Minutes of the 540th meeting of the State Level Expert Appraisal Committee held on 15th December 2022 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 15/12/2022 at 13.30 hrs.

The 540th meeting of the State Level Expert Appraisal Committee (SEAC) was held online by Video conferencing on 15th December 2022 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 Anand Zinzala, Member, SEAC
6.	Shri B. M. Tailor, Member, 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/IND/66711/2021	**M/s. Sainest Tubes Pvt. Ltd.** Plot No. 3329, 3327, 3328, 3334, 3335, 3339, GIDC Phase I, Chhatral, Ta: Kalol, Dist: Gandhinagar	EC-Reconsideration

Category of the unit: **3(a)**

Project status: **Expansion**

1) Details of Application:

1.1. Type of application:	EC-Expansion
1.2. Proposal no.	SIA/GJ/IND/66711/2021
1.3. Category of Project :	3 (a) – B1
1.4. Date of application : (Online accepted by SEAC)	21/08/2022
1.5. Documents Submitted by Project Proponent(PP)	Form - 1, Pre-feasibility Report, EMP
1.6. TOR No. & Date :	SIA/GJ/174109/2021 & 06-09-2021

1.7. Technical expert / Environmental Consultant :	M/s. Bhagwati Enviro Care Pvt. Ltd.
1.8. SEAC Meeting No. and Date:	494th SEAC & 26/09/2022
1.9. ADS vide letter dated :	494th SEAC & 26/09/2022
1.10. Reply Submitted by PP dated:	01/12/2022
1.11. Revised Consideration SEAC Meeting No. and Date:	540th SEAC & 15/12/2022

2) The proposal was considered in the SEAC video conference meeting dated 26.09.2022.

3) Project proponent (PP) and their Technical Expert remain present during video conference meeting.

4) This is an existing unit and now proposed for expansion in manufacturing of Metallurgical as mentioned below:

S. No.	Product	Capacity, TPM			End use
		Existing	Proposed	Total after Expansion	
✓	Cold Drawn Carbon/Alloy Steel Seamless tubes of various thickness and diameter	1200	0.0	1200	Boiler, Refinery, Heat exchanger, automobile
✓	Scrap of Steel Tubes (By Product)	50	150	200	
	Total	**1250**	**150**	**1400**	

5) The project falls under Category B1 of project activity 3(a) as per the schedule of EIA Notification 2006.

6) Considering scale of unit and its categorization, according to EIA notification dated 14th September 2006, by Ministry of Environment & Forest (MoEF), Government of India, unit is located inside notified industrial area & their proposed manufacturing activity is falls under Metallurgical industries (ferrous & non ferrous) – Schedule 3(a) & cat -B. For that unit needs Environmental clearance from State Level Environment Impact Assessment Authority, Gujarat. So, as per notification, Public Consultation is not required for proposed expansion project.

7) 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 - 2021 to December - 2021. Ambient Air Quality monitoring was carried out PM10, PM2.5, SOx, NOx, CO, Ammonia, Ozone, Lead, Arsenic, Nickel, Benzene, Benzo Pyrene 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”. 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).

8) 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.
9) This is an expansion project for Metallurgical industries (ferrous & non ferrous) located within GIDC at Plot No. 3329, 3327, 3328, 3334, 3335, 3339, GIDC Phase-I, Chhatral, Ta: Kalol, Dist: Gandhinagar, Gujarat.
10) Earlier, EC Was Not Applicable to the project. Existing Consent: AWH-104799, Date of Issue: 25/10/2019 and Valid up to 14/09/2024.
11) Unit had received show cause notice on 02.02.2021 regarding valid membership certificate of Active TSDF site. Self Certified compliance of the existing project found satisfactory.
12) PP submitted and ensured that there are no public complaints/ No litigation pending against the unit.
13) Deliberation of the Committee:
    - ✓ Product profile with its end-use is in Infrastructure Project. Committee asked for purpose of expansion project appraisal proposal submission, technical expert of PP informed that they have submitted proposal for expansion looking to present market of proposed product and having enough customers for proposed product.
    - ✓ Siting criteria of proposed project site was reviewed.
    - ✓ Committee noted that the Public Hearing is not applicable to the project
    - ✓ Site Plan/ layout with fire plan & floor plans and provision of separate entry & exits, 6 m wide peripheral road, OHC, production areas, raw material & finished goods storage areas, Furnace area, utility area, hazardous waste storage area, 33% greenbelt within premises etc.
    - ✓ Domestic Waste water will be sent to STP for treatment.
    - ✓ Primary treated effluent @22 KLD send to Common Spray Drying facility at Chhatral Environment Management System Pvt. Ltd. for Spray Drying.
    - ✓ Natural gas and electricity is proposed as fuel in furnaces.
    - ✓ There will be process gas emission from existing pickling station.
    - ✓ PP submitted hazardous waste matrix mentioning source of generation, quantity and Mode of disposal and committed to comply the Hazardous and Other Wastes (Management and Transboundary Movement) Rules 2016.
    - ✓ Fire hydrant plan, Water balance diagram and area adequacy was discussed.
    - ✓ Risk assessment, safety measures and its dispersion model.
    - ✓ EMP, Green belt, CER, Baseline data, ToR compliance etc. was discussed.
    - ✓ Looking to appraisal case presented by technical expert of PP, Committee insisted to revise APCM and CER (nodal agency to implement CER, capital and recurring cost of CER) for which PP is agreed upon and submitted revised APCM details later on, through e-mail. The PP could not submit

the revised CER as desired by the Committee.

- ✓ They have submitted layout indicating existing plan area, expansion related activities, green belt, roads, assembly points, ETP, Hazardous waste storage area, OHC and separate entry and exit gate.

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

15) <u>In view of the above, the Committee unanimously decided to consider the proposal in upcoming SEAC meeting upon submission of below mentioned details:</u>

1. Revised CER details with clear mention of Nodal implementiong agency of activities mentioned for CER along with Capital and Recurring cost.
2. Revised SEAC format

16) Project proponent submitted the reply of above query through Parivesh portal.

17) The case was reconsidered in the SEAC meeting dated 15.12.2022.

18) During meeting dated: 15.12.2022, PP presented the following details:

- ✓ Revised CER activities alomg with letter from concern authority.
- ✓ Revised EMP inclusing CER, Noise monitoring and AWH monitoring.
- ✓ Revised SEAC format

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

20) Committee noted that as per MoEF&CC OM dated: 08.06.2022, in case of expansion project Self Certified Compliance report is not acceptable. Certfied Compliance report of concern authority as per OM dated: 08.06.2022 is mandatory.

<u>After detailed discussion, the Committee unanimously decided to consider the proposal in upcoming SEAC meeting upon submission of following details:</u>

1. Certified Compliance report of Concern authority as per MoEF&CC's OM dated: 08.06.2022 for existing project.

2.	SIA/GJ/IND3/234042/2021	**Chemcon Speciality Chemicals Ltd** Block No. 336, 355 Paiki, Manjusar – Kunpad Road, Vill: Manjusar, Tal: Savli, Dist: Vadodara	EC-Refer back

Category of the unit: **5 (f)**

Project status: **New**

1) Project proponent (PP) has submitted online application vide no. SIA/GJ/IND3/244042/2021 dated: 16.10.2021 and SEAC has accepted on dated 10.12.2021 for obtaining Environmental Clearance.
2) PP has applied for Environmental clearance and the SEAC recommended the project for grant of Environmental clearance vide this office letter no. EIA-10-2021-IND2/4658 dated: 03.11.2022 for conditions as mentioned therein.

3) The case was referred back by the SEIAA, Gujarat vide Letter No. SEIAA/GUJ/EC/2900/2022 dated 08.12.2022 with the following point:
    1. Please clarify regarding drastic reduction of process waste water 165 KLD against water consumption 342.5 KLD.
    2. In TFH No. 3, Briquettes – 12 MT/Day or imported coal – 9 MT/Day are using as fuel and only MCS + Alkali Scrubber proposes as APCM is inadequate.
    3. Details of bleed liquor not given in hazardous waste management matrix.
    4. AWH monitoring details is not given in EMP.
    5. Clarify regarding revocation order of GPCB dated 19/05/2022.
4) Project proponent submitted reply vide email dated 13.12.2022 with supporting documents.
5) The case was reconsidered in the SEAC meeting dated 15.12.2022.
6) PP and Technical expert M/s Aryan EcoGreens Pvt Ltd remained present during video conference meeting dated: 15.12.2022.
7) PP presented the following details:
    1. Please clarify regarding drastic reduction of process waste water 165 KLD against water consumption 342.5 KLD.

    Reply:

    ✓ After proposed expansion total process water consumption is 342.5 KLD and process wastewater generation is 165 KLD. The difference between process water consumption and wastewater generation is 177.5 KLD. The following are the reasons:
    a) Out of which 59 KLD Difference is due to APCM water and generates scrubbing solution and sold to the authorized Rule-9 vendor.
    b) 25 KLD difference is due to process water consumption to make 50% H2SO4 Solution from products Pyridine Hydro Bromide and 1,1 Cyclohexane Diacetic acid, generated solution is sold to the authorized Rule-9 vendor.
    c) 65 KLD difference is due to water consumption and wastewater generation of inorganic and organic products as per the existing CTE & CC&A.
    d) 28.5 KLD difference due to Difference in water consumption and wastewater generation as per the proposed products. Details given in below table.

<table>
<tr>
<td>Difference in water consumption and wastewater generation due to APCM Water considered as process water in previous EC</td>
<td>59 KLD</td>
<td>Generated scrubbing solution is sold to the authorized Rule-9 vendor. So, it is not considered as wastewater generation. Details of APCM water and process water is given in below mentioned table.
<table>
<tr><th></th><th>Total APCM Water required (KLD)</th><th>Considered water consumption in APCM (KLD)</th><th>Considered Water consumption in Process (KLD)</th></tr>
<tr><td>HCl Solution</td><td>165</td><td>110.5</td><td>54.5</td></tr>
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		Sodium Hypochlorite: 4 / 3 / 1 HBr Solution: 8 / 4.5 / 3.5 **177 / 118 / 59 (177-118)**
Difference in water consumption and wastewater generation due to 50% H2SO4 Solution	25 KLD	25 KLD Water is used to make 50% H2SO4 Solution. H2SO4 is generated from Pyridine Hydro Bromide and 1,1 Cyclohexane Diacetic acid. Generated solution is sold to the authorized Rule-9 vendor. So, it is not considered as wastewater generation.
Difference in water consumption and wastewater generation of inorganic and organic products as per the existing CC&A and EC	65 KLD	For the existing inorganic products, process water consumption is to make calcium Bromide, Zinc Bromide and Sodium Bromide and calcium chloride solution. For the organic products, process water consumption is to make Ammonium Chloride solution from HMDS, Ammonium Chloride solution is sold to the authorized rule-9 vendor. Some amount of water is consumed in process to manufacture HMDO, PNBBR, 1,1 Cyclohexane Diacetic Acid etc. Remaining amount of water will be directly recycled into the manufacturing process. So, it is not considered as wastewater generation.
Difference in water consumption and wastewater generation as per the proposed products	28.5 KLD	From the proposed products, process water consumption is to make Ammonium Chloride solution from HMDS, Ammonium Chloride solution will be sold to the authorized rule-9 vendor. Remaining amount of Water will be directly recycled into the manufacturing process of Guanine and Benzylidine Acetone. So, it is not considered as wastewater generation
Total Difference in water consumption and wastewater generation	**177.5 KLD**	

2. In TFH No. 3, Briquettes – 12 MT/Day or imported coal – 9 MT/Day are using as fuel and only MCS + Alkali Scrubber proposes as APCM is inadequate.

Reply:

- ✓ We have already installed TFH No. 3 i.e. TFH – 4 Lakh Kcal/Hr for that we have already obtained CTE & CC&A. We have already provided Multi Cyclone Separator + Bag Filter + Alkali Scrubber to the TFH. But by mistaken we forgot to mention Bag filter as APCM in TFH No. 3. Hence, revised details of Flue gas emission are as under and photograph of bag filter is submitted.

Revised Flue gas matrix

Sr. No.	Stack Attached to	Stack Height (Meter)	Fuel Used & Rate of Consumption	APCM	Parameters

1.	Boiler – I (Capacity-3.0 MT)	30 m (Common Stack)	Imported Coal & / or Briquettes – 11 MT/Day	Multi Cyclone Separator + Bag Filter + Alkali Scrubber	Particulate Matter SO_2 NO_x
2.	Boiler – II (Capacity -5.0 MT)				
3.	Thermic Fluid Heater (4 Lakh Kcal/Hr)		Briquettes – 12 MT/day or Imported Coal – 9 MT/Day	Multi Cyclone Separator + Bag Filter + Alkali Scrubber	
4.	Boiler – III (Capacity -16.0 TPH)	33 m (Common Stack)	Briquettes- 60 MT/day or Imported Coal – 45 MT/Day	ESP & Water + Alkali Scrubber	
5.	Boiler – IV (Capacity – 16.0 TPH) (stand by)				
6.	Thermic Fluid Heater (30 Lakh Kcal/Hr)		Briquettes- 80 MT/day or Imported Coal – 60 MT/Day		
7.	D.G. Set – 2 Nos. (500 KVA & 910 KVA)	11 m each	Diesel – 2054 Lit/Hr	Acoustic Measures	

3. Details of bleed liquor not given in hazardous waste management matrix.

Reply:

✓ Bleed Liquor is given in hazardous waste management matrix which is as under:

Revised Hazardous waste matrix

SN	Type of Waste	Cate-gory	Source of Generation	Generation, MT/Year				Mode of Disposal
				Existing as per CC&A	EC No. SEIAA/GUJ/EC/(5f)/839/2020	Additional for EC expansion	Total after proposed expansion	
1	ETP Sludge	35.3 Sch-I	ETP Plant	70	1150	-2830	4800	Collection, Storage, Transportation and Disposal at Co-processing, Cement industries &/or approved TSDF Site.
2	MEE Waste		MEE		6480			

3	Used Spent Oil	5.1 Sch-I	Equipment & Machinery	2	3	2	7	Reused within the Factory Premises &/or Disposal by selling to registered/ authorized re-cycler having valid CCA of SPCB & Rule-9 permission under HWM Rule-2016 by use of GPS enable vehicle and xgn generated manifest
4	Discarded Containers/ Barrel/Liners/ Bags	33.1 Sch-I	Raw Material & Finished Goods Storage	30	48	32	110 (65333 Nos.)	Disposal by selling to registered/ authorized re-cycler having valid CCA of SPCB & Rule - 9 permission under HWM Rule – 2016 by use of GPS enable vehicle and xgn generated manifest.
5	Distillation Residue	20.3 Sch-I	Process (HMDS, CMIC, Oxalyl Chloride, Cinnamic aldehyde, cinnamic alcohol, PNBBR, 2 EHC, 2 MEC, 2 PEC, 2,4,6 TMBC, 3,5 DMBC, 4-CBC, IBC, INC, IOCL, IPC, LC, MAC, N-BC, NDC, OC, PC, TPC, UC, Valeryl Chloride, 2-CTC, TC, 2,4 Dichloro benzyl chloride, 2,4 Dichloro benzaldehyde, Benzylidine Acetone)	1707	313	2520	4540	Collection, Storage, Transportation and Disposal at co-processing, Cement industries &/or approved CHWIF.
6	Organic Waste/ Process Waste	28.1 Sch-I	Process (2 Methyl thio 4,6 pyrimdinedione)	70	1800	NIL	1870	Collection, Storage, Transportation and Disposal at co-processing, Cement industries &/or approved TSDF site &/or CHWIF site.
7	Spent Sulfuric Acid (50%)	B-15	Process (Pyridine Hydrobromide, 1,1 Cyclohexane Di Acetic Acid)	9144	9240	NIL	18384	Collection, Storage, Transportation & Captive use &/or sell to end user valid CCA

								of SPCB & Rule-9 permission under HWM Rule -2016 by use of GPS enable vehicle and xgn generated manifest.
8	Ammonium Chloride Liquid or Ammonium Chloride Powder	C1 Sch-II	Process (HMDS)	9600 or 100	17400	9760	36760 or 9190	Collection, Storage, Transportation & captive use &/or send to our sister concern unit for reuse &/or sell to end user who is having Rule-9 Permission.
9	Spent Carbon	28.2 Sch-I	Process (Cytosine, guanine)	NIL	180	1245	1425	Collection, Storage, Transportation and Sent for Reactivation or Disposal at co-processing, Cement Industries &/or approved CHWIF.
10	Spent solvent	28.6 Sch-I	Process	NIL	22000	NIL	22000	Collection, Storage, Transportation and sell to end user valid CCA of SPCB & Rule-9 permission under HWM Rule -2016 by use of GPS enable vehicle and xgn generated manifest.
11	Spent Catalyst	28.2 Sch-I	Process (n-Butyl Chloride, PNBBR, 4-CBC, 2,4 Dichloro benzyl chloride, benzylidine acetone)	NIL	1800	NIL	1800	Collection, Storage, Transportation and Disposal in approved TSDF.
12	Solvent Residue	28.1 Sch-I	Process	NIL	1800	-300	1500	Collection, Storage, Transportation and Disposal at co-processing, Cement Industries &/or approved CHWIF.
13	Floor Sweeping Waste	-	-	5	93	NIL	98	Collection, Storage, Transportation and Disposal to approved TSDF.
14	Fly Ash (Non Hazardous)	-	Boiler & TFH	25	335	2000	2360	Sent to Brick Manufacturer &/or RMC (ready mix concrete) manufacturer.

