will obtained the PESO permission.</td></tr> <tr> <td>08</td><td>FIRE permission</td><td>Not applicable</td></tr> <tr> <td>09</td><td>Health Certificate</td><td>Unit is regularly carrying out medical checkup of all employees through private medical officer. Unit is also providing OHC within the premises equipped with Blood Pressure Monitor, First Aid Kit, etc. First-Aid Center with necessary arrangements, 02 stretcher & 02 set of medicated Oxygen Cylinder. Unit is/will be equipped all necessary medicines and Antidotes.</td></tr> </tbody> </table>	Sr. No	Membership for Common Facility	Membership Certificate issuing agency along with Date of Issue and validity of membership	01	CETP	Name of CETP: M/s. Sarigam Clean Initiative	02	TSDF site	Name of TSDF: M/s.Vapi Green Enviro Limited	03	Common Hazardous Waste Incineration Facility	We will obtained the permission of Common Hazardous Waste Incineration Facility.	04	Common Spray Drying Facility	We will obtained the permission of Common Spray Drying Facility	05	Common MEE Facility	Not applicable	06	Common Conveyance System	Name of CETP: M/s. Sarigam Clean Initiative.	07	PESO permission	We will obtained the PESO permission.	08	FIRE permission	Not applicable	09	Health Certificate	Unit is regularly carrying out medical checkup of all employees through private medical officer. Unit is also providing OHC within the premises equipped with Blood Pressure Monitor, First Aid Kit, etc. First-Aid Center with necessary arrangements, 02 stretcher & 02 set of medicated Oxygen Cylinder. Unit is/will be equipped all necessary medicines and Antidotes.	
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38) EMERGENCY MEASURES PROPOSED AND PREPAREDNESS ACTION PLAN

The Emergency Management Plan (EMP) is a master plan which contains the emergency organization structure, responsibilities of key members, communications mean and emergency response strategies to control a range of major incidents.

Emergency Plan Objectives:

Specific objectives of the Emergency Response Plan are listed with regards to the responses desired for successful management of the possible emergency situations.

Suggested Objectives would include:

- To define and assess emergencies
- To control and contain incidents.
- To safeguard the employees.
- To minimize damage to the property and/or the environment.
- To inform the employees, the general public residing around the plant and the authority on the hazards/risks assessed.
- To safeguard provided residual risk, if any, and the role to be played by the employees in the event of emergency.
- To inform the state authorities like Police and Fire Departments, Mutual Aid Centers, Medical Centers to come up for help.
- To effectively rescue and to provide treatment of casualties and to count the injured.
- To identify and list fatal accidents, if any.
- To secure the safe rehabilitation of affected areas and to restore normally.
- To provide authoritative information to the news media for the incident.
- To preserve records, equipment, etc. and to organize investigation into the cause of the emergency and to suggest preventive measures to stop its recurrence.
- To ensure safety of staff and patients and resume work.
- To work out a plan with all provisions to handle emergencies and to provide for emergency.

On-Site Emergency Plan

The On-site emergency plan: deals with, measures to prevent and control emergencies within the factory and not affecting outside public or Environment.

Off-site Emergency Plan:

- Off-site emergency plan would follow the on-site emergency plan. When the consequences of an emergency situation go beyond the plant boundaries, it becomes an off-site emergency.
- Offsite emergency is essentially the responsibility of the public administration. However, the plant management will provide the public administration with the technical information relating to the nature, quantum and probable consequences on the neighboring population.

- The off-site plan in detail will be based on those events, which are most likely to occur, but other less likely events, which have severe consequence, will also be considered. Incidents which have very severe consequences yet have a small probability of occurrence would also be considered during the preparation of the plan. However, the key feature of a good off-site emergency plan is flexibility in its application to emergencies other than those specifically included in the formation of the plan.
- The roles of the various parties who will be involved in the implementation of an off-site plan are described below. Depending on local arrangements, the responsibility for the off-site plan Site Controller Emergency Control Room Safety Officer Incident Controller Emergency Coordinator (Rescue, Fire Fighting) Emergency Coordinator (Medical, Mutual Aid, Rehabilitation, Transport and Communication) Emergency Coordinator (Essential Services) Shift In - charge Operator Electrician, Pump Operator First Aid, Transport Driver, Telephone – Operator Shift - In charge Electrician, Pump Operator would either rest with the plant management or with the local authority. Either way, the plan would identify an emergency coordinating officer, who would take the overall command of the off-site activities.

39) **CER ACTIVITIES PROPOSED YEAR WISE/ IN CASE OF EXPANSION ANY ADDITIONALITY SUGGESTED AND ITS COMPLIANCE (AS PER THE MOEF & CC GUIDELINES)**

Total cost of Project (Rs in Crores)	Total Cost of CER (Rs in Crores or Lakhs)	Percentage (%)
13.25 Crores	26.5 Lakh	2 %

Sr. No	Activities	Village Name	1 st Year	2 nd Year	3 rd Year	4 th Year	5 th Year	Total Amount in lacs
1	Plantation & maintenance Activities in Surrounding Villages and roadside in nearby Village	Manda, Punat, Karanj, Sarigam, Angam etc.	1	1	1	1	1	5
2	Village Infrastructure Development like rain water harvesting system, Primary School Infrastructure Development and Well-being in Nearby Village		1.3	1.3	1.3	1.3	1.3	6.5
3	Solar Lights poles and their AMC in nearby villages		2.2	2.2	2.2	2.2	2.2	11
4	Awareness Program for the Environment		0.8	0.8	0.8	0.8	0.8	4
Total			5.3	5.3	5.3	5.3	5.3	26.5

Comments:

As per MoEF&CC's OM dated: 01.05.2018 and 30.09.2020, SEAC examined that the proposed cost of CER i.e 2 % (Rs 26.5 Lakhs) which is as per the requirement.

40) **ENVIRONMENT MANAGEMENT PLAN (ESPECIALLY WITH CEPI AND NON CEPI GUIDELINES, AS MAY BE APPLICABLE)**

Sr · N o.	Particulars	Remedial Measures	Component	Cost in Lacs	
				Capital	Recurring per Annum
1	Air & Noise Pollution Control	Adequate pollution control system will be provided for control of gaseous emission. Adequate stack height for better dispersion of pollutants. Adequate Two stage scrubber attached to process vents, Noise Monitoring	Cost of new stack installation, Cost of scrubber, LDAR System: cooling and chilling units & cost of maintenance of APCM system	10	0.8
2	Water Pollution Control	Effluent treatment plant (ETP) consists of primary, secondary & Tertiary treatment units,	Treatment cost of membership certificate construction cost of Modification of ETP & CETP disposal charge	50	3
3	Environment Monitoring & Management	Regular monitoring of various environmental parameters will be carried out to check the effectiveness of the control system.	New laboratories equipment and maintenance cost of Flow meters & others equipment	13.2	1
4	Solid/Hazardo us waste management	Proper collection, Safe Handling, Storage within premises and disposal of waste at approved TSDF, re-cyclers, reproprocessors.	New membership cost of TSDF & incineration site, Cost of TSDF disposal & Incineration disposal	20	1
5	Risk Assessment and safety audit Monitoring	Occupational Health and mitigation and safety precaution	Cost of PPE & antidotes, Imparting safety training to employees every 6 months, Medical examination	1.5	0.65

			employees & automatically Control system		
6	Fire & Safety (Part of Project cost)	Fire hydrant & Fire safety	Fire extinguishers (ABC Type-9 Kg (10 Nos.), CO2 Type- 4.5 Kg (5 Nos.), Sand bucket type- 5 Kg (10 Nos.),	5	0.37
		Fire extinguisher and Foam type	Foam Type trolley - 6-9 Litres (5 Nos.),	4.5	0.15
		OHS cost	DCP Type Trolley- 9 kg (2 Nos.)		
7	DCS & PLC system (Part of Project cost), oxygen detector	Installation of DCS system for Automation		25	0.75
8	Rain water harvesting system	-	Maintenance cost of rainwater harvesting system	10	0.5
9	Green Belt Development	43.5 % of the plant area will be developed as greenbelt also Inside & outside plantation activities	-	1.8	0.4
10	CER Activities	-	-	26.5	0.0
Total				167.5	8.62

Comments:

The overall environment management plan (EMP) provided for capital and recurring cost for wastewater treatment, air emission control, noise control, hazardous waste disposal, fire & safety, occupational health, environment monitoring program, green belt and corporate environmental responsibility was deliberated and found satisfactory.