15	10% Sodium Benzoate Solution	B-5	Process (2,4 Dichloro benzaldehyde)	NIL	NIL	600	600	Collection, Storage, Transportation & Captive use &/or sell to end user who is having Rule-9 Permission.
16	Sodium Nitrate	B-36	Process (Guanine)	NIL	NIL	1956	1956	
17	25-30% AlCl3 Solution	B-10	Process (2-CTC, TC)	NIL	NIL	12720	12720	
18	Dil. HCl (30%)	B-15	Process (HMDS, N-Butyl Chloride, CMIC, HMDO, 2 EHC, 2 MEC, 2 PEC, 2,4,6 TMBC, 3,5 DMBC, 4-CBC, IBC, INC, IOCL, IPC, LC, MAC, N-BC, NDC, OC, PC, TPC, UC, Valeryl Chloride, 2-CTC, TC, 2,4 Dichloro benzyl chloride, 2,4 Dichloro benzaldehyde)	11374	35648	34714	81736	Collection, Storage, Transportation & manufacture of 25-30% CaCl2 solution (Product) &/or Captive use/ reuse &/or sell to end user valid CCA of SPCB & Rule-9 permission under HWM Rule -2016 by use of GPS enable vehicle and xgn generated manifest.
19	Sodium Hypo Chlorite	B-36	Process (2,4 Dichloro benzyl chloride, 2,4 Dichloro benzaldehyde)	NIL	252	1298	1550	Collection, Storage, Transportation & Captive use &/or sell to end user valid CCA of SPCB & Rule-9 permission under HWM Rule -2016 by use of GPS enable vehicle and xgn generated manifest.
20	HBr Solution	B-15	Process (Bromobenzene, PNBBR)	NIL	1872	2278	4150	Collection, Storage, and captive use
21	10% Sodium bisulphite Solution	-	Process (2 EHC, 2 MEC, 2 PEC, 2,4,6 TMBC, 3,5 DMBC, 4-CBC, IBC, INC, IOCL, IPC, LC, MAC, N-BC, NDC, OC, PC, TPC, UC, Valeryl Chloride, 2-CTC)	NIL	NIL	384840	384840	Collection, Storage, Transportation & Captive use &/or sell to end user who is having Rule-9 Permission.
22	Inorganic Waste/ Process Waste/	28.1 Sch-I	Process of Existing Inorganic Products	5595	NIL	NIL	5595	Generation, Collection, Storage, Transportation and Disposal by sending to

	Calcium Sulphate							approved authorized TSDF/CHWIF having valid CCA of GPCB by use of GPS enable vehicle and xgn generated manifest.

4. AWH monitoring details is not given in EMP.

Reply:

✓ Revised EMP mentioning AWH monitoring are as under

SN	Description	Component	Capital Budget (Lacs)	Recurring Cost (Lakhs/Annum)		
				Operating Cost	Maintenance Cost	Total Recurring Cost
1	Air Pollution Control	Installation of boiler Stack & APCM Cost of scrubber & APCM Cost of maintenance of APCM System	58	7.9	2.1	10
2	Water Pollution Control	Construction of ETP, RO, MEE/ MVR Treatment cost of Effluent Maintenance charges, Manpower	132	16.25	5.05	21.3
3	Hazardous/ Solid Waste Management	Membership cost of TSDF/CHWIF Construction of Hazardous waste storage yard Cost for TSDF/ CHWIF disposal	10	7.5	2.5	10
4	Noise Pollution Control	Cost of adequate sound enclosures	5	0.4	0.1	0.5
5	Green Belt Development	Land levelling, Plantation, Labour cost, fencing	7	1.5	0.5	2
6	Occupational Health & safety	Stock and Storage of PPEs and Safety system Maintenance charges and medical check up OHC	20	3	1	4
7	DCS System	DCS System and Auto Control System	35	5.6	1.4	7
8	Environment Monitoring & Management	AWH Monitoring (Monitoring of AAQM, Stacks, water, wastewater and noise level)	5	2	-	2
9	Fire & Safety	Fire Alarm System & Fire Extinguishers Expansion of Fire Hydrant & monitors/ sprinklers/detector system	85	-	-	-
10	CER Activity	-	52	-	-	-
	TOTAL COST		**409**			**56.8**

5. Clarify regarding revocation order of GPCB dated 19/05/2022.

Reply:

✓ The chronology of closure and revocation are as under:

1	Date of Closure Order received	09/09/2021
2	Date of Revocation Application	17/09/2021
3	Date of Revocation Order received	25/10/2021
4	Date of Permanent Revocation Order Application	06/12/2021
5	Date of Permanent Revocation Order Received	20/05/2022

8) Committee found the presentation and submission for the project satisfactorily.

After detailed discussion, it was decided to recommend the project to SEIAA, Gujarat for grant of Environmental Clearance with revised flue gas matrix, hazardous waste matrix and EMP as mentioned below and remaining conditions unchanged via Recommendation Letter forwarded from SEAC vide No. EIA-10-2021-IND2/4658 dated: 03.11.2022.

Flue gas matrix shall be read as under:

Sr. No.	Stack Attached to	Stack Height (Meter)	Fuel Used & Rate of Consumption	APCM	Parameters
1.	Boiler – I (Capacity-3.0 MT)	30 m (Common Stack)	Imported Coal & / or Briquettes – 11 MT/Day	Multi Cyclone Separator + Bag Filter + Alkali Scrubber	Particulate Matter SO_2 NO_x
2.	Boiler – II (Capacity -5.0 MT)				
3.	Thermic Fluid Heater (4 Lakh Kcal/Hr)		Briquettes – 12 MT/day or Imported Coal – 9 MT/Day	Multi Cyclone Separator + Bag Filter + Alkali Scrubber	
4.	Boiler – III (Capacity -16.0 TPH)	33 m (Common Stack)	Briquettes- 60 MT/day or Imported Coal – 45 MT/Day	ESP & Water + Alkali Scrubber	
5.	Boiler – IV (Capacity – 16.0 TPH) (stand by)				
6.	Thermic Fluid Heater (30 Lakh Kcal/Hr)		Briquettes- 80 MT/day or Imported Coal – 60 MT/Day		
7.	D.G. Set – 2 Nos. (500 KVA & 910 KVA)	11 m each	Diesel – 2054 Lit/Hr	Acoustic Measures	

Hazardous waste matrix shall be read as under:

SN	Type of Waste	Cate-gory	Source of Generation	Generation, MT/Year				Mode of Disposal
				Existing as per CC&A	EC No. SEIAA/ GUJ/ EC/(5f)/ 839/ 2020	Additional for EC expansion	Total after proposed expansion	
1	ETP Sludge	35.3 Sch-I	ETP Plant	70	1150	-2830	4800	Collection, Storage, Transportation and Disposal at Co-processing, Cement industries &/or approved TSDF Site.
2	MEE Waste		MEE		6480			
3	Used Spent Oil	5.1 Sch-I	Equipment & Machinery	2	3	2	7	Reused within the Factory Premises &/or Disposal by selling to registered/ authorized re-cycler having valid CCA of SPCB & Rule-9 permission under HWM Rule-2016 by use of GPS enable vehicle and xgn generated manifest
4	Discarded Containers/ Barrel/Liners/ Bags	33.1 Sch-I	Raw Material & Finished Goods Storage	30	48	32	110 (65333 Nos.)	Disposal by selling to registered/ authorized re-cycler having valid CCA of SPCB & Rule - 9 permission under HWM Rule – 2016 by use of GPS enable vehicle and xgn generated manifest.
5	Distillation Residue	20.3 Sch-I	Process (HMDS, CMIC, Oxalyl Chloride, Cinnamic aldehyde, cinnamic alcohol, PNBBR, 2 EHC, 2 MEC, 2 PEC, 2,4,6 TMBC, 3,5 DMBC, 4-CBC, IBC, INC, IOCL, IPC, LC, MAC, N-BC, NDC, OC, PC, TPC, UC, Valeryl Chloride, 2-CTC, TC, 2,4 Dichloro benzyl chloride, 2,4	1707	313	2520	4540	Collection, Storage, Transportation and Disposal at co-processing, Cement industries &/or approved CHWIF.

			Dichloro benzaldehyde, Benzylidine Acetone)					
6	Organic Waste/ Process Waste	28.1 Sch-I	Process (2 Methyl thio 4,6 pyrimdinedione)	70	1800	NIL	1870	Collection, Storage, Transportation and Disposal at co-processing, Cement industries &/or approved TSDF site &/or CHWIF site.
7	Spent Sulfuric Acid (50%)	B-15	Process (Pyridine Hydrobromide, 1,1 Cyclohexane Di Acetic Acid)	9144	9240	NIL	18384	Collection, Storage, Transportation & Captive use &/or sell to end user valid CCA of SPCB & Rule-9 permission under HWM Rule -2016 by use of GPS enable vehicle and xgn generated manifest.
8	Ammonium Chloride Liquid or Ammonium Chloride Powder	C1 Sch-II	Process (HMDS)	9600 or 100	17400	9760	36760 or 9190	Collection, Storage, Transportation & captive use &/or send to our sister concern unit for reuse &/or sell to end user who is having Rule-9 Permission.
9	Spent Carbon	28.2 Sch-I	Process (Cytosine, guanine)	NIL	180	1245	1425	Collection, Storage, Transportation and Sent for Reactivation or Disposal at co-processing, Cement Industries &/or approved CHWIF.
10	Spent solvent	28.6 Sch-I	Process	NIL	22000	NIL	22000	Collection, Storage, Transportation and sell to end user valid CCA of SPCB & Rule-9 permission under HWM Rule -2016 by use of GPS enable vehicle and xgn generated manifest.
11	Spent Catalyst	28.2 Sch-I	Process (n-Butyl Chloride, PNBBR, 4-CBC, 2,4 Dichloro benzyl chloride, benzylidine acetone)	NIL	1800	NIL	1800	Collection, Storage, Transportation and Disposal in approved TSDF.

12	Solvent Residue	28.1 Sch-I	Process	NIL	1800	-300	1500	Collection, Storage, Transportation and Disposal at co-processing, Cement Industries &/or approved CHWIF.
13	Floor Sweeping Waste	-	-	5	93	NIL	98	Collection, Storage, Transportation and Disposal to approved TSDF.
14	Fly Ash (Non Hazardous)	-	Boiler & TFH	25	335	2000	2360	Sent to Brick Manufacturer &/or RMC (ready mix concrete) manufacturer.
15	10% Sodium Benzoate Solution	B-5	Process (2,4 Dichloro benzaldehyde)	NIL	NIL	600	600	Collection, Storage, Transportation & Captive use &/or sell to end user who is having Rule-9 Permission.
16	Sodium Nitrate	B-36	Process (Guanine)	NIL	NIL	1956	1956	
17	25-30% AlCl3 Solution	B-10	Process (2-CTC, TC)	NIL	NIL	12720	12720	
18	Dil. HCl (30%)	B-15	Process (HMDS, N-Butyl Chloride, CMIC, HMDO, 2 EHC, 2 MEC, 2 PEC, 2,4,6 TMBC, 3,5 DMBC, 4-CBC, IBC, INC, IOCL, IPC, LC, MAC, N-BC, NDC, OC, PC, TPC, UC, Valeryl Chloride, 2-CTC, TC, 2,4 Dichloro benzyl chloride, 2,4 Dichloro benzaldehyde)	11374	35648	34714	81736	Collection, Storage, Transportation & manufacture of 25-30% CaCl2 solution (Product) &/or Captive use/ reuse &/or sell to end user valid CCA of SPCB & Rule-9 permission under HWM Rule -2016 by use of GPS enable vehicle and xgn generated manifest.
19	Sodium Hypo Chlorite	B-36	Process (2,4 Dichloro benzyl chloride, 2,4 Dichloro benzaldehyde)	NIL	252	1298	1550	Collection, Storage, Transportation & Captive use &/or sell to end user valid CCA of SPCB & Rule-9 permission under HWM Rule -2016 by use of GPS enable vehicle and xgn generated manifest.
20	HBr Solution	B-15	Process	NIL	1872	2278	4150	Collection, Storage,

			(Bromobenzene, PNBBR)					and captive use
21	10% Sodium bisulphite Solution	-	Process (2 EHC, 2 MEC, 2 PEC, 2,4,6 TMBC, 3,5 DMBC, 4-CBC, IBC, INC, IOCL, IPC, LC, MAC, N-BC, NDC, OC, PC, TPC, UC, Valeryl Chloride, 2-CTC)	NIL	NIL	384840	384840	Collection, Storage, Transportation & Captive use &/or sell to end user who is having Rule-9 Permission.
22	Inorganic Waste/ Process Waste/ Calcium Sulphate	28.1 Sch-I	Process of Existing Inorganic Products	5595	NIL	NIL	5595	Generation, Collection, Storage, Transportation and Disposal by sending to approved authorized TSDF/CHWIF having valid CCA of GPCB by use of GPS enable vehicle and xgn generated manifest.

EMP shall be read as under

SN	Description	Component	Capital Budget (Lacs)	Recurring Cost (Lakhs/Annum)		
				Operating Cost	Maintenance Cost	Total Recurring Cost
1	Air Pollution Control	Installation of boiler Stack & APCM Cost of scrubber & APCM Cost of maintenance of APCM System	58	7.9	2.1	10
2	Water Pollution Control	Construction of ETP, RO, MEE/ MVR Treatment cost of Effluent Maintenance charges, Manpower	132	16.25	5.05	21.3
3	Hazardous/ Solid Waste Management	Membership cost of TSDF/CHWIF Construction of Hazardous waste storage yard Cost for TSDF/ CHWIF disposal	10	7.5	2.5	10
4	Noise Pollution Control	Cost of adequate sound enclosures	5	0.4	0.1	0.5
5	Green Belt Development	Land levelling, Plantation, Labour cost, fencing	7	1.5	0.5	2
6	Occupational Health & safety	Stock and Storage of PPEs and Safety system Maintenance charges and medical check up	20	3	1	4

		OHC				
7	DCS System	DCS System and Auto Control System	35	5.6	1.4	7
8	Environment Monitoring & Management	AWH Monitoring (Monitoring of AAQM, Stacks, water, wastewater and noise level)	5	2	-	2
9	Fire & Safety	Fire Alarm System & Fire Extinguishers Expansion of Fire Hydrant & monitors/ sprinklers/detector system	85	-	-	-
10	CER Activity	-	52	-	-	-
	TOTAL COST		**409**			**56.8**

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3.	SIA/GJ/IND3/248116/2021	**M/s. Suryoday Interpharm LLP** Survey No. 491/3, Village: Daheda, Tal: Khambhat, Dist: Anand, Gujarat-388620	EC-Refer back

Category of the unit: **5 (f)**

Project status: **New**

1) Project proponent (PP) has submitted online application vide no. SIA/GJ/IND3/248116/2021 dated: 31.12.2021 and SEAC has accepted on dated 06.05.2022 for obtaining Environmental Clearance.
2) PP has applied for Environmental clearance and the SEAC recommended the project for grant of Environmental clearance vide this office letter no. EIA-10-2021-IND2/4661 dated: 03.11.2022 for conditions as mentioned therein.
3) The case was referred back by the SEIAA, Gujarat vide Letter No. SEIAA/GUJ/EC/2901/2022 dated 08.12.2022 with the following point:
    6. Total Production Capacity of EC Product & Non-EC Product are not given in the production table
    7. In siting criteria CRZ Applicability mentioned as not applicable, but distance from HTL is not mentioned. SEAC should check and verify regarding applicability of CRZ.
    8. Capacity of ETP is not given
    9. Details of Fire NOC certificate is not given.
4) Project proponent submitted reply vide email dated 12.12.2022 with supporting documents.
5) The case was reconsidered in the SEAC meeting dated 15.12.2022.
6) PP and Technical expert M/s M/s. AWH Laboratory remained present during video conference meeting dated: 15.12.2022.
7) PP presented the following details:
    1. Total Production Capacity of EC Product & Non-EC Product are not given in the production table

    Reply:

    ✓ Revised product profile mentioning total of EC and non EC products are as under:

Sr. No.	Name of the Products	CAS no.	Quantity MT/Month	*End-use of products
1	N-Propyl Bromide (N. P. Br)	106-94-5	175	Sodium Valproate and

				Valproic Acid (anti-epileptic drug)
2	N-Butyl Bromide (N. B. Br)	109-65-9	165	Oxyphenbutazone
3	Iso-Propyl Bromide (I. P. Br)	75-26-3	175	Ipratropium
4	Ethyl Bromide	74-96-4	50	Terbinafine
5	Di Ethyl Di Propyl Malonate Easter (DEDPM)	6065-63-0	75	Sodium Valproate and Valproic Acid (anti-epileptic drug)
6	Di Propyl Malonic Acid	1636-27-7	75	Sodium Valproate and Valproic Acid (anti-epileptic drug)
7	Valproic Acid (Dipropyl Acetic Acid)	99-66-1	25	Anti-epileptic drug
8	Sodium Valproate	1069-66-5	25	Anti-epileptic drug
9	Bromobenzene	108-86-1	200	Pirfenidone
Total EC Products - 965 MT/Month				
Non-EC Products				
10	Liquid Bromine	7726-95-6	30	Internal use for manufacturing of API/Intermediates or sale to market
11	Hydro Bromic Acid	10035-10-6	185	
12	KBr	7758-02-3	150	
13	NH_4Br	12124-97-9		
14	LiBr	7550-35-8		
15	$ZnBr_2$	7699-45-8		
16	NaBr	7647-15-6		
Total Non - EC Products – 365 MT/Month				
Total (EC & Non EC Products)-1330 MT/ Month				

2. In siting criteria CRZ Applicability mentioned as not applicable, but distance from HTL is not mentioned. SEAC should check and verify regarding applicability of CRZ.

Reply:

- ✓ Our proposed Location (Survey No. 491 of Village Daheda) is not falling under this list of applicable survey numbers under CRZ. As per CRZ notification 1991 & amendment thereafter, no new industries shall be permitted in Coastal Regulation Zone (land area from High Tide Line to 500 meters on the landward side). Our proposed unit is not falling in Coastal Regulation Zone as our unit is approx. 3.59 Km away from High Tide Line. Google image showing distance from HTL line and Final approved CRZ map is submitted.

3. Capacity of ETP is not given

Reply:

- ✓ Total Industrial Wastewater Generation is 13.2 KLD for which it is proposed to provide 15 KLD ETP. Industrial wastewater will be treated in primary ETP and after treatment, it will be completely evaporated in inhouse MEE so as to achieve zero liquid discharge. Details of ETP

are as under:

ETP Capacity-15 KLD

Sr. No.	Unit	Capacity (m3)
01	Collection Tank	30 m3 (3.5 x 3.5 x 2.5)
02 A	Neutralization Tank	15 m3 (2.5 x 2.5 x 2.5)
02 B	Neutralization Tank	15 m3 (2.5 x 2.5 x 2.5)
03	Primary Settling Tank	10 m3 (2 x 2 x 2.5)
04	Intermediate Tank	30 m3 (3.5 x 3.5 x 2.5)
05	MEE	0.75 M3/hr
06	MEE Condensate Tank	15 m3 (2.5 x 2.5 x 2.5)
07	Sludge Drying Bed	1.5 m3 (2.0 x 1.5 x 0.5)

4. Details of Fire NOC certificate is not given.

Reply:

- ✓ We would like to clarify that we are not able to do application for fire NOC as Department is not taking any application for industrial projects at present. We assure you that we will obtain and submit fire NOC at the time of CC&A application before commencement of production.

8) Committee found the presentation and submission for the project satisfactorily.

After detailed discussion, it was decided to recommend the project to SEIAA, Gujarat for grant of Environmental Clearance with revised product profile as mentioned below and remaining conditions unchanged via Recommendation Letter forwarded from SEAC vide No. EIA-10-2021-IND2/4661 dated: 03.11.2022.

Product Profile shall be amended as under:

Sr. No.	Name of the Products	CAS no.	Quantity MT/Month	*End-use of products
1	N-Propyl Bromide (N. P. Br)	106-94-5	175	Sodium Valproate and Valproic Acid (anti-epileptic drug)
2	N-Butyl Bromide (N. B. Br)	109-65-9	165	Oxyphenbutazone
3	Iso-Propyl Bromide (I. P. Br)	75-26-3	175	Ipratropium
4	Ethyl Bromide	74-96-4	50	Terbinafine
5	Di Ethyl Di Propyl Malonate Easter (DEDPM)	6065-63-0	75	Sodium Valproate and Valproic Acid (anti-epileptic drug)
6	Di Propyl Malonic Acid	1636-27-7	75	Sodium Valproate and

				Valproic Acid (anti-epileptic drug)
7	Valproic Acid (Dipropyl Acetic Acid)	99-66-1	25	Anti-epileptic drug
8	Sodium Valproate	1069-66-5	25	Anti-epileptic drug
9	Bromobenzene	108-86-1	200	Pirfenidone
Total EC Products - 965 MT/Month				
Non-EC Products				
10	Liquid Bromine	7726-95-6	30	Internal use for manufacturing of API/Intermediates or sale to market
11	Hydro Bromic Acid	10035-10-6	185	
12	KBr	7758-02-3	150	
13	NH_4Br	12124-97-9		
14	LiBr	7550-35-8		
15	$ZnBr_2$	7699-45-8		
16	NaBr	7647-15-6		
Total Non - EC Products – 365 MT/Month				
Total (EC & Non EC Products)-1330 MT/ Month				

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4.	SIA/GJ/IND3/248515/2021	**M/S. Watan Pharma (Unit-I)** Old Block No. – 157, Survey No. 154/5, Type-E, Village: Nana Borsara, Taluka: Mangrol, Dist. Surat, Gujarat – 394 115	EC

Category of the unit: **5 (f)**

Project status: **New**

1) Details of Application:

1.1. Type of application:	EC-New
1.2. Proposal no.	SIA/GJ/IND3/248515/2021
1.3. Category of Project :	5 (f) – B2
1.4. Date of application : (Online accepted by SEAC)	Date of application: 30.12.2021 30.11.2022 (Accepted by SEAC)
1.5. Documents Submitted by Project Proponent(PP)	Form -1, Pre-feasibility Report, EMP, Additional Attached
1.6. TOR No. & Date :	Not applicable as project is categorized as B2
1.7. Technical expert / Environmental Consultant :	Yash Kapadia
1.8. SEAC Meeting No. and Date:	540th Meeting No. Dated: 15/12/2022
1.9. ADS vide letter dated :	--
1.10. Reply Submitted by PP dated:	--
1.11. Revised Consideration SEAC Meeting No. and Date:	--
1.12. Compliance of Existing EC & CCA	NA, Proposed Unit

2) Committee noted that the unit has applied for EC on dated: 30.12.2021 on which EDS was generated by

SEAC on dated: 13.01.2022. The PP has replied of EDS on dated: 24.11.2022. Since the project has applied before 31.12.2021 under B2 category project and not falling in CPAs/SPAs the application was accepted by SEAC on dated: 30.11.2022.

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

SR. NO.	NAME OF THE PRODUCT	CAS NO.	QUANTITY MT/MONTH	END-USE OF PRODUCT
1	Diclofenac Sodium	15307-79-6	27	anti-inflammatory
2	Diclofenac Potassium	15307-81-0		anti-inflammatory
3	Aceclofenac	89796-99-6		anti-inflammatory
4	Ambroxol Base	18683-91-5		Antibiotic
5	Ambroxol Hcl	23828-92-4		Antibiotic
6	Cetirizine Hydrochloride	246870-46-2		Antihistamine
7	Chlorzoxazone	95-25-0		used to treat muscle spasms/pain
8	Ciprofloxacin Lactate	97867-33-9		used to treat a wide variety of infections
9	Deferasirox	201530-41-8		Used to treatment of chronic iron
10	Esomeprazole Magnesium	217087-09-7		reduce the amount of acid in your stomach
11	Losartan Potassium	124750-99-8		used to treat high blood pressure
12	Lumefantrine	82186-77-4		used to treat non-severe malaria
13	Metronidazole Benzoate	13182-89-3		Antibacterial
14	Montelukast Sodium	151767-02-1		improve symptoms of asthma
15	Pioglitazone Hcl	112529-15-4		Antidiabetic
16	Vildagliptin	274901-16-5		anti-hyperglycemic
17	Chloramphenicol	56-75-7		Antibiotic
18	Chloramphenicol Palmitate	530-43-8		Antibiotic
19	Ciprofloxacin Hcl	86393-32-0		used to treat or prevent certain infections
20	Diclofenac Diethyl Amine	78213-16-8		anti-inflammatory
21	Erythromycin Stearate	643-22-1		antibiotic
22	Guaifenesin	93-14-1		used to treat cough
23	Ketoconazole	65277-42-1		Antifungal
24	Levofloxacin	100986-85-4		Antibiotic
25	Meloxicam	71125-38-7		Arthritis
26	Levosulpiride	23672-07-3		anxiety disorders
27	Ofloxacin	82419-36-1		Antibiotics
28	Ornidazole	16773-42-5		urinary tract and intestinal infections
29	Piroxicam	36322-90-4		anti-inflammatory
30	Sildenafil Citrate Salt	171599-83-0		used to treat erectile dysfunction
31	Ivermectin	70288-86-7		Treatment and prevention of Covid 19.
32	Aminocaproic Acid	60-32-2		Treatment aplastic anemia, cirrhosis, placenta abruptio,

				etc
33	Mefenamic Acid	61-68-7		Anti-inflammatory
34	Sulfathizole	72-14-0		Antibiotic
35	Ketoconazole	65277-42-1		Treat Skin Infections
36	Methylprednisolone	83-43-2		Loss of Appetite, Upset Stomach, Vomiting, etc.
37	Pregablin	148553-50-8		Fibromyalgia
38	Fluconazole	86386-73-4		used to treat serious fungal
39	Lidocaine Hcl	73-78-9		anesthetic lubricant
R & D			0.1	
Total			27.1	

 # Brief Note of Product Profile:

1. No of Manufacturing Plants: 1
2. Brief Note regarding number of Products to be manufactured considering plant capacity: At a time 2 products can be manufactured.

Company will install 2 reactor assemblies which will make the company capable of manufacturing up to 2 products at a time.

END-USE OF PRODUCTS:

Sr. No.	Name of the Product	Type/Category of Product (API/Intermediate)	CAS No. (Product)	In case of Intermediate stage of API			Said API is used for/End Use of said API
				Stage i.e. n-1, n-2, etc.	Name of API in which Intermediate Used/ End use of said Intermediate	CAS no. (API)	
1	Diclofenac Sodium	API	15307-79-6	--	--	--	anti-inflammatory
2	Diclofenac Potassium	API	15307-81-0	--	--	--	anti-inflammatory
3	Aceclofenac	API	89796-99-6	--	--	--	anti-inflammatory
4	Ambroxol Base	Intermediate	18683-91-5	N-1	Ambroxol HCl	23828-92-4	Antibiotic
5	Ambroxol Hcl	API	23828-92-4	--	--	--	Antibiotic
6	Cetirizine Hydrochloride	API	246870-46-2	--	--	--	Antihistamine
7	Chlorzoxazone	API	95-25-0	--	--	--	used to treat muscle spasms/pain
8	Ciprofloxacin Lactate	API	97867-33-9	--	--	--	used to treat a wide variety of infections
9	Deferasirox	API	201530-41-8	--	--	--	Used to treatment of chronic iron
10	Esomeprazole Magnesium	API	217087-09-7	--	--	--	reduce the amount of acid in your stomach
11	Losartan Potassium	API	124750-99-8	--	--	--	used to treat high blood

							pressure
12	Lumefantrine	API	82186-77-4	--	--	--	used to treat non-severe malaria
13	Metronidazole Benzoate	API	13182-89-3	--	--	--	Antibacterial
14	Montelukast Sodium	API	151767-02-1	--	--	--	improve symptoms of asthma
15	Pioglitazone Hcl	API	112529-15-4	--	--	--	Antidiabetic
16	Vildagliptin	API	274901-16-5	--	--	--	anti-hyperglycemic
17	Chloramphenicol	API	56-75-7	--	--	--	Antibiotic
18	Chloramphenicol Palmitate	API	530-43-8	--	--	--	Antibiotic
19	Ciprofloxacin Hcl	API	86393-32-0	--	--	--	used to treat or prevent certain infections
20	Diclofenac Diethyl Amine	API	78213-16-8	--	--	--	anti-inflammatory
21	Erythromycin Stearate	API	643-22-1	--	--	--	antibiotic
22	Guaifenesin	API	93-14-1	--	--	--	used to treat cough
23	Ketoconazole	API	65277-42-1	--	--	--	Antifungal
24	Levofloxacin	API	100986-85-4	--	--	--	Antibiotic
25	Meloxicam	API	71125-38-7	--	--	--	Arthritis
26	Levosulpiride	API	23672-07-3	--	--	--	anxiety disorders
27	Ofloxacin	API	82419-36-1	--	--	--	Antibiotics
28	Ornidazole	API	16773-42-5	--	--	--	urinary tract and intestinal infections
29	Piroxicam	API	36322-90-4	--	--	--	anti-inflammatory
30	Sildenafil Citrate Salt	API	171599-83-0	--	--	--	used to treat erectile dysfunction
31	Ivermectin	API	70288-86-7	--	--	--	Treatment and prevention of Covid 19.
32	Aminocaproic Acid	API	60-32-2	--	--	--	Treatment aplastic anemia, cirrhosis, placenta abruptio, etc
33	Mefenamic Acid	API	61-68-7	--	--	--	Anti-inflammatory
34	Sulfathizole	API	72-14-0	--	--	--	Antibiotic
35	Ketoconazole	API	65277-42-1	--	--	--	Treat Skin Infections

36	Methylpredniso lone	API	83-43-2	--	--	--	Loss of Appetite, Upset Stomach, Vomiting, etc.
37	Pregablin	API	148553-50-8	--	--	--	Fibromyalgia
38	Fluconazole	API	86386-73-4	--	--	--	used to treat serious fungal
39	Lidocaine Hcl	API	147-24-0	--	--	--	anesthetic lubricant

4) 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.
5) PP submitted an undertaking ensuring proposed product profile is 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. Undertaking as proposal of said product are eligible to consider under B2 category as per the notification of MoEF&CC dated 27.03.2020
6) The proposal was considered in the SEAC video conference meeting dated 15.12.2022.
7) Project proponent (PP) and their Technical Expert M/s Yash Kapadia remain present during video conference meeting.
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) Committee noted that NA in the name of Shri Suresh Sutariya mentioning purpose of NA as industrial purpose. PP has submitted rent agreement between Shri Suresh Sutariya and M/s Watan Pharma (Unit-I) for a period of five years. In rent agreement there are some irrelevant conditions like the land should be handed to the owner in same condition in which it is taken for rent, which is not acceptable for industry establishment.
10) PP submitted satellite map showing that there is no any water bodies, villages, School, monuments etc. within 500 m radius of the project site. Aerial distance of nearest habitat of village Nana Borsara is @ 1.4 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.
11) Since, 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.
12) PP presented salient features of the project including Water, Air and Hazardous waste management are submitted.

After deliberation, SEAC unanimously decided to consider the proposal in one of the upcoming meeting of SEAC after submission of following details:

1. Clarification regarding applicability of general condition to the proposed project as your project is

located within the 5 kms from the boundary of Critically Polluted areas as identified by the CPCB.

2. Rent agreement for a period not less than seven years (as EC is issued for seven years) with condition applicable to industrial projects.
3. Details of capacity of ETP and STP.
4. Details of solid hazardous chemicals along with its safety measures.
5. Compatability chart for storage of raw materials.
6. Area adequacy for storage of raw materials in tanks, bags, carboys, etc; finished goods, utilities, production area, greenbelt area, admin, OHC, peripheral roads, etc.
7. Membership of TSDF/ CHWIF for disposal of hazardous waste.

5.	SIA/GJ/IND3/284445/2022	**M/s. Gujarat Fluorochemicals Limited.** Plot No. D-2/CH-173 & 222, Dahej GIDC - 2, Village: Jolva, Taluka: Vagra, District: Bharuch, Gujarat -392130	Split of EC (Refer Back)

Category of the unit: **5 (f)**

Project status: **EC-Split**

1) Project proponent (PP) has submitted online application vide no. SIA/GJ/IND3/284445/2022 and SEAC has accepted on dated 19.09.2022 for obtaining Split of Environmental Clearance.
2) PP has applied for split of Environmental clearance and the SEAC recommended the project for grant of split of environmental clearance vide this office letter no. EIA-10-2021-IND2/4675 dated: 10.11.2022 for conditions as mentioned therein.
3) The case was referred back by the SEIAA, Gujarat vide Letter No. SEIAA/GUJ/EC/2907/2022 dated 08.12.2022 with the following point:
    1. Reason for splitting the EC is not given.
    2. Layout plan of both units along with all facilities like plant area, product/raw material storage with separate capacity, utilities, office building etc. are not given.
    3. Activity wise area adequacy of both units is not given.
    4. Details of treatment facilities and membership of disposal of waste water/hazardous waste / incinerable waste of both units are not given, and also not commented by SEAC.
    5. With the unit, area and output remaining same how it would be possible to enforce Environmental Compliances and Monitoring is not clear.
    6. Moreover, which category of permission for split of EC is sought with reference to Environment Protection Act and EIA notification and its amendment.
4) Project proponent submitted reply vide email dated 12.12.2022 with supporting documents.
5) The case was reconsidered in the SEAC meeting dated 15.12.2022.
6) PP and Technical expert M/s Anand Environmental Consultants Pvt. Ltd remained present during video conference meeting dated: 15.12.2022.
7) PP presented the following details:
    1. **Reason for splitting the EC is not given.**

Reply:

- ✓ To speed up the particular project, a separate subsidiary which is owned 100% by GFL and namely M/s GFCL–EV Products Ltd. has been formed to produce these new age products. With a desire to commission the GFCL-EV project in a fast manner it is necessary to and split the above stated original EC, one for the manufacture of the New Age specialty battery chemicals with focus on domestic as well as export markets. (without any change in the total production quantity or products). The remaining part of the EC would be implemented by GFL separately in a manner that does not impediment the speed of setting-up/commissioning of the GFCL-EV project.
- ✓ Further, it is now desired to produce the EC granted new age products namely (1) Lithium Hexafluorophosphate ($LiPF_6$) and (2) Lithium inorganic 15% electrolyte solution which will be used in the manufacture of Electric Vehicle Batteries to support the Net Zero Emission commitment of the GOI made at the Climate Change Convention held in Paris . Use of EVs will reduce urban air pollution in India.
  - $LIPF_6$ – is a major salt in Electrolytes used in Lithium Batteries for Electrical Vehicles.
  - PVDF will be used as a CATHODE BINDER IN LITHIUM BATTERIES
  - PVDF FILMs (membranes) will be used as Back Sheets in the manufacture of Solar Panels.