41) RECOMMENDATIONS OF SEAC

"On the basis of information provided to SEAC on project, its location, technical, physical and environmental infrastructure, products, quantity to be manufactured, its raw material, storage, waste disposal, water treatment, safety measures, green belt development planning, regulatory compliance assured of related statutory provisions, necessary documents of requisite permissions provided from concerned departments and overall environmental management planning for the project, along with financial resources committed for operation and maintenance, and on the basis of presentation made before SEAC, modification suggested by SEAC and incorporated by project proponent, SEAC finds the project as per the requirement and **unanimously** recommends the same to SEIAA for

	<p>environmental clearance."</p> <p>Conditions with which Environment Clearance is recommended:</p>
42)	<p>GENERAL CONDITIONS</p> <p><u>Construction Phase</u></p> <ul style="list-style-type: none"> a) "Wind – breaker of appropriate height i.e. 1/3rd of the building height and maximum up to 10 meters shall be provided. Individual building within the project site shall also be provided with barricades. b) "No uncovered vehicles carrying construction material and waste shall be permitted." c) "No loose soil or sand or construction & demolition waste or any other construction material that cause dust shall be left uncovered. Uniform piling and proper storage of sand to avoid fugitive emissions shall be ensured." d) Roads leading to or at construction site must be paved and blacktopped (i.e. – metallic roads). e) No excavation of soil shall be carried out without adequate dust mitigation measures in place. f) Dust mitigation measure shall be displayed prominently at the construction site for easy public viewing. g) Grinding and cutting of building materials in open area shall be prohibited. h) Construction material and waste should be stored only within earmarked area and road side storage of construction material and waste shall be prohibited. i) Construction and demolition waste processing and disposal site shall be identified and required dust mitigation measures be notified at the site. (If applicable). <p><u>SPECIFIC CONDITIONS:</u></p> <ol style="list-style-type: none"> 1. Unit shall install CEMS [Continuous Emission Monitoring System] in line to CPCB directions to all SPCB vide letter no. B-29016/04/06PCI-1/5401 dated 05/02/2014 for effluent discharge and air emission as per pollutants discharge/emission from respective project and an arrangement shall also be done for reflecting the online monitoring results on the company's server, which can be assessable by the GPCB/CPCB on real time basis. [For Small/Large/Medium (Red Category) & Whichever (Air emission & Effluent discharge) is applicable]. 2. The National Ambient Air Quality Emission Standards issued by the Ministry vide G. S. R. No. 826 (E) dated 16th November, 2009 shall be complied with. 3. National Emission Standards for Dye and dye intermediates Industry issued by the Ministry vide G. S. R. 325 (E) dated 07/05/2014 and amended from time to time shall be followed.