2. Layout plan of both units along with all facilities like plant area, product/raw material storage with separate capacity, utilities, office building etc. are not given.

Reply:

- ✓ Layout plan of both units along with all facilities like plant area, product/ raw material storage with separate capacity, utilities, office building etc is submitted. Layout showing Gujarat Fluorochemicals Limited, Jolva Unit and GFCL EV Products Limited; Plot Plan layout of GFCL EV Products Limited and Plot Plan layout of Gujarat Fluorochemicals Limited, Jolva Unit is submitted.

3. Activity wise area adequacy of both units is not given.

Reply:

- ✓ Activity wise area adequacy of both units are as under:

Activity wise area adequacy for GFCL EV Products Limited				
Sr. No	Major Area (This Table will be first Table for Both Units Separately)- GFCL EV Products Limited	Area in Sq. m.		
		Required Space	Available Space	Remarks if Any
1	Utilities	1459.2	1520	Cooling Tower: 1520 sq.m. (Pumping area included)

2	Production Plants	25600.24	26392	● Polyvenylidene Fluoride (PVDF) Plant / / PVDF Plant / PVDF Membrane Plant: 2000 sq.m. ● Multiple Product Plant (MPP-3) / Lithium Hexafluoro Phosphate (LiPF6)/ Lithium based inorganic 15% electrolyte solution (formulation) Plant: 4582 sq.m. ● Multiple Product Plant (MPP-4) Plant: 4290 sq.m. ●Multiple Product Plant (MPP-5) Plant / Process Plant & Supplementary System: 3480 sq.m. ●Polyvenylidene Fluoride PVDF Membrane Plant: 8040 sq.m. ●Polyvenylidene Fluoride (PVDF) Plant: 4000 sq.m.
3	Warehouses / Stores / PESO Area/ Tankfarm	21575	21792.5	**PESO License area:** ● Bromine Area: 3213 sq.m. ● Ammonia Area: 3213 sq.m. ●HCl Gas Area: 1250 sq.m. ● Chlorine Shed: 1219 sq.m. **Non PESO Tankfarm:** ●FSB Warehouse: 495 sq.m. Solid Storage area: 1242.5 sq.m. ● Store Logistic Building: 700 sq.m. .● Non PESO Solvent Tank Farm Area: 3650 sq.m. ● Non PESO Solvent Tank Farm Area: 3354 sq.m. and ●HCl Chloride Tank Farm Area / HCl generating from LiFl6P (Lithium Hexa Fluoro Phosphate): 3456 sq.m.
4	Greenbelt Area	28741	29183	Green belt Development: 29183 sq.m. (33% of total plot area)
5	Engineering Storages	0	0	Engineering storages part of production plants.
6	Electrical Installations / Cable Seller	0	0	Electrical Installations/cable sellers is part of production process plants- supplementary systems.
7	Water Reservior / Fire Pump House // etc	0	0	Fire pump house will be common for GFCL EV and GFL -B.
8	SLF	0	0	No SLF (Solid Landfill Site0 in this area.
9	Admin/OHC	0	0	Admin & OHC Building part of process plant & supplementary systems.
10	ETP, Haz. Waste , Fly ash	3000	3000	● Hazardous waste Storage Area: 900 sq.m. And Including vehicle movement etc. And ● Effluent Treatment Plant (ETP): 2100 sq.m.
11	Powerplant, Boiler	0	0	
12	Road & Open Area	5204.5	5204.5	Road & Open Area For Future Expansion: 5204.5 sq.m.
	Total	85580	**87092**	

Activity wise area adequacy for GFL Limited, Jolva				
Sr. No	**Major Area (This Table will be first Table for Both Units Separately)- GFL B**	**Area in Sq. m.**		
		Required Space	**Available Space**	**Remarks if Any**

1	Utilities	13204.52	13474	● Existing Utility: 1536 sq.m. ● Central Utility: 4559 sq.m. ● Polymer Utility-2 Part-1: 3108 sq.m. ● Multiple Product Plant (MPP) Utility: 1219 sq.m. ● Chiller: 1960 sq.m.● DI Water Generation: 1092 sq.m.
2	Production Plants	47915.14	48893	● Micro Powder Plant: 3150 sq.m.● Tetrafluoro Ethylene (TFE) Plant:5104 sq.m. ● Vinylidine Fluoride (VDF) Plant: 3000 sq.m. ● DPTFE/Per a Fluoro Alkoxy (PFA)/Fluorinate d Ethylene Propylene (FEP) Plant: 10878 sq.m. ● CaCl2 Plant: 1850 sq.m. ●Multiple Product Plant (MPP-1) Plant:1813 sq.m. ● Multiple Product Plant (MPP-2)/Chlor Alkali (CA) Plant: 7098 sq.m. ● Vinylidine Chloride (VDC) Plant: 2160 sq.m. ● Vinylidine Fluoride (VDF) Plant: 3000 sq.m. ● Polyvenylidene Fluoride (PVDF) Plant: 4000 sq.m. ● FKM & ISAN Plant: 4200 sq.m. ● Poly Tetra Fluoro Ethylene (PTFE) Ware House Storage Area:2640 sq.m.
3	Warehouses / Stores / PESO Area		32002.5	● Existing Finished Goods Warehouse: 680 sq.m. ● Existing Raw Materials Warehouse: 680 sq.m. ● Solid Storage area: 1242.5 sq.m. ● Store Logistic Building: 700 sq.m. ● R142B - Area: 6750 sq.m. ● R143A & R152A Tonner Area: 1890 sq.m. ● Hexafluoro Propylene (HFP) Tank Area: 1444 sq.m. ● Vinylidine Fluoride (VDF) Tank Area: 4624 sq.m. ● Acid, Alkali and Oleum: 1060 sq.m. ● Styrene Storage: 49 sq.m. ● Recovered Solvent Area :2100 sq.m. ● Weigh Bridge: 2295 sq.m. ● Hydrogen Holder: 1376 sq.m. ● Coal Storage Area: 4300 sq.m. ● Polymer Warehouse & CaCl2 Control room: 1850sq.m. ● Spar Storage: 962 sq.m.
4	Greenbelt Area	115839	132617	Green belt Development:132617 sq.m. (% of total plot plant)
5	Engineering Storages	260	260	Engineering Storage: 260 sq.m.
6	Electrical Installations / Cable Seller	4984	4984	● Sub Station and MMP Control Room: 1254 sq.m. ● Motor Control Centre (MCC) Room: 748 sq.m. ● Switch Yard: 2142 sq.m., Cable seller: 840 sq.m.
7	Water Reservior / Fire Pump House // etc	14792	14792	● Exiting Fire Pump House: 540 sq.m. ● Water Reservoir: 14152 sq.m. ● Fire Pump House: 100 sq.m.
8	SLF	56194	56193.5	Secured Landfill Facility (SLF) : 56193.5 sq.m.

9	Admin/OHC	4250	4250	● Occupational Health Centre (OHC) :200 sq.m. ● Admin :900 sq.m. ● Central lab: 1000 sq.m.● R&D Lab: 600 sq.m.● Canteen: 750 sq.m. And ●Office Area: 800 sq.m.
10	ETP, Haz. Waste , Fly ash	5095	5095	● Exiting ETP:594 sq.m. ● Hazardous waste Storage Area: 900 sq.m. ● Fly Ash Storage area: 810 sq.m. And ● Effluent Treatment Plant (ETP): 2791 sq.m.
11	Power Plant, Boiler	7761.05	7535	● Power Plant: 4635 sq.m. And ● Boiler: 2900 sq.m.
12	Road & Open Area	30930.81	30930.81	● Road & Open Area For Future Expansion: 30930.81 sq.m.
	Total	301225.52	**351026.81**	

4. Details of treatment facilities and membership of disposal of waste water/hazardous waste/ incinerable waste of both units are not given, and also not commented by SEAC.

Reply:

- ✓ Details of treatment facilities as well as membership of disposal of waste water, hazardous waste/ incinerable waste of both units are submitted.
- ✓ Details of Memberships for GFL - B are submitted and for GFCL - EV provisional memberships from TSDF sites will be provided after EC received. We will incorporate it during our CTO application for GFCL EV.
- ✓ Further, PP informed that MoU between GFL (Landlord) and GFCL-EV (tenant) has been carried out the details of the same are as under:

A. The Gujarat Industrial Development Corporation **("GIDC")** allotted on leasehold basis the Plot bearing number D-2/CH/173, in Dahej II Industrial Area within the limits of Village Jalwa and Galenda, Takula Vagra, District Bharuch admeasuring 4,26,325.06 square meters **("Said Plot 1")** vide Lease Deed dated 24 February 2011 and Plot bearing number D-2/CH/222 in Dahej Industrial Area within the limits of village Jalwa and Galenda, takula Vagra, district Bharuch admeasuring 64,115.14 square meters **("Said Plot 2")** vide Lease deed dated 5 August 2011in favour of the Landlord**.**

B. The Landlord is in possession of the Said Plot 1 and Said Plot 2 and is lawfully entitled through Consolidated rent out the Premises to the Tenant for carrying out its Business (*defined hereinafter)*. The Tenant is engaged in setting up a plant for making EV products including ancillary activities ("**Plant**") and has approached the Landlord for setting up and running its Plant **("Business")** over the [Said Plot 1 and Said Plot 2] in the industrial area of GIDC Dahej, Taluka Vagra, District Bharuch. Pursuant thereto, the Landlord has offered vacant area of the said Plot admeasuring - an area of approx. 87092 square metre **("Premises")** to the Tenant.

C. Following Services, Utilities, Facilities will be provided by GFL B "**Landlord" or** any service, Utility, Facilities provider directly to GFCL EV **"Tenant",** which will be on Consolidated rent/

chargeable basis, as per the agreements/ requirements on time to time. All the applicable statutory requirements shall be fulfilled by M/s GFL B "**Landlord" or** any service, Utility, Facilities provider directly and M/s GFCL EV **"Tenant"**, respectively.

1. **Both the Parties " Landlord & tenant" are Jointly & Severally responsible for breach of prevailing Law of Lands including The Factory Act, The GFR, The EPA, The Air Act, The Water Act, The HOWM and other applicable laws for respective manufacturing activities in their premises.**
2. **Water** consumption in GFCL -EV from GFL Jolva site will be approx. 1131.8 KL/Day and rate will be 50 rupees/KL for supply and distribution of water from GFL to GFCL-EV. This rate may be reviewed / agreed and varied time to time by GFL B "Landlord" & GFCL EV "Tenant".
3. **Waste water** generation at GFCL-EV would be approx. 1297.9 KL/Day. After initial treatment at GFCL-EV said quantity of effluent will be sent to GFL Jolva site, Treatment and discharge cost would be 350 Rupees/KL. This rate may be reviewed / agreed and varied time to time by GFL B "Landlord" & GFCL EV "Tenant".
4. **Process Emissions** shall be Controlled, by means of implementing adequate **APCM (Air Pollution Control Measures)**, in respective premises by Landlord & Tennent to adhere emission parameters give in applicable CTO by hounorable respective authorities.
5. **Fuel Stack emissions** shall be Controlled, by means of implementing adequate **APCM (Air Pollution Control Measures)**, in respective premises by Landlord & Tennent to adhere emission parameters give in applicable CTO by hounorable respective authorities.
6. **Steam** approx. 14.5 TPH will be required by GFCL-EV from GFL Jolva site, Cost of Steam would be 3 Rupees/Kg (Generation + Distribution). This rate may be reviewed / agreed and varied time to time by GFL B "Landlord" & GFCL EV "Tenant".
7. **Power** requirement for GFCL EV is approx. 15 MW. Considering Running hours/Day approx. 18, Energy consumption/Day is coming approx. 216000 kWh. Cost of Power would be approx. 9 Rupees/kWh. This rate may be reviewed / agreed and varied time to time by GFL B "Landlord" to GFCL EV "Tenant".
8. At GFCL EV, generated **Hazardous waste and Non-hazardous waste** will be disposed to GPCB approved disposal agency or GPCB authorized Party/vendor including authorized parties for Pre & Co-Processing by following as per the all applicable statutory requirements including manifest system from GFCL EV only. This rate may be reviewed / agreed and varied time to time by GFL B "Landlord" to GFCL EV "Tenant".

✓ Segregated tables for Production Details, Water Consumption; Waste water generation; Hazardous waste generation, Non-Hazardous Waste Management, details of Fuel, details of Power Consumption, details of Flue Gas emission, details of Process Gas emission, detailed green belt development plan are submitted which is as under.

A. Details of Water Consumption

Existing Water Consumption as per EC granted to M/s. Gujarat Fluorochemicals Limited vide letter no.: SEIAA/GUJ/EC/5(f)/562/2022 dated 17th Feb 2022
Source of Water: GIDC

Category	Water Consumption (KL/Day)
(A) Gardening	300
(B) Domestic	465
(C) Industrial	
1. Process	6605.8
2.Power Plant	2400
3.Washing	848.5
4.Scrubber	1487.5
5.Boiler make-up	3793
6.Cooling make-up water	1043.6
Industrial Total (C)	**16178.4**
Secured Landfill (D)	1
Total (A+B+C+D)	**16944.4**
Reuse (E)	**4898.9**
Requirement from 2nd day onwards (A+B+C+D-E)	**12045.5**

Water Consumption for the M/s. Gujarat Fluorochemicals Limited AFTER EC SPLIT
Source of Water: GIDC
It may be noted that water for GFL will be sourced by GIDC.

Category	Water Consumption (KL/Day)
(A) Gardening	267
(B) Domestic	371
(C) Industrial	
1. Process	5983.1
2.Power Plant	2400
3.Washing	783.5
4.Scrubber	978.4
5.Boiler make-up	3793
6.Cooling make-up water	887
Industrial Total (C)	**14825**
Secured Landfill (D)	1
Total (A+B+C+D)	**15464**
Reuse (E)	**3862.62**
Requirement from 2nd day onwards (A+B+C+D-E)	**11601.38**

Water Consumption for the M/s. GFCL EV Products Limited AFTER EC SPLIT
Source of Water: GFL.
It may be noted that the water which is sourced from GIDC by GFL, after drawing the requisite water, GFL would supply the remnant quantum of water to GFCL EV. MoU with respect to the same has been done between GFL and GFCL EV.

Category	Water Consumption (KL/Day)
(A) Gardening	33
(B) Domestic	94
(C) Industrial	
1. Process	622.7

2.Power Plant	0
3.Washing	65
4.Scrubber	509.1
5.Boiler make-up	0
6.Cooling make-up water	156.6
Industrial Total (C)	**1353.4**
Secured Landfill (D)	0
Total (A+B+C+D)	**1480.4**
Reuse (E)	**1036.28**
Requirement from 2nd day onwards (A+B+C+D-E)	**444.12**

B. Details of Waste Water Generation

Existing Waste Water Generation for EC granted to M/s. Gujarat Fluorochemicals Limited vide letter no.: SEIAA/GUJ/EC/5(f)/562/2022 dated 17th Feb 2022

Category	Wastewater Generation (KL/Day)
(A) Domestic	465
(B) Industrial	
1. Process	3430
2. Power Plant	25
3. Washing	848.5
4. Scrubber	2069.5
5. Boiler	2021.1
6. Cooling	107.4
Industrial Total (B)	**8501.5**
Leachate from Secured Landfill (C)	6
Total Wastewater generation (A + B +C)	**8972.5**
Discharge quantity to GIDC underground pipeline	**2059.6**

Waste Water Generation for the M/s. Gujarat Fluorochemicals Limited AFTER EC SPLIT

Category	Wastewater Generation (KL/Day)
(A) Domestic	371
(B) Industrial	
1. Process	2859.4
2. Power Plant	25
3. Washing	848.5
4. Scrubber	1342.2
5. Boiler	2021.1
6. Cooling	87.2
Industrial Total (B)	**7183.4**
Leachate from Secured Landfill (C)	6
Total Wastewater generation (A + B +C)	**7560.4**
Discharge quantity to GIDC underground pipeline	**2059.6**

Stream-I: 5465 KL/Day Low COD/TDS effluent (from Process: 106.5 KL/Day + Power Plant: 25 KL/Day + Washing: 848.5 KL/Day + Utility: 2128.5 KL/Day + Scrubbing: 1207.5 KL/Day + Calcium Chloride after neutralization: 684 KL/Day = 5000 KL/Day) will be treated in ETP and then treated effluent from ETP: 5000

KL/Day + Domestic: 465 KL/Day) = 5465 KL/Day wastewater sent to RO 1 & RO 2. RO Permeate 4898.9 KL/Day shall be recycled & RO reject 566.1 KL/Day will be sent to further (biological + Fenton) treatment.
Stream-II: 1759.6 KL/Day High COD/TDS effluent (from Process: 1193.5 KL/Day + from RO Reject: 566.1 KL/Day) will be treated in ETP (biological + Fenton) treatment and Treated effluent will be discharged into GIDC pipeline for ultimate disposal into Deep sea.

Waste Water Generation for the M/s. GFCL EV Products Limited AFTER EC SPLIT

Category	Wastewater Generation (KL/Day)
(A) Domestic	94
(B) Industrial	
1. Process	570.6
2. Power Plant	0
3. Washing	0
4. Scrubber	727.3
5. Boiler	0
6. Cooling	20.2
Industrial Total (B)	**1318.1**
Leachate from Secured Landfill (C)	0
Total Wastewater generation (A + B +C)	**1412.1**
Discharge quantity to GIDC underground pipeline	**0.0**

Stream-III: 150 KL/Day High Fluoride effluent (from Process) will be treated in fluoride treatment plant and treated effluent shall be discharged into GIDC pipeline for ultimate disposal into Deep sea.
Note :
Industrial effluent to the tune of 7183.4 KL/Day will be generated from Gujarat Fluorochemicals Limited and will be treated in an onsite ETP.
Industrial effluent to the tune of 1318.1 KL/Day will be generated from GFCL EV Limited. Out of total 1318.1 KL/Day effluent, Total 150 KL/Day effluents will contain high fluoride concentration and remaining 1168.1 KL/Day effluents will be of normal effluent characteristics. For high fluoride effluent treatment, primary treatment for fluoride removal will be given within the premises of GFCL EV. Primary treatment to other normal effluent will be also given to other effluents generated in GFCL EV. After fluoride removal treatment, and other primary treatment, all the effluents (150 KL/Day + 1168.1 KL/Day) will be further transferred to ETP of Gujarat Fluorochemicals Limited where, further collection, treatment, disposal and recycling of treated effluent will be done. Copy of the MoU is submitted.

C. Details of Fuel

Existing Fuel Consumption for EC granted to M/s. Gujarat Fluorochemicals Limited vide letter no.: SEIAA/GUJ/EC/5(f)/562/2022 dated 17th Feb 2022

Sr. No.	Type of Fuel	Fuel Consumption
1	Coal	1105 MT/Day
2	Natural Gas	12389.1 SCM/hr
3	HSD	16 Lit/hr

Fuel Consumption for the M/s. Gujarat Fluorochemicals Limited AFTER EC SPLIT

Sr. No.	Type of Fuel	Fuel Consumption
1	Coal	1105 MT/Day

2	Natural Gas	12389.1 SCM/hr
3	HSD	10 Lit/hr

Fuel Consumption for the M/s. GFCL EV Products Limited

Sr. No.	Type of Fuel	Fuel Consumption
1	Coal	0
2	Natural Gas	0
3	HSD	6 Lit/hr

Note: It may be noted that there will be no utilities in the premises of GFCL EV Products Limited and its steam requirements would be met by obtaining the steam from M/s. Gujarat Fluorochemicals Limited. MoU regarding the same has been done.

D. Details of Flue Gas Emission

Existing Flue Gas Emission to M/s. Gujarat Fluorochemicals Limited vide letter no.: SEIAA/GUJ/EC/5(f)/5 dated 17th Feb 2022

Sr. No.	Stack Attached to:	Stack Height (Meter)	Fuel	Fuel Qty.	Air Pollution Control Measure	Pollutant
1.	Power Generation Unit-1 (Waste Heat Recovery Boiler -1)	30	Natural Gas	4140 SCM/Hr	Low NOx Burner	SPM, SO_2, NOx
2.	Power Generation Unit-2 (Waste Heat Recovery Boiler -2)	30	Natural Gas	4140 SCM/Hr	Low NOx Burner	
3.	Sulphuric Acid Plant (Sulphur Burner)	30	Natural Gas	450 SCM/Hr	Wet + Alkali scrubber	
4.	Steam Heater Furnace-A	30	Natural Gas	567 SCM/Hr	Low NOx Burner	SPM, SO_2, NOx
5.	Steam Heater Furnace-B	30	Natural Gas	567 SCM/Hr	Low NOx Burner	
6.	Rotary Kiln	30	Natural Gas	500 SCM/Hr	Low NOx Burner	
7.	Thermal Oxidizer	20	Natural Gas	36.3 SCM/Hr	Wet + Alkali scrubber	
8.	Hot Air Generator (HAG) for Spray dryer	20	Natural Gas	250 SCM/Hr	Bag Filter	
9	Boiler 1(Capacity 60 TPH)	61	Coal	325 MT /Day	Scrubbing System + ESP + Low NOx Burner	SPM, SO_2, NOx
10	Boiler2 (Capacity 60 TPH)	61	Coal/ Natural Gas	780 MT/Day / 17000 SCM/hr	Scrubbing System + ESP + Low NOx Burner	
11	Boiler3(Capacity12.5TPH)	61	Coal/ Natural Gas			
12	Boiler4(Capacity12.5TPH)	61	Coal/ Natural Gas			
13	Steam Heater Furnace-C	30	Natural Gas	567 SCM/Hr	Low NOx Burner	

14	Steam Heater Furnace-D (TFE-2 Plant)	30	Natural Gas	567 SCM/Hr	Low NOx Burner	
15	Caustic Soda Flaker /Hydrogen Boiler	30	Natural Gas	604.8 SCM/Hr	Low NOx Burner	
16	D.G. Set (5 Nos. x 1000 KVA) Only for emergency power supply	11	HSD	16 Lit/hr	Low NOx Burner	

Flue Gas Emissions for the M/s. Gujarat Fluorochemicals Limited AFTER EC SPLIT

Sr. No.	Stack Attached to:	Stack Height (Meter)	Fuel	Fuel Qty.	Air Pollution Control Measure	Pollutant
1.	Power Generation Unit-1 (Waste Heat Recovery Boiler -1)	30	Natural Gas	4140 SCM/Hr	Low NOx Burner	SPM, SO_2, NOx
2.	Power Generation Unit-2 (Waste Heat Recovery Boiler -2)	30	Natural Gas	4140 SCM/Hr	Low NOx Burner	
3.	Sulphuric Acid Plant (Sulphur Burner)	30	Natural Gas	450 SCM/Hr	Wet + Alkali scrubber	
4.	Steam Heater Furnace-A	30	Natural Gas	567 SCM/Hr	Low NOx Burner	SPM, SO_2, NOx
5.	Steam Heater Furnace-B	30	Natural Gas	567 SCM/Hr	Low NOx Burner	
6.	Rotary Kiln	30	Natural Gas	500 SCM/Hr	Low NOx Burner	
7.	Thermal Oxidizer	20	Natural Gas	36.3 SCM/Hr	Wet + Alkali scrubber	
8.	Hot Air Generator (HAG) for Spray dryer	20	Natural Gas	250 SCM/Hr	Bag Filter	
9	Boiler1(Capacity 60 TPH)	61	Coal	325 MT /Day	Scrubbing System + ESP + Low NOx Burner	SPM, SO_2, NOx
10	Boiler2 (Capacity 60 TPH)	61	Coal/ Natural Gas	780 MT/Day / 17000 SCM/hr	Scrubbing System + ESP + Low NOx Burner	
11	Boiler3(Capacity 12.5 TPH)	61	Coal/ Natural Gas	--		
12	Boiler4(Capacity 12.5 TPH)	61	Coal/ Natural Gas	--		
13	Steam Heater Furnace-C	30	Natural Gas	567 SCM/Hr	Low NOx Burner	
14	Steam Heater Furnace-D (TFE-2 Plant)	30	Natural Gas	567 SCM/Hr	Low NOx Burner	
15	Caustic Soda Flake/Hydrogen Boiler	30	Natural Gas	604.8 SCM/Hr	Low NOx Burner	
16	D.G. Set (3 Nos. x 1000 KVA) Only for emergency power supply	11	HSD	10 Lit/hr	Low NOx Burner	

Flue Gas Emissions for the M/s. GFCL EV Products Limited AFTER EC SPLIT

Sr. No.	Stack Attached to:	Stack Height (Meter)	Fuel	Fuel Qty.	Air Pollution Control Measure	Pollutant
1	D.G. Set (2 Nos. x 1000 KVA) Only for emergency power supply	11	HSD	6 Lit/hr	Low NOx Burner	SPM, SO_2, NOx

Note: It may be noted that there will be no utilities in the premises of GFCL EV Products Limited and its steam requirements would be met by obtaining the steam from M/s. Gujarat Fluorochemicals Limited. MoU regarding the same has been done.

E. Details of Process Gas Emission

Existing Process Gas Emission to M/s. Gujarat Fluorochemicals Limited vide letter no.: SEIAA/GUJ/EC/5(f)/562/2022 dated 17th Feb 2022

Sr. No.	Stack Attached to :	Stack Height (Meter)	Diameter (Meter)	Air Pollution Control Measure	Pollutant
FLUORO POLYMER					
1	HCl Scrubber System	23	0.2	Venturi scrubber	Chlorine, HCl
2	PTFE Reactor – Nitrogen Purging	40	0.15	Dust Collector followed by alkali scrubber	NOx
3	Absorption Tower	45	0.5	Venturi Scrubber	HF
4	HCl Waste gas Scrubber	34	0.2	Venturi scrubber	HCl
5	Induced draft fan (C/D)	15	0.3	Cyclone separator	PM
6	Induced draft fan (A/B)	15	0.3	Cyclone separator	PM
7	Induced draft fan (E/F)	15	0.3	Cyclone separator	PM
FLUORO REFRIGERANT GASES & FLUORO PRODUCTS					
8.	HCl Scrubber System-1	30	0.2	Venturi scrubber	HCL
9.	HCl Scrubber System-2	30	0.2	Venturi scrubber	HCL
CHLOROMETHANES					
10	HCl Waste gas Scrubber	30	0.2	Venturi scrubber	HCL
CHLOR – ALKALI UNIT					
11	Caustic Chlorine Plant Hypo Unit	21	0.2	Venturi scrubber	Chlorine, HCl

ADDITIONAL PRODUCTS					
12.	Reaction Vessels of additional products	21	0.2	Venturi scrubber/Water scrubber	Chlorine, HCl
13.	Dust Collector attached to the spray dryer	21	0.25	Dust collector	SPM, SOx, NOx
14.	Dust collection system above spar silo	30	0.5	Dust collector	PM
15.	Gypsum Scrubber	20	0.2	Water scrubber	PM
16.	Scrubber system central	30	0.25	Wet alkali scrubber	HCL, HF
17.	Tail gas scrubber	30	0.25	Wet alkali scrubber	SO2, HF
18.	Sulphuric Acid and Oleum Plant	40	0.25	DCDA process Caustic Scrubber	Acid mist, SO3 & SO2
19	HCl Scrubber System -	21	0.3	Venturi Scrubber	HCl
20	Caustic Chlorine Plant Hypo Unit	21	0.3	Venturi Scrubber	Chlorine, HCl
21	HCL Scrubber system central	30	0.5	Wet Alkali Scrubber	HCl, HF
22	Reaction vessel of BTFM	30	0.5	Alkali Scrubber	Bromine
23	Reaction vessel of HFAT	30	0.5	Water Scrubber, Alkali Scrubber	HCl, HF
24	Reaction vessel of Br-EDFA	30	0.5	HF Scrubber, Alkali Scrubber	HF, SiF4
25		30	0.5	Alkali Scrubber	Bromine, Chlorine, SO_2
26	Reaction vessel of Methyl 3-Methoxy Acrylate	30	0.5	Water Scrubber	Hydrogen, Oxygen
27	Reaction vessel of (DCTFMA)	30	0.5	Water scrubber, sulfuric scrubber	Ammonia
28	3,5-Difluoroaniline	30	0.5	Alkali Scrubber	Chlorine
29	Reaction vessel of 4-(Heptafluoroisopropyl)-2-methyl aniline (RFA)	30	0.5	Alkali Scrubber	CO2
30	Reaction vessel of 1,3-Difluorobenzene (1,3-DFB)	30	0.5	HF Scrubber	Hydrogen, Nitrogen, BF3
	Reaction vessel of1,2-Difluorobenzene (1,2-DFB)				

	Reaction vessel of Fluorobenzene (FB)				
31	Reaction vessel of1,2,4-Trifluorobenzene (1,2,4-TFB)/1,2,3-Trifluorobenzene/1-bromo-3,4,5-Trifluorobenzene	30	0.5	Alkali Scrubber	Nitrogen, HBr
32	Reaction vessel of Benzotrifluoride (BTF)	30	0.5	Water scrubber Alkali Scrubber	Chlorine HCL
	Reaction vessel of Para chlorobenzotrifluoride (PCBTF)				
	Reaction vessel of Para chlorobenzotrichloride (PCBTC)				
	Reaction vessel of 3-Amino benzotrifluoride (3-ABTF)				
	Reaction vessel of Bromofluorobenzotrifluoride (BrFBTF)				
	Reaction vessel of 2 Amino 5 ChloroBenzotrifluoride				
33	Reaction vessel of 4-Fluoro3-phenoxy benzaldehyde	30	0.5	Alkali Scrubber	HBr
34		30	0.5	Acidic Scrubber	SO_3
35	Reaction vessel of 2,4,5-Trifluorophenyl acetic acid	30	0.5	Alkali Scrubber	HCl, SO2
36	Reaction vessel of Difloromethanesulfinyl chloride (DFMSC)	30	0.5	Water Scrubber, Alkali Scrubber	HCl, Oxygen, HBr, CO2
	Reaction vessel of 2-Trifluoromethyl benzamide				
	Reaction vessel of 2-(3,4-Di-fluorophenyl)-1,3-dioxalane				
	Reaction vessel of 2-Bromo Heptafluoropropane (BHFP)				
	Reaction vessel of 1,2-Dibromo Hexafluoro Propane (DBHFP)				
	Reaction vessel of Per fluoro propyl per fluorovenyl ether PPVE				
	Reaction vessel of Bisphenol AF				
	Reaction vessel of Tetrafluoropropene 1234yf				
37.	Reaction vessel of 2,6-Difluorobenzonitrile/2,6-Difluorobenzamide	30	0.5	Water scrubber, sulfuric acid scrubber	Ammonia
38	Reaction vessel of2-chlorobenzonitrile				
	Reaction vessel of4-chlorobenzonitrile				
	Reaction vessel of3,4-Dichlorobenzonitrile				
	Reaction vessel of2,6-Dichlorobenzonitrile				
	Reaction vessel of2,4-Dichlorobezonitrile/2,4-Difluorobenzonitrile				

39	Reaction vessel of2,4,5-Trifluoro-3-methoxy benzoyl chloride	30	0.5	Alkali Scrubber	Hydrogen, CO2
40		30	0.5	Water scrubber, Alkali scrubber	HCl, SO2
41.	Reaction vessel of 3,4-Dichloro-6-(trifluoromethyl) Toluene	30	0.5	Water scrubber, Alkali scrubber	HCl
42.	Reaction vessel of5-Fluorocytosine	30	0.5	Alkali scrubber	HBr, Oxygen, Bromine
43	Reaction vessel of Potassium Fluoride (KF)	30	0.5	Water scrubber, Alkali scrubber	HCl, CO2
	Reaction vessel of Lithium hexafluoro phosphate (LiPF6)				
44	Extruder	30	0.5	Scrubber	HF
45	Oven	15	0.5	Off Gas Scrubber	PM

Process Gas Emissions for the M/s. Gujarat Fluorochemicals Limited AFTER EC SPLIT

Sr. No.	Stack Attached to :	Stack Height (Meter)	Diameter (Meter)	Air Pollution Control Measure	Pollutant
FLUORO POLYMER					
1	HCl Scrubber System	23	0.2	Venturi scrubber	Chlorine, HCl
2	PTFE Reactor – Nitrogen Purging	40	0.15	Dust Collector followed by alkali scrubber	NOx
3	Absorption Tower	45	0.5	Venturi Scrubber	HF
4	HCl Waste gas Scrubber	34	0.2	Venturi scrubber	HCl
5	Induced draft fan (C/D)	15	0.3	Cyclone separator	PM
6	Induced draft fan (A/B)	15	0.3	Cyclone separator	PM
7	Induced draft fan (E/F)	15	0.3	Cyclone separator	PM
FLUORO REFRIGERANT GASES & FLUORO PRODUCTS					
8.	HCl Scrubber System-1	30	0.2	Venturi scrubber	HCL
9.	HCl Scrubber System-2	30	0.2	Venturi scrubber	HCL
CHLOROMETHANES					
10	HCl Waste gas Scrubber	30	0.2	Venturi scrubber	HCL
CHLOR – ALKALI UNIT					
11	Caustic Chlorine Plant Hypo Unit	21	0.2	Venturi scrubber	Chlorine, HCl
ADDITIONAL PRODUCTS					

12.	Reaction Vessels of additional products	21	0.2	Venturi scrubber/Water scrubber	Chlorine, HCl
13	Dust Collector attached to the spray dryer	21	0.25	Dust collector	SPM, SOx, NOx
14.	Dust collection system above spar silo	30	0.5	Dust collector	PM
15.	Gypsum Scrubber	20	0.2	Water scrubber	PM
16.	Scrubber system central	30	0.25	Wet alkali scrubber	HCL, HF
17.	Tail gas scrubber	30	0.25	Wet alkali scrubber	SO2, HF
18.	Sulphuric Acid and Oleum Plant	40	0.25	DCDA process Caustic Scrubber	Acid mist, SO3 & SO2
19	HCl Scrubber System -	21	0.3	Venturi Scrubber	HCl
20	Caustic Chlorine Plant Hypo Unit	21	0.3	Venturi Scrubber	Chlorine, HCl
21	HCL Scrubber system central	30	0.5	Wet Alkali Scrubber	HCl, HF
22	Reaction vessel of Benzotrifluoride (BTF) Reaction vessel of Para chlorobenzotrifluoride (PCBTF) Reaction vessel of Para chlorobenzotrichloride (PCBTC) Reaction vessel of 3-Amino benzotrifluoride (3-ABTF) Reaction vessel of Bromofluorobenzotrifluoride (BrFBTF) Reaction vessel of 2 Amino 5 ChloroBenzotrifluoride	30	0.5	Water scrubber Alkali Scrubber	Chlorine HCL
23	Reaction vessel of Potassium Fluoride (KF)	30	0.5	Water scrubber, Alkali scrubber	HCl, CO2
24	Extruder	30	0.5	Scrubber	HF
25	Oven	15	0.5	Off Gas Scrubber	PM