4. Unit shall have to adhere to the prevailing area specific policies of GPCB with respect to the discharge of pollutants, and shall carry out the project development in accordance & consistence with the same.
5. All measures shall be taken to avoid soil and ground water contamination within premises.
6. **Safety & Health:**
 - a) PP shall obtain PESO permission for the storage and handling of hazardous chemicals. (If applicable).
 - b) PP shall provide Occupational Health Centre (OHC) as per the provisions under the Gujarat Factories Rule 68-U.
 - c) PP shall obtain fire safety certificate / Fire No-Objection certificate (NOC) from the concern authority as per the prevailing Rules / Gujarat Fire Prevention and Life Safety Measures Act, 2016.
 - d) Unit shall adopt functional operations/process automation system including emergency response to eliminate risk associated with the hazardous processes.
 - e) PP shall carry out mock drill within the premises as per the prevailing guidelines of safety and display proper evacuation plan in the manufacturing area in case of any emergency or accident.
 - f) PP shall install adequate fire hydrant system with foam trolley attachment within premises and separate storage of water for the same shall be ensured by PP.
 - g) PP shall take all the necessary steps for control of storage hazards within premises ensuring incompatibility of storage raw material and ensure the storage keeping safe distance as per the prevailing guidelines of the concerned authority.
 - h) PP shall take all the necessary steps for human safety within premises to ensure that no any harm is caused to any worker/employee or labour within premises.
 - i) Flame proof electrical fittings shall be provided in the plant premises, wherever applicable.
 - j) Unit shall never store drum/barrels/carboys of incompatible material/chemical together.
 - k) Unit shall provide effective Isolation for Process area and storage of hazardous chemicals.
 - l) The project management shall prepare a detailed Disaster Management Plan (DMP) for the project as per the guidelines from Directorate of Industrial Safety and Health.
 - m) Unit shall obtain all required permissions from the Narcotics Control Bureau for manufacturing, storage and handling of Acetic Anhydride & any such chemicals.

- n) Provide double earthing to solvent storage tanks: (1) Unit shall provide effective fire hydrants, water monitors & foam application system at solvent storage tank farm area. (2) Unit shall provide adequate safety system such as water sprinklers, water curtains, foam pouring system etc. to restrict cascade fire emergency in solvent tank farm.
- o) Unit shall never store drum/barrels/carboys of incompatible material/chemical together.
- p) Unit shall provide water sprinkler to the ammonia storage cylinder.
- q) Unit shall provide safety valve & rupture disc to the Hydrogenation vessel.
- r) Unit shall provide chlorine leakage control emergency kit and FRP hood with scrubber system for chlorine safety.
- s) Unit shall provide safety valve and rupture disc, as well as auto dump or auto quench/, suppress system for nitration vessel safety.
- t) Unit shall provide a spare tank with emergency transfer system and bund/ dyke wall to Oleum storage tank.

WATER

- 7. Total water requirement for the project shall not exceed 124.5 KLD. Unit shall reuse 2 KLD of treated effluent within premises. Hence, fresh water requirement shall not exceed 122.5 KLD and it shall be met through GIDC Supply Sarigam only. Prior permission from concerned authority shall be obtained for procurement of water.
- 8. The industrial effluent generation from the project shall not exceed 63 KLD.
- 9. Management of Industrial effluent shall be as under:

High Concentrated Stream (10 KLD)

- 10 KLD high concentrated generated from process + washing (10 KLD) shall be send Common Spray Dryer.

Low Concentrated Stream (53 KLD):

- ✓ 53 KLD effluent generated from process + washing (low concentrated) (40 KLD), cooling tower (3 KLD), Boiler (5 KLD), and Scrubbing media (5 KLD) shall be treated into ETP and treated effluent shall be discharge in to CETP- Sarigam only after complying with the inlet norms of CETP prescribed by GPCB to ensure no adverse impact on Human Health and Environment.
- 10. Domestic wastewater generation shall not exceed 2 KL/day for proposed project and it shall be treated in STP. It shall not be disposed off into soak pit. Treated sewage shall be utilized for gardening and plantation purpose within premises after achieving on-land discharge norms prescribed by the GPCB.
- 11. During monsoon season when treated sewage may not be required for the plantation / Gardening / Green belt purpose, it shall be stored within premises. There shall be no

discharge of waste water outside the premises in any case.

12. Unit shall provide buffer water storage tank of adequate capacity for storage of treated waste water during rainy days.
13. Treated waste water shall be sent to common facilities (CETP, Common Spray dryer etc.) only after complying with the inlet norms of common facilities prescribed by GPCB to ensure no adverse impact on Human Health and Environment.
14. The PP shall ensure to dispose off Waste water to the Common Facilities having valid CTO of GPCB.
15. Unit shall provide STP and ETP with adequate capacity.
16. The unit shall provide metering facility at the inlet and outlet of ETP and maintain records for the same.
17. Proper logbooks of ETP; reuse/ recycle of treated/ untreated effluent; chemical consumption in effluent treatment; quantity & quality of treated effluent sent to common facilities; power consumption etc. shall be maintained and shall be furnished to the GPCB from time to time.

AIR:

18. Unit shall not exceed fuel consumption for Steam Boiler, Hot Air Generator, Thermic flued heater and D G Set as per the point no. 24 as mentioned above.
19. PP shall use approved fuels only as fuel in Steam Boiler, Hot Air Generator, Thermic flued heater and D G Set.
20. Unit shall provide adequate APCM with flue gas generation sources to achieve the norms prescribed by GPCB.
21. Unit shall provide adequate APCM with process gas generation sources as the point no. 25 as mentioned above.
22. The fugitive emission in the work zone environment shall be monitored. The emission shall conform to the standards prescribed by the concerned authorities from time to time (e.g. Directors of Industrial Safety & Health). Following indicative guidelines shall also be followed to reduce the fugitive emission.
 - Internal roads shall be either concreted or asphalted or paved properly to reduce the fugitive emission during vehicular movement.
 - Air borne dust shall be controlled with water sprinklers at suitable locations in the plant.
 - A green belt shall be developed all around the plant boundary and also along the roads to mitigate fugitive & transport dust emission.
23. Regular monitoring of Volatile Organic Compounds (VOCs) shall be carried out in the work zone area and ambient air.

24. For control of fugitive emission, VOCs, following steps shall be followed :

- a. Closed handling and charging system shall be provided for chemicals.
- b. Reflux condenser shall be provided over Reactors / Vessels.
- c. Pumps shall be provided with mechanical seals to prevent leakages.
- d. Air borne dust at all transfers operations/ points shall be controlled either by spraying water or providing enclosures.

25. Solvent management shall be carried out as follows:

- ✓ Measures shall be taken to reduce the process vapors emissions as far as possible. Use of toxic solvents shall be minimum. All venting equipment shall have vapour recovery system
- ✓ Reactor shall be connected to adequate chilling system to condensate solvent vapors and reduce solvent losses.
- ✓ Reactor and solvent handling pump shall have mechanical seals to prevent leakages.
- ✓ The condensers shall be provided with sufficient HTA and residence time so as to achieve maximum solvent recovery.
- ✓ Solvents shall be stored in a separate space specified with all safety measures.
- ✓ Proper earthing shall be provided in all the electrical equipment wherever solvent handling is done.
- ✓ Solvent storage and handling area shall be flame proof. The solvent storage tanks shall be provided with breather valve to prevent losses.

26. Close loop solvent recovery system with adequate condenser system shall be provided to recover solvent vapours in such a manner that recovery shall be maximum and recovered solvent shall be reused in the process within premises.

27. Leak Detection and Repair (LDAR) program shall be prepared and implemented as per the CPCB guidelines. LDAR Logbooks shall be maintained.

28. Regular monitoring of ground level concentration of PM₁₀, PM_{2.5}, SO₂, NO_x, HCl, NH₃ and VOCs shall be carried out in the impact zone and its records shall be maintained. Ambient air quality levels shall not exceed the standards stipulated by the GPCB. If at any stage these levels are found to exceed the prescribed limits, necessary additional control measures shall be taken immediately. The location of the stations and frequency of monitoring shall be decided in consultation with the GPCB.

HAZARDOUS / SOLID WASTES:

29. All the hazardous/ solid waste management shall be taken care as per the point no. 32 and 33 as mentioned above.

30. Authorized end-users shall have permissions from the concerned authorities under the Rule 9 of the Hazardous and Other Wastes (Management and Transboundary Movement) Rules 2016.
31. Unit shall explore the possibilities for environment friendly methods like co-processing of hazardous waste for disposal of Incinerable & land fillable wastes before sending to CHWIF & TSDF sites respectively.
32. The project proponent has to obtain membership of TSDF site & CHWIF before obtaining CTO of GPCB.
33. STP sludge shall be collected and used as manure in gardening activity or send to TSDF site for landfilling.
34. The unit shall submit the list of authorized end users of hazardous wastes along with MoU signed with them at least two months in advance prior to the commencement of production. In the absence of potential buyers of these items, the unit shall restrict the production of the respective items.