Process Gas Emissions for the M/s. GFCL EV Products Limited AFTER EC SPLIT

Sr. No.	Stack Attached to :	Stack Height (Meter)	Diameter (Meter)	Air Pollution Control Measure	Pollutant
1	Reaction vessel of BTFM	30	0.5	Alkali Scrubber	Bromine
2	Reaction vessel of HFAT	30	0.5	Water Scrubber, Alkali Scrubber	HCl, HF

3	Reaction vessel of Br-EDFA	30	0.5	HF Scrubber, Alkali Scrubber	HF, SiF4
4		30	0.5	Alkali Scrubber	Bromine, Chlorine, SO_2
5	Reaction vessel of Methyl 3-Methoxy Acrylate	30	0.5	Water Scrubber	Hydrogen, Oxygen
6	Reaction vessel of (DCTFMA)	30	0.5	Water scrubber, sulfuric scrubber	Ammonia
7	3,5-Difluoroaniline	30	0.5	Alkali Scrubber	Chlorine
8	Reaction vessel of 4-(Heptafluoroisopropyl)-2-methyl aniline (RFA)	30	0.5	Alkali Scrubber	CO2
9	Reaction vessel of 1,3-Difluorobenzene (1,3-DFB)	30	0.5	HF Scrubber	Hydrogen, Nitrogen, BF3
	Reaction vessel of1,2-Difluorobenzene (1,2-DFB)				
	Reaction vessel of Fluorobenzene (FB)				
10	Reaction vessel of1,2,4-Trifluorobenzene (1,2,4-TFB)/1,2,3-Trifluorobenzene/1-bromo-3,4,5-Trifluorobenzene	30	0.5	Alkali Scrubber	Nitrogen, HBr
11	Reaction vessel of 4-Fluoro3-phenoxy benzaldehyde	30	0.5	Alkali Scrubber	HBr
12		30	0.5	Acidic Scrubber	SO3
13	Reaction vessel of 2,4,5-Trifluorophenyl acetic acid	30	0.5	Alkali Scrubber	HCl, SO2
14	Reaction vessel of Difloromethanesulfinyl chloride (DFMSC)	30	0.5	Water Scrubber, Alkali Scrubber	HCl, Oxygen, HBr, CO2
	Reaction vessel of 2-Trifluoromethyl benzamide				
	Reaction vessel of 2-(3,4-Di-fluorophenyl)-1,3-dioxalane				
	Reaction vessel of 2-Bromo Heptafluoropropane (BHFP)				
	Reaction vessel of 1,2-Dibromo Hexafluoro Propane (DBHFP)				
	Reaction vessel of Per fluoro propyl per fluorovenyl ether PPVE				
	Reaction vessel of Bisphenol AF				
	Reaction vessel of Tetrafluoropropene 1234yf				
15	Reaction vessel of 2,6-Difluorobenzonitrile/2,6-	30	0.5	Water scrubber,	Ammonia

	Difluorobenzamide			sulfuric acid scrubber	
16	Reaction vessel of2-chlorobenzonitrile				
	Reaction vessel of4-chlorobenzonitrile				
	Reaction vessel of3,4-Dichlorobenzonitrile				
	Reaction vessel of2,6-Dichlorobenzonitrile				
	Reaction vessel of2,4-Dichlorobezonitrile/2,4-Difluorobenzonitrile				
17	Reaction vessel of2,4,5-Trifluoro-3-methoxy benzoyl chloride	30	0.5	Alkali Scrubber	Hydrogen, CO2
18		30	0.5	Water scrubber, Alkali scrubber	HCl, SO2
19	Reaction vessel of 3,4-Dichloro-6-(trifluoromethyl) Toluene	30	0.5	Water scrubber, Alkali scrubber	HCl
20	Reaction vessel of5-Fluorocytosine	30	0.5	Alkali scrubber	HBr, Oxygen, Bromine
21	Reaction vessel of Lithium hexafluoro phosphate (LiPF6)	30	0.5	Water scrubber, Alkali scrubber	HCl, CO2
22	Extruder	30	0.5	Scrubber	HF
23	Oven	15	0.5	Off Gas Scrubber	PM

F. Details of Hazardous waste generation

Existing Hazardous Waste Generation for EC granted to M/s. Gujarat Fluorochemicals Limited vide letter no.: SEIAA/GUJ/EC/5(f)/562/2022 dated 17th Feb 2022

Sr. No	Type of Waste	Specific Source of generation (Name of the Activity, Product etc.)	Waste Category	Quantity (MT/Annum)	Mode of Disposal
1.	Spent acid	Fluoro Speciality Processes	B15 of Schedule- II	62532	Collection, Storage, Transportation and sell to actual end user having under Rule 9 Permission/Captive Consumption.
2.	BF_3 water	Fluoro Speciality Processes	---	1524	Collection, Storage, Transportation and sell to actual end user having under Rule 9 Permission/Captive Consumption.
3.	Used Oil	Common Processes /	5.1	170	Collection, Storage,

		Compressors / Rotary Equipments			Transportation and Disposal by Reuse in plant & machinery as lubricant or sell it to authorized re-refiners/ recycler.
4.	Empty Barrels/ Discarded Carboys/ Drums/ Cylinders	Common Processes / Packing	33.1	250	Collection, Storage, Decontamination and reuse in-house or send it to authorized recycler/ Send it directly to SPCB approved common decontamination facility /send it back to supplier.
5.	ETP Sludge from Wastewater treatment	ETP Process: Clarifier, Filter Press, Centrifuge	35.3	9912	Collection, Storage Transportation and Disposal at SPCB approved Common TSDF/Incineration/Co-processing facility/Actual end user having under Rule 9 Permission.
6.	PTFE Residue	Reactor & Other Equipment Cleaning, Washings, Kettle, Coagulator, Floor Cleaning, MI Collection Tank	1.4	1572	Collection, Storage Transportation and Disposal at SPCB approved Common TSDF/Incineration/Co-processing facility/Actual end user having under Rule 9 Permission.
7.	Process Waste/ Organic Residue	Common Distillation Processes, Reactor Residues	36.1	24000	Collection, Storage Transportation and Disposal at SPCB approved Common TSDF/Incineration/Co-processing facility/Actual end user having under Rule 9 Permission.
8.	Recover Solvent	Process	20.2	20352	Collection, Storage, Distill in-house and reuse within premises.
9.	Distillation Residue	Distillation	20.3	407	Collection, Storage Transportation and Disposal at SPCB approved Common TSDF/Incineration/Co-processing facility/Actual end user having under Rule 9 Permission.
10.	Spent Catalyst, Activated Carbon	Common Catalytic Reactions	17.2	2592	Collection, Storage Transportation and Disposal at SPCB approved Common TSDF/Incineration/Co-processing facility/Actual end user having under Rule 9 Permission.
11.	Spent Resin	Common Adsorption Processes	36.1	100	Collection, Storage Transportation and Disposal

					at SPCB approved Common TSDF/Incineration/Co-processing facility/Actual end user having under Rule 9 Permission.
12.	Waste from Scrubbers	Common Wet Scrubber Systems	16.2	300	Collection, Storage Transportation and Disposal at SPCB approved Common TSDF/Incineration/Co-processing facility/Actual end user having under Rule 9 Permission.
13.	Copper Acetate Aqueous Solution	Fluoro Speciality Processes	28.1	2832	Collection, Storage Transportation and Disposal at SPCB approved Common TSDF/Incineration/Co-processing facility/Actual end user having under Rule 9 Permission.

Hazardous Waste Generation for the M/s. Gujarat Fluorochemicals Limited AFTER EC SPLIT

Sr. No	Type of Waste	Specific Source of generation (Name of the Activity, Product etc.)	Waste Category	Quantity (MT/Annum)	Mode of Disposal
1.	Spent acid	Fluoro Speciality Processes	B15 of Schedule- II	24567	Collection, Storage, Transportation and sell to actual end user having under Rule 9 Permission/Captive Consumption.
2.	Used Oil	Common Processes / Compressors / Rotary Equipments	5.1	120	Collection, Storage, Transportation and Disposal by Reuse in plant & machinery as lubricant or sell it to authorized re-refiners/ recycler.
3.	Empty Barrels/ Discarded Carboys/ Drums/ Cylinders	Common Processes / Packing	33.1	160	Collection, Storage, Decontamination and reuse in-house or send it to authorized recycler/ Send it directly to SPCB approved common decontamination facility /send it back to supplier.
4.	ETP Sludge from Wastewater treatment	ETP Process: Clarifier, Filter Press, Centrifuge	35.3	7983	Collection, Storage Transportation and Disposal at SPCB approved Common TSDF/Incineration/Co-processing facility/Actual end user having under Rule 9 Permission.
5.	PTFE Residue	Reactor & Other	1.4	1572	Collection, Storage

		Equipment Cleaning, Washings, Kettle, Coagulator, Floor Cleaning, MI Collection Tank			Transportation and Disposal at SPCB approved Common TSDF/Incineration/Co-processing facility/Actual end user having under Rule 9 Permission.
6.	Process Waste/ Organic Residue	Common Distillation Processes, Reactor Residues	36.1	22800	Collection, Storage Transportation and Disposal at SPCB approved Common TSDF/Incineration/Co-processing facility/Actual end user having under Rule 9 Permission.
7.	Recover Solvent	Process	20.2	18352	Collection, Storage, Distill in-house and reuse within premises.
8.	Distillation Residue	Distillation	20.3	407	Collection, Storage Transportation and Disposal at SPCB approved Common TSDF/Incineration/Co-processing facility/Actual end user having under Rule 9 Permission.
9.	Spent Catalyst, Activated Carbon	Common Catalytic Reactions	17.2	1992	Collection, Storage Transportation and Disposal at SPCB approved Common TSDF/Incineration/Co-processing facility/Actual end user having under Rule 9 Permission.
10.	Spent Resin	Common Adsorption Processes	36.1	65	Collection, Storage Transportation and Disposal at SPCB approved Common TSDF/Incineration/Co-processing facility/Actual end user having under Rule 9 Permission.
11.	Waste from Scrubbers	Common Wet Scrubber Systems	16.2	250	Collection, Storage Transportation and Disposal at SPCB approved Common TSDF/Incineration/Co-processing facility/Actual end user having under Rule 9 Permission.

Hazardous Waste Generation for the M/s. GFCL EV Products Limited AFTER EC SPLIT

Sr. No	Type of Waste	Specific Source of generation (Name of the Activity, Product etc.)	Waste Category	Quantity (MT/Annum)	Mode of Disposal
1.	Spent acid	Fluoro Speciality Processes	B15 of Schedule- II	37965	Collection, Storage, Transportation and sell to

					actual end user having under Rule 9 Permission/Captive Consumption.
2.	BF_3 water	Fluoro Speciality Processes	---	1524	Collection, Storage, Transportation and sell to actual end user having under Rule 9 Permission/Captive Consumption.
3.	Used Oil	Common Processes / Compressors / Rotary Equipments	5.1	50	Collection, Storage, Transportation and Disposal by Reuse in plant & machinery as lubricant or sell it to authorized re-refiners/ recycler.
4.	Empty Barrels/ Discarded Carboys/ Drums/ Cylinders	Common Processes / Packing	33.1	90	Collection, Storage, Decontamination and reuse in-house or send it to authorized recycler/ Send it directly to SPCB approved common decontamination facility /send it back to supplier.
5.	ETP Sludge from Wastewater treatment	ETP Process: Clarifier, Filter Press, Centrifuge	35.3	1929	Collection, Storage Transportation and Disposal at SPCB approved Common TSDF/Incineration/Co-processing facility/Actual end user having under Rule 9 Permission.
6.	Process Waste/ Organic Residue	Common Distillation Processes, Reactor Residues	36.1	1200	Collection, Storage Transportation and Disposal at SPCB approved Common TSDF/Incineration/Co-processing facility/Actual end user having under Rule 9 Permission.
7.	Recover Solvent	Process	20.2	2000	Collection, Storage, Distill in-house and reuse within premises.
8.	Spent Catalyst, Activated Carbon	Common Catalytic Reactions	17.2	600	Collection, Storage Transportation and Disposal at SPCB approved Common TSDF/Incineration/Co-processing facility/Actual end user having under Rule 9 Permission.
9.	Spent Resin	Common Adsorption Processes	36.1	35	Collection, Storage Transportation and Disposal at SPCB approved Common TSDF/Incineration/Co-processing facility/Actual

					end user having under Rule 9 Permission.
10.	Waste from Scrubbers	Common Wet Scrubber Systems	16.2	50	Collection, Storage Transportation and Disposal at SPCB approved Common TSDF/Incineration/Co-processing facility/Actual end user having under Rule 9 Permission.
11.	Copper Acetate Aqueous Solution	Fluoro Speciality Processes	28.1	2832	Collection, Storage Transportation and Disposal at SPCB approved Common TSDF/Incineration/Co-processing facility/Actual end user having under Rule 9 Permission.

G. Details of Non-Hazardous Waste Management

Existing Non-Hazardous Waste Generation for EC granted to M/s. Gujarat Fluorochemicals Limited vide letter no.: SEIAA/GUJ/EC/5(f)/562/2022 dated 17th Feb 2022

Sr. No	Type of Waste	Quantity (MT/Annum)	Mode of Disposal
1	Gypsum	89400	Collection, Storage Transportation and disposal at SPCB approved Own SLF/Common TSDF/ Co-processing facility/sell to User.
2	24-25% NaBr	41808	Collection, Storage Transportation and disposal at SPCB approved Own SLF/Common TSDF/ Co-processing facility/sell to User.
3	NaCl	960	Collection, Storage Transportation and disposal at SPCB approved Own SLF/Common TSDF/ Co-processing facility/sell to User.
4	20% Ammonia	3816	Collection, Storage Transportation and disposal at SPCB approved Own SLF/Common TSDF/ Co-processing facility/sell to User.
5	Ammonium Sulphate solution	156	Collection, Storage Transportation and disposal at SPCB approved Own SLF/Common TSDF/ Co-processing facility/sell to User.
6	KF+ KBr	3408	Collection, Storage Transportation and disposal at SPCB approved Own SLF/Common TSDF/ Co-
7	KF+KCl	3392	Collection, Storage Transportation and disposal at SPCB approved Own SLF/Common TSDF/ Co-processing facility/sell to User.
8	Aluminium Chloride	36	Collection, Storage Transportation and disposal at SPCB approved Own SLF/Common TSDF/ Co-processing

			facility/sell to User.
9	Aluminium Hydroxide	4968	Collection, Storage Transportation and disposal at SPCB approved Own SLF/Common TSDF/ Co-processing facility/sell to User.
10	KCl	11568	Collection, Storage Transportation and disposal at SPCB approved Own SLF/Common TSDF/ Co-processing facility/sell to User.
11	SiO2	1032	Collection, Storage Transportation and disposal at SPCB approved Own SLF/Common TSDF/ Co- processing facility/sell to User.
12	Calcium Hydroxide	14448	Collection, Storage Transportation and disposal at SPCB approved Own SLF/Common TSDF/ Co-processing facility/sell to User.
13	Glass Wool / Insulation Waste	250	Collection, Storage Transportation and disposal at SPCB approved Own SLF/Common TSDF facility.
14	Fly Ash	23500	Disposed as per Fly Ash Management Rules 2009, selling ash to Cement Plants/Brick Making industries/Filling in low lying area.
15	Brine Sludge	2100	Collection, Storage Transportation and disposal at SPCB approved Own SLF/Common TSDF facility.
16	Domestic Sludge	50	Collection, Storage Transportation and disposal at SPCB approved Own SLF/Common TSDF facility.

Non-Hazardous Waste Generation for the M/s. Gujarat Fluorochemicals Limited AFTER EC SPLIT

Sr. No	Type of Waste	Quantity (MT/Annum)	Mode of Disposal
1	Gypsum	89400	Collection, Storage Transportation and disposal at SPCB approved Own SLF/Common TSDF/ Co-processing facility/sell to User.
2	24-25% NaBr	41759	Collection, Storage Transportation and disposal at SPCB approved Own SLF/Common TSDF/ Co-processing facility/sell to User.
3	NaCl	960	Collection, Storage Transportation and disposal at SPCB approved Own SLF/Common TSDF/ Co-processing facility/sell to User.
4	KF+KCl	3392	Collection, Storage Transportation and disposal at SPCB approved Own SLF/Common TSDF/ Co-processing facility/sell to User.
5	Aluminium Chloride	36	Collection, Storage Transportation and

			disposal at SPCB approved Own SLF/Common TSDF/ Co-processing facility/sell to User.
6	Aluminium Hydroxide	4968	Collection, Storage Transportation and disposal at SPCB approved Own SLF/Common TSDF/ Co-processing facility/sell to User.
7	KCl	11568	Collection, Storage Transportation and disposal at SPCB approved Own SLF/Common TSDF/ Co-processing facility/sell to User.
8	SiO_2	1032	Collection, Storage Transportation and disposal at SPCB approved Own SLF/Common TSDF/ Co- processing facility/sell to User.
9	Calcium Hydroxide	14448	Collection, Storage Transportation and disposal at SPCB approved Own SLF/Common TSDF/ Co-processing facility/sell to User.
10	Glass Wool / Insulation Waste	200	Collection, Storage Transportation and disposal at SPCB approved Own SLF/Common TSDF facility.
11	Fly Ash	23500	Disposed as per Fly Ash Management Rules 2009, selling ash to Cement Plants/Brick Making industries/Filling in low lying area.
12	Brine Sludge	2100	Collection, Storage Transportation and disposal at SPCB approved Own SLF/Common TSDF facility.
13	Domestic Sludge	40	Collection, Storage Transportation and disposal at SPCB approved Own SLF/Common TSDF facility.