GREENBELT AREA

35. The PP shall develop green belt [438 Sq m (20 %) inside plant premises + 515 Sq m (23.5 %) at Sarigam (Outside plant premises) = Total: 953 Sq. m.) i.e. 43.5 % of total plot area] as submitted before SEAC. Green belt shall be developed with native plant species that are significant and used for the pollution abatement as per the CPCB guidelines. It shall be implemented within 3 years of operation phase in consultation with GPCB.

OTHERS:

36. The project proponent shall carry out the activities of amount of Rs. 26.5 Lakhs (Plantation & maintenance Activities in Surrounding Villages and roadside in nearby Village, Village Infrastructure Development like rain water harvesting system, Primary School Infrastructure Development and Well-being in Nearby Village, Solar Lights poles and their AMC in nearby villages and Awareness Program for the Environment at Manda, Punat, Karanj, Sarigam, Angam etc) proposed under CER and it shall be part of the Environment Management Plan (EMP) as per the MoEF&CC's OM no. F. No. 22-65/2017-IA.III dated 30.09.2020. This shall be monitored and the monitoring report shall be submitted to the regional office of MoEF&CC as a part of half-yearly compliance report and to the District Collector. The monitoring report shall be posted on the website of the project proponent.
37. All the recommendations, mitigation measures, environmental protection measures and safeguards proposed in the EIA report of the project prepared by M/s. Shree Green Consultants and submitted by the project proponent and commitments made during

	presentation before SEAC and proposed In the EIA report shall be strictly adhered to in letter and spirit.
43)	<p>COMPLIANCE AND ADMINISTRATION/APEAL OF EC ORDERS</p> <ol style="list-style-type: none"> 1. Project proponent shall inform to all the concerned authorities including Municipal Corporation and District Collector and shall also give wide publicity through advertisement in minimum two local newspapers within seven days, about the Environment Clearance order accorded. 2. Project proponent shall appoint a key person in the organization who shall be responsible for compliance of above condition fully on behalf of the proponent. It will not mean that appointing a key person will exempt the project proponent from the responsibility of compliance. Any change in key person shall immediately be informed to SEIAA and all concerned authorities. 3. Designated key person shall submit six monthly compliance report to SEIAA/SEAC, MOEF&CC, GPCB and Nodal Department of the Government. 4. The Nodal Department or any authority or officer authorized by MOEF&CC/SEIAA can inspect the site of the project and all the facilities, for verification of compliances of environment clearance conditions. 5. In case of violation reported upon, the project proponent shall be responsible for all the legal actions as per Environment Protection Act, 1986 including SEIAA may cancel, withdraw or keep in abeyance, the Environment Clearance accorded. 6. Any person including the project proponent affected by this Environment Clearance order may file appeal to Honorable National Green Tribunal West Zone branch, Pune, preferably within a period of thirty days from the date of issue of Environment Clearance as prescribe under section 16 of National Green Tribunal Act 2010. 7. All complains and public grievance or representations may be addressed to SEIAA/SEAC in the email addresses (a) msseiaagj@gmail.com& (b) seacgujarat@gmail.com

The meeting ended with a vote of thanks to the chair.

Minutes approved by:

1.	Shri Akshay Kumar Saxena, Chairman, SEAC	
2.	Dr. S. C. Pant, Vice Chairman, SEAC	
3.	Shri D. C. Chaudhari, Member, SEAC	

4.	Shri J. K. Vyas, Member, SEAC	
5.	Shri AnandZinzala, Member, SEAC	
6.	Shri B. M. Tailor, Member, SEAC	
7	Shri D.M.Thaker, Member Secretary, SEAC	