Non-Hazardous Waste Generation for the M/s. GFCL EV Products Limited AFTER EC SPLIT

Sr. No	Type of Waste	Quantity (MT/Annum)	Mode of Disposal
1	24-25% NaBr	49	Collection, Storage Transportation and disposal at SPCB approved Own SLF/Common TSDF/ Co-processing facility/sell to User.
2	20% Ammonia	3816	Collection, Storage Transportation and disposal at SPCB approved Own SLF/Common TSDF/ Co-processing facility/sell to User.
3	Ammonium Sulphate solution	156	Collection, Storage Transportation and disposal at SPCB approved Own SLF/Common TSDF/ Co-processing facility/sell to User.
4	KF+ KBr	3408	Collection, Storage Transportation and disposal at SPCB approved Own SLF/Common TSDF/ Co-

5	Glass Wool / Insulation Waste	50	Collection, Storage Transportation and disposal at SPCB approved Own SLF/Common TSDF facility.
6	Domestic Sludge	10	Collection, Storage Transportation and disposal at SPCB approved Own SLF/Common TSDF facility.

H. Detailed green belt development plan.

Existing Process Gas Emission to M/s. Gujarat Fluorochemicals Limited vide letter no.: SEIAA/GUJ/EC/5(f)/562/2022 dated 17th Feb 2022

Description	Details
Total plot area	4,38,118.81 sq. meter
Total greenbelt area	1,61,800 sq. meter
% of total plot area	36.93 %
Number of trees	32,360
Budget allocated for greenbelt development (2022-23) (Rs.)	Rs. 180 Lacs

Green belt development Plan for the M/s. Gujarat Fluorochemicals Limited AFTER EC SPLIT

Description	
Total plot area	3,51,026.81 sq. meter
Total greenbelt area	1,32,617 sq. meter
% of total plot area	37.77 %
Number of trees	26,523
Budget allocated for greenbelt development (2022-23) (Rs.)	Rs. 148 Lacs

Green belt development Plan for the M/s. GFCL EV Products Limited AFTER EC SPLIT

Description	Proposed For M/s. GFCL EV Products Limited AFTER EC SPLIT
Total plot area	87,092 sq. meter
Total greenbelt area	29,183 sq. meter
% of total plot area	33.50 %
Number of trees	5,837
Budget allocated for greenbelt development (2022-23) (Rs.)	Rs. 32 Lacs

I. Details of Power Consumption

Existing Power Consumption for EC granted to M/s. Gujarat Fluorochemicals Limited vide letter no.: SEIAA/GUJ/EC/5(f)/562/2022 dated 17th Feb 2022

Source	Power Consumption
CPP (CCGT)	37 MW
DGVCL	56.26 MW
DG sets	5 Nos. x 1000 KVA

Power Consumption for the M/s. Gujarat Fluorochemicals Limited AFTER EC SPLIT

Source	Power Consumption
CPP (CCGT)	37 MW
DGVCL	41.26 MW
DG sets	3 Nos. x 1000 KVA

Power Consumption for the M/s. GFCL EV Products Limited AFTER EC SPLIT

Source	Power Consumption
CPP (CCGT)	0
DGVCL	15 MW
DG sets	2 X 1000 KVA

5. With the unit, area and output remaining same how it would be possible to enforce Environmental Compliances and Monitoring is not clear.

Reply:

✓ PP presented that once the split is approved both the units will be separate entities physically as well as from management point of view. This will ensure ease in monitoring/checking individually by both the units as well as we will obtain two separate separate IDs of GPCB. Hence environmental compliances as well as the monitoring will be carried out separately for both the units in the following manners:

Particular	GFL B (After Split)	GFCL – EV (After Split)
GPCB ID	43907	Separate ID will be given
Environment Cell	Separate for Both the Unit	Separate for Both the Unit
Monthly Patrak	Under ID 43907	Under Separate ID
Environment Compliance (Half Yearly)	Separate Report from Both the entity	Separate Report from Both the entity
Environment Audit	Separate Audit Team, Audit Report submission	
EMP Cost	Separate Cost & Cost Centers	Separate Cost & Cost Centers
Third Party Env. Monitoring	Separate for Both Units	Separate for Both Units

6. Moreover, which category of permission for split of EC is sought with reference to

Environment Protection Act and EIA notification and its amendment.

Reply:

- ✓ Environmental Clearance granted vide letter no. SEIAA/GUJ/EC/5(f)/562/2022 dated:17/02/2022 was under the Category of 5(f) of the schedule of EIA Notification 2006.
- ✓ So we Proposed that Both the EC after Splitting above Said EC, will fall under the Category of 5(0 of the schedule of EIA Notification 2006, as per the products mentioned in application of Splitting of Environment Clearance.
- ✓ The EC split is sought with respect to Modernization under para 7(ii) of the EIA Notification, 2006. Further, PP presented an example of a similar application which was made to MoEFCC (Category-A) for split/ transfer of EC. The application form, original EC and the respective split EC's is presented.

8) Committee found the presentation and submission for the project satisfactorily.

After detailed discussion, it was decided to recommend the project to SEIAA, Gujarat for grant of Split of Environmental Clearance with conditions unchanged via Recommendation Letter forwarded from SEAC vide No. EIA-10-2021-IND2/4675 dated: 10.11.2022.

6.	SIA/GJ/IND3/403524/2022	**M/s. Pardesi Global Services LLP** Plot No.: D-3/27/1/4, Dahej-3 Ind Estate (GIDC), Taluka: Vagra, District: Bharuch	EC

Category of the unit: **5 (f)**

Project status: **New**

1) Details of Application:

1.12. Type of application:	EC - New (Appraisal)
1.13. Proposal no.	SIA/GJ/IND3/403524/2022
1.14. Category of Project:	5(f) - B1
1.15. Date of application: (Online accepted by SEAC)	30/11/2022
1.16. Documents Submitted by Project Proponent (PP)	PFR, EIA Report, SEAC Format, Form -2
1.17. TOR No. & Date:	File No. SIA/GJ/36503/2022, Dated: 02/03/2022
1.18. Technical expert / Environmental Consultant:	Awadhesh Kumar - EIA Coordinator M/S. Paramarsh (Servicing Environment & Development) QCI/NABET Accredited as Category – 'A' Certificate No.: NABET/EIA/2124/RA 0224; Valid till: 01.05.2024.
1.19. SEAC Meeting No. and Date:	540th SEAC meeting date 15/12/2022

1.20. ADS vide letter dated:	---
1.21. Reply Submitted by PP dated:	---
1.22. Revised Consideration SEAC Meeting No. and Date:	---

2) This is a Greenfield project proposed for manufacturing of synthetic organic chemicals as mentioned below:

Sr. No.	Name of the Products	CAS Number	Quantity (MT/Month)	End Use
A.	**Bromine Derivatives**			
	Group-1			
1	Para Nitro Benzyl Bromide	0100-11-8	100	Used in preparation of AZOLES (Anti-fungal products). especially in synthesis of di and tri-substituted azoles. It is also used a selective adenosine agonist for cardiac and cancer related drugs. 2-Nitrobenzyl bromide was used for caging unprotected cysteine-containing or thiophosphorylated peptides in aqueous solution. It can be used in the synthesis of (R)- and (S)-3-amino-3,4-dihydro-1H-quinolin-2-one
2	Para Cyano Benzyl Bromide	17201-43-3		4-Cyanobenzyl bromide is an important intermediate for pharmaceutical production. It can be used for the synthesis piperidine-linked aromatic diimidazolines, Anti Fungal drugs like Anti-Pneumocystis carinii (PCP) drug, Pentamidine.
3	Meta Nitro Benzyl Bromide	0100-11-8		3-Nitrobenzyl bromide was used in the synthesis of 1,4-disubstituted imidazoles.
4	Para Nitro Benzyl Alcohol	619-73-8		Used as intermediate in preparation of metabolites. Used as an intermediate in manufacturing of several other API's
5	Para Bromo Benzyl Bromide	589-15-1		Synthetic Organic Chemical Intermediate
	Group-2			
6	Pyridine Hydro bromide	18820-82-1	100	For bromination of Ketonic reactions, this chemicals is used
7	Ortho Cyano Benzyl Bromide	22115-41-9		Used as chemical intermediate in pharmaceuticals industries for wide application
8	Meta Cyano Benzyl Bromide	17201-43-3		Synthetic Organic Chemical Intermediate

9	2,6 Dichloro Benzyl Bromide	20443-98-5		Used in the preparation of potent epoxide hydrolase inhibitors. Has shown thus far to relieve hypotension in lipopolysaccharide deficient murine models. As well they have been used in the synthesis of anti-HIV drugs based on diaryltriazine (DATA) analogues.
	Group-3			
10	Bromo OTBN (2-Cyano-4-Bromo Methyl Biphenyl)	114772-54-2	50	To treat hypertension
11	N- Propyl Bromide	106-94-5		Used as a solvent in several reactions (ex- Grignard reaction) Used as a Raw material for Several API's Used as a solvent Carrier or separator in Adhesives manufacturing industries.
12	N- Butyl Bromide	109-65-9		Used as a solvent in several reactions (ex- Grignard reaction) Used as a Raw material for Several API's
13	Tetra Butyl Ammonium Bromide	1643-19-2		Used as raw material for various reactions for Pharma and speciality chemicals. But extensively used as a phase transfer catalyst.
	Group-4			
14	Tetra Ethyl Ammonium Hydroxide		100	Battery Industries (Solar cells) Used as solvent in Dye manufacturing industries Used as a phase transfer catalyst.
15	Ortho Cyano Benzyl Alcohol	874-97-5		Pharmaceutical Intermediates
16	Ortho Bromo Benzyl Bromide	3433-80-5		Synthetic Organic Chemical Intermediate
17	Para Chloro Benzoic Acid	74-11-3		Used as a Raw material for Several API's
	Group-5			
18	Para Nitro Benzoic Acid	62-23-7	100	Used as a Raw material for Several API's
19	Ortho Chloro Benzoic Acid	118-91-2		Used as a precursor to a variety of drugs, food additives, and dyes.
20	2,3 & 2,4 Di Chloro Benzoic Acid	50-84-0		Used as a Raw material for Several API's
21	Acetonitrile	75-05-8		Externsively used as solvent in pharmaceuticals, perfumes, rubber products, pesticides, acrylic nail removers and batteries.
	Group-6			
22	Lauronitrile	2021-07-02	100	Synthetic Organic Chemical Intermediate

23	Decane Nitrile	120-21-4		Decane nitrile uses and applications include: Chemical intermediate; fragrance in cosmetics.
24	Undecane Nitrile	2244-07-7		API Intermediates
25	2 Cyanophenol	611-20-1		Used as a Raw material for Several API's (antianginal compounds, anti malarial agents, antiseptics, disinfectants)
	Group-7			
26	Iso Butyl Bromide	78-77-3	100	Used as solvent, organic synthesis and pharmaceutical intermediate.
27	N-Hexyl Bromide	111-25-1		Used as a Raw material for Several API's. Agrochemicals, Cosmetics and Pigments.
28	Zinc Citrate	546-46-3		Highly used in toothpaste and mouthwash. Used in several dental related medicines and ointments.
29	HBR in Acetic Acid (33 %)	10035-10-6		Hydrobromic acid is an indispensable raw material for organic intermediates, inorganic pharmaceuticals, photosensitive materials, dyes and medicines. It is also used in the production of bromine compounds.
B. Antioxidants				
30	[Tris(2,4-di-tert-butyl phenyl) Phosphite]	31570-04-4	50	Used as a stabilizer in polymers where it functions as an antioxidant as well as other roles
31	Tri(tridecyl) phosphate	3033-37-2		Used as a stabilizer and antioxidant in the processing of various plastic materials
32	TNPP (Tris nonyl phenyl phosphite)	26523-78-4		Used as a stabilizer and antioxidant in the processing of various plastic materials
33	TPP (Tris phenyl phosphite)	917-23-7		Used as a stabilizer and antioxidant in the processing of various plastic materials
34	PDDP (Phenyl di-isodecyl phosphite)	25550-98-5		Used as a color and processing stabilizer in ABS, polycarbonate, polyurethane, coatings and PET fiber
35	DPTDP (Di phenyl tri decyl phosphate)	60628-17-3		Used as a color sealant and processing in polycarbonate, polyurethanes, ABS polymers, coating and is also used as a second seal in PVC
Total			700	

3) The project falls under B1 category of project activity 5(f) as per the schedule of EIA Notification 2006.

4) The proposal was considered in the SEAC video conference meeting dated 15.12.2022.

5) Project proponent (PP) and their Technical Expert M/s Paramarsh (Servicing Environment &

Development) remain present during video conference meeting.

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) 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 March-2022 to May-2022. Ambient Air Quality monitoring was carried out PM10, PM2.5, SOx, NOx, Co, HCl, HBr and VOCs 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". 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).

8) 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.

9) Committee asked to submit the following:
   - ✓ Justification regarding quantity of fuel proposed in boiler & TFH wrt capacity
   - ✓ Details of area adequacy for storage of raw materials, products, production area, utilities, etc
   - ✓ Mechanism of segregation of streams
   - ✓ Details of generation and management of spent solvents.
   - ✓ CER details by removing vermicomposting activity
   - ✓ Details of rain water harvesting system

10) Later on PP submitted following details through email.
   - ✓ Justification regarding quantity of fuel proposed in boiler & TFH wrt capacity are as under:

Sr. No.	Stack Attached to	Working Hrs.	Type of Fuel	Calorific Value of Fuel* (Kcal/Kg)	Fuel Requirement	
					Per Hr. (MT)	Per Day (MT)
1.	Steam Boiler (Capacity: 2 TPH)	13	Coal	4600	0.16	2.23 **≈ 2.25**
		13	Agro Briquette	4100	0.19	2.47 **≈ 2.50**
2.	Thermic Fluid Heater (2 Lakh Kilo Cal)	18	Coal	4800	0.054	0.972 **≈ 1**
		18	Agro Briquette	4100	0.064	1.152 **≈ 1.2**

		18	Natural Gas	9400	28.0 SCM	-
3.	Spray Dryer for ETP (2 KL/Hr) attached with Hot Air Generator (HAG)	16	Coal	4800	0.238	3.81 ≈ **3.8**
		16	Agro Briquette	4100	0.278	4.44 ≈ **4.5**

**source: GPCB office order no.: GPCB/ANK-C992/215695, dated: 07-06-2014; Grade D type of Coal will be used; Efficiency of Steam Boiler will be approx. 70%, TFH will be approx. 75-76% and HAG & Spray Dryer will be approx.70% .*

- ✓ Details of area adequacy for storage of raw materials, products, production area, utilities, etc
- ✓ Mechanism of segregation of streams: Considering the worst case scenario, out of the total proposed products from Group-1 (4 nos.), Group-2(4 nos.), Group-3(2nos.), Group-4(4 nos.), Group-5(7 nos.), Group-6(4 nos.), Group-7(3 nos.), the product manufacture [(**Group-1** (Para Nitro Benzyl Alcohol), **Group-2** (Pyridine Hydro bromide), **Group-3** (N- Butyl Bromide), **Group-4** (Para Chloro Benzoic Acid) **Group-5** (Para Nitro Benzoic Acid), **Group-6** (2 Cyanophenol), **Group-7** (Iso Butyl Bromide)] will generate high concentrated stream and its process would be undertaken in dedicated reaction vessels which have a fixed dedicated pipeline connection that will be ultimately will be collected in a Concentrated stream sump then transfer to propose concentrated effluent treatment facility. The remaining product manufacture which will generate low concentrated stream and its process would be undertaken in dedicated reaction vessels which have a fixed dedicated pipeline connection which ultimately will be collected in Dilute stream sump then transfer to propose dilute effluent treatment facility.

Product. No.	Group No.	Name of Product	Wastewater Generation (KL/MT)	Wastewater Generation (KL/Day)	Concentrated Stream; HIGH (COD/TDS) (KL/Day)	COD (Kg/day)	Worst Case - High COD (Kg/day)	TDS (Kg/day)	Worst Case - High TDS
4	**Group-1**	Para Nitro Benzyl Alcohol	1.1	3.67	0.89	24.87	24.87	21.32	21.32
6	**Group-2**	Pyridine Hydro bromide	1.6	5.33	1.71	44.35	44.35	40.08	40.08
12	**Group-3**	N- Butyl Bromide	0.41	0.68	0.22	4.79	4.79	4.03	4.03
17	**Group-4**	Para Chloro Benzoic Acid	3.85	12.83	3.10	83.83	83.83	82.12	82.12
18	**Group-5**	Para Nitro Benzoic Acid	3.85	12.83	3.10	76.07	76.07	69.39	69.39
25	**Group-6**	2	0.94	3.13	0.76	18.03	18.03	17.23	17.23

		Cyanophenol							
26	**Group-7**	Iso Butyl Bromide	0.58	1.92	0.46	12.43	12.43	10.11	10.11

- ✓ Revised hazardous waste matrix mentioning generation and management of spent solvents.
- ✓ CER details by removing vermicomposting activity
- ✓ Details of rain water harvesting system are submitted. Since, the proposed unit is a chemical manufacturing unit, therefore as per the CGWA guideline the collected rain water is required to be stored in a rain water collection tank (its details is already presented in plant layout) and which will be used within factory premises for firefighting mock drill, and washing activity etc.

11) 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.

12) Compliance of the ToR, presentation and submission found satisfactory.

13) PP presented salient features of the project including Water, Air and Hazardous waste management are as under:

Sr. no.	**Particulars**	**Details**
A	Total **cost of Proposed** Project (Rs. in Crores):	

Total Project Cost
15 Crore

Break-up of proposed project Cost:

Sr. No.	**Description**	**Cost (Rs. in Crore)**
1.	Land & land development	2.07
2.	Factory Building & Office	5.0
3.	Plant & Machineries	6.43
4.	EMP including (ETP, Evaporator, APCM, Greenbelt and Fire Fighting Arrangements etc.)	1.5
	TOTAL PROJECT COST	**15**

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B	**Land / Plot ownership details:** Plot allotment letter in the name of M/s. Pardesi Global Services LLP Letter No.: GIDC/RM-II/ANK/DHJ, dated: 25-01-2022
B-1	**In case of outside GIDC only -** Not Applicable as unit is to be setup in notified GIDC Industrial Estate, Dahej-3 Ind Estate, Tal-Vagra, Dist-Bharuch, Gujarat.

Siting Criteria

Sr. no.	**Environmental Sensitivity**	**Name/Specific details**	**Aerial Distance in Km**
1	Habitat (Residential Area)	---	---

	2	Eco sensitive zones	---	---
	3	Wildlife sanctuaries/National Parks	---	---
	4	Water Bodies	---	---
		River	---	---
		Natural Nallah/Drain	---	---
		Lake/Pond/Wetlands	---	---
		Water supply Tanks/Reservoirs	---	---
		Canal	---	---
	5	Protected Monuments/Heritage sites/Public Buildings etc.	---	---
	6	National/State Highway OR Express way	---	---
	7	Coastal Regulation Zone (CRZ) (In case of Coastal area projects)	---	---
	8.	Ground water table in meter	---	---
	9.	Railway Line	---	---
	10.	AirPort	---	---

B-2 **Area adequacy**

Detail Area Break-up

Sr. No.	Description	Area Allocated (Sq. Meter)					% Of Ground Coverage (allocated)	Area Required (Sq. Meter)
		G.F.	F.F.	S.F.	T.F.	Total		
1	Admin/OHC/R &D and QA Lab.	400	400	400	0	1200	4.56%	330.0
2	Product Storage Area	240	240	240	240	960	2.74%	211.2
3	Ware House (Raw Material Storage Area)	306.8	306.8	306.8	306.8	1227.2	3.50%	976.80
4	PCC Room	60	0	0	0	60	0.68%	20.0
5	Transformer Room	36	0	0	0	36	0.41%	16.5
6	Process Block – A	690	690	690	690	2760	7.87%	1145.0
7	Process Block – B Future Expansion)	644	644	644	644	2576	7.34%	---
8	Solid / Hazardous Waste Storage Area-1	40.1	0	0	0	40.1	0.46%	30.75
9	Solid / Hazardous Waste Storage Area-2	66.7	0	0	0	66.7	0.76%	50.00

10	Tank Farm	330.8	0	0	0	330.8	3.77%	106.04
11	PESO Tank Farm	394.2	0	0	0	394.2	4.49%	57.2
12	Bromine Storage Area	320.8	0	0	0	320.8	3.66%	11.44
13	Engg. Storage Area	199.2	0	0	0	199.2	2.27%	50.0
14	ETP Area	119.7	0	0	0	119.7	1.36%	100.0
15	Weigh bridge office / Security Cabin	25	0	0	0	25	0.29%	25.0
16	Security Cabin Visitor area	35	0	0	0	35	0.40%	5.90
17	Boiler House/ Utility Area	192.1	0	0	0	192.1	2.19%	132.50
18	Greenbelt Area (33.3%)	2921.3	0	0	0	2921.3	33.31%	2894.28
19	Road & Parking Area	1748.85	0	0	0	1748.85	19.94%	1678.02
	Total	**8770.55**	**2280.8**	**2280.8**	**1880.8**	**15212.95**	**100.00%**	**7840.63**

Area Adequacy:

Particular	Physical State	Max. Storage in MT (3 Days)	Type of Container	Capacity of container (Kg or Lit)	Nos. of container	Area Required (m^2)	Area Allocated (m^2)	Remarks
Ware House *(Raw Material Storage Area)*	Liquid	261.72	HDPE Drum	200	1313	394.8	**1227.2**	4 Drums on 1 pallet of size 1.0m x 1.2m. 329 pallets shall be required.
	Liquid*	6.23			31	9.6		4 Drums on 1 pallet of size1.0m x1.2m; 8 pallets shall be required.
	Liquid	3.39		100	34	7.2		6 Drums on 1 pallet of size1.0m x1.2m; 5 pallets shall be required.
	Liquid*	1.89			19	4.8		6 Drums on 1 pallet of size1.0m x1.2m; 3 pallets shall be required.
	Liquid	0.13		50	2	1.2		8 Drums on 1 pallet of size1.0m x1.2m; 1 pallet shall be required
	Liquid*	0.03			1	1.2		8 Drums on 1 pallet of size1.0m x1.2m; 1 pallet shall be required
	Solid	36.19	HDPE Bag	50	692	69.6		12 Bags in 3 layers on size1.0m x1.2m; 58 pallets shall be required
	Required area for storage of raw materials					488.40		
	Considering additional area for movement					488.40		
	Total acquired area for raw materials storage					**976.80**		

Product Storage Area	Liquid	70	HDPE Drum	200	350	105.6	**960.0**	4 Drums on 1 pallet of size 1.0m x 1.2m. 88 pallets shall be required.
	Considering additional area for movement					105.6		
	Total acquired area for product storage					**211.2**		
Tank Farm	Liquid	12 Max.	MS Tank	15 KL	1	5.30	**330.8**	Considering 80% filling capacity.
	Liquid	16 Max.	MS Tank	20 KL	1	5.72		
	Liquid	118.5 Max.	MS Tank	25 KL	6	42.0		
	Required area for Tank Storage					53.02		
	Considering additional area for movement					53.02		
	Total area acquired for tank storage					**106.04**		
PESO Tank Farm	Liquid	95.2	MS Tank	20 KL	5	28.6	**394.2**	Area acquired by 1 Tank= 5.72m^2
	Considering additional area for movement					28.6		
	Total area acquired					**57.2**		
Bromine Storage Area	Liquid	17.3	Tank	20 KL	1	5.72	**320.8**	
	Considering additional area for movement					5.72		
	Total area acquired for Bromine Tank Storage					**11.44**		

Solvent Storage in HDPE drums of capacity 200/100/50 liters.

Hence, adequate area is available for proposed project activities.

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.

B-3 **Green belt area**

	Total (Sq. meter)
Area in Sq. meter	Approx. 2921.3
% of total area	33. 3 %

Comments:

- The PP shall develop green belt within premises (2921.3 Sq. m i.e. 33.3 % of the total plot area) as per the undertaking 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.

C **Employment generation**

Total
50

D **WATER**

D-1 **Source of Water Supply**

GIDC Water Supply System

Comments:

- Prior permission from concerned authority shall be obtained for withdrawal of water.

D-2 **Water consumption (KLD)**

-

Sr. No.	Purpose	Water Consumption (KL/Day)		
		Fresh	Reuse	Total
A	**Domestic**	**2.5**	**---**	**2.5**
B	**Industrial**			
	Process	25.5	23	48.5
	Boiler	2	12	14
	Cooling	2	18	20
	Washing	0.5	1.5	2
	Scrubber *(Bleed Liquor)*	0.5	1.5	2
	Sub-Total (B)	**30.5**	**56**	**86.5**
C	**Gardening**	**9**	**--**	**9**
	Total (A+B+C)	**42**	**56**	**98**

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Comments:

- The water consumption above is found to be calculated considering the worst case scenario and in any case the waste water generation shall not exceed the same.

D-3 **Wastewater generation (KLD)**

-

Sr. No.	Purpose	Wastewater Generation (KL/Day)	Remark
A	**Domestic**	**2.0**	• Domestic Effluent (2 KLD) will be collected and sent to ETP for further treatment.
B	**Industrial**		
	Process	41.25	• Process effluent (41.25 KLD) will be segregated in two streams: low COD/TDS effluent (31 KLD) sent to ETP and high COD/TDS effluent (10 KLD) will be sent to pre-treatment followed by solvent stripper and finally sent to spray dryer.
	Boiler	1.4	• ETP & RO system
	Cooling	2	
	Washing	2	
	Scrubber *(Bleed Liquor)*	2	
	Sub-Total (B)	**48.65**	
C	**Gardening**	0.00	
	Total (A+B)	**50.65**	

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Comments:

	➢ The waste water generation above is found to be calculated considering the worst case scenario and in any case the waste water generation shall not exceed the same.
D-4	Break-up of wastewater disposal & facility (For Domestic)

Domestic Effluent:
Domestic Sewage (2 KLD) will be conveyed to ETP for further treatment along with other industrial effluent.

Comments:

➢ Domestic wastewater generation shall not exceed 2 KL/day for proposed project and it shall be treated in ETP and disposal through in-house spray dryer. It shall not be disposed off through soak pit/ septic tank.

D-5	**Break-up of wastewater disposal & facility (For Industrial)**

-

Sr. no.	Quantity (KLD)	Facility
1.	38.4 *(From scrubber + Boiler Blowdown + Cooling Purge+ Low COD/TDS process effluent)*	To ETP followed by RO system. Treated effluent so obtained i.e., RO Permeate will be reused for various Industrial purposes (like in Boiler, Cooling Tower, Washing, Scrubber) within the premises and RO Reject will be conveyed to onsite Spray dryer for final evaporation.
2.	10.25 *(From Process- High COD/TDS stream)*	To solvent stripper and from solvent stripper 0.25 KLD will be conveyed to Solvent recovery facility whereas, stripped out effluent (10 KLD) to pre-treatment. After that treated water will be evaporated in onsite spray dryer and bottom salt will be disposed to TSDF site.
Total	**48.65**	Unit will maintain Zero Liquid Discharge

Comments:

1. Management of Industrial effluent shall be as under:

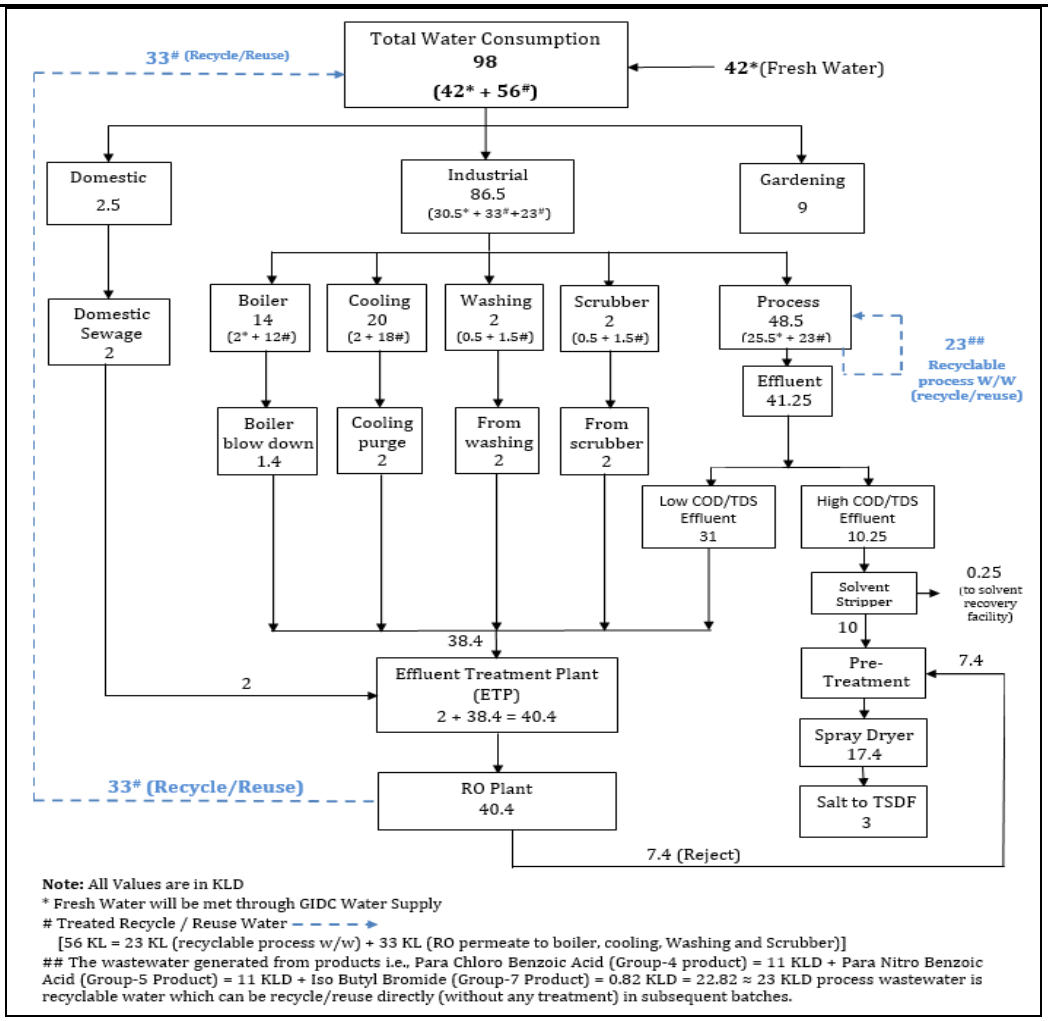
➢ **High COD Stream (10.25 KLD):**

✓ 10.25 KLD process effluent shall be treated in Solvent stripper, pre-treatment and in-house spray dryer.

➢ **Low COD Stream (40.4 KLD):**

✓ 31 KLD process effluent, 7.4 KLD effluent from utilities, washing & scrubber and 2 KLD, domestic effluent shall be treated in primary, secondary & tertiary ETP followed by RO. 33 KLD RO permeate shall be reused within premises and 7.4 KLD, RO reject shall be disposed through in-house spray dryer.

D-6	**Simplified water balance diagram**



D-7 Summary

Summary of water requirement	Quantity KLD	Remarks
Total water requirement for the project **(A)**	98	
Quantity to be **recycled (B)**	56	
Total **freshwater** requirement **(C)**	42	
Ensure **Total water requirement = Recycled water + Fresh water i.e., A = B + C** 98 = 56 + 42		

E	**AIR**
E-1	Power (Electricity) requirement: 600 KW
E-2	**Flue gas emission details**

-

Sr. No.	Stack Attached to	Stack Height (m)	Type of Fuel	Fuel Requirement	Expected Pollutants	Air Pollution Control Measures

1	Steam Boiler (2 TPH – 1 No.- on working & 1 *Standby*)	30	Coal or Agro Briquette	2.25 MT/day or 2.5 MT/day	PM<150 mg/Nm^3 SO2< 100 ppm NOx< 50 ppm	Multi cyclone Separator + Bag filter + Water Scrubber
2	TFH (2 Lakh Kilo Cal)	30	Coal or Agro Briquette or Natural Gas	1 MT/day or 1.2 MT/day Or 28 SCM/hr		Multi cyclone Separator + Bag filter + Water Scrubber
3	Spray Dryer for ETP (2 KL/Hr) attached with Hot Air Generator (HAG)	30	Coal or Agro Briquette	3.8 MT/day Or 4.5 MT/day		Multi cyclone Separator + Bag filter + Water Scrubber
4	D.G. Set (400 KVA)	11	HSD	100 Lit/hr		Adequate Stack Height & Acoustic Measures

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E-3 Process gas

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Sr. No.	Stack Attached to	Stack Height (m)	Expected Pollutants	Air Pollution Control Measures
1	Reactor Vessel of Para Nitro Benzyl Bromide	11	HBr < 30 mg/Nm^3	Two Stage Alkali Scrubber
2	Reactor Vessel of 2 Cyanophenol	11	HCl < 20 mg/Nm^3	Water Scrubber Followed by Alkali Scrubber
3	Reactor Vessel of [Tris(2,4-diter-butyl phenil) Phosphite]	11	HCl < 20 mg/Nm^3	Water Scrubber Followed by Alkali Scrubber
4	Reactor Vessel of Tri(tridecyl) phosphate	11	HCl < 20 mg/Nm^3	Water Scrubber Followed by Alkali Scrubber
5	Reactor Vessel of Tris nonyl phenyl phosphite	11	HCl < 20 mg/Nm^3	Water Scrubber Followed by Alkali Scrubber
6	Solvent Recovery System	11	VOC	VOC Scrubber

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E-4 Fugitive emission details with its mitigation measures.

Sr. No.	Source	Probable Pollutant Emission	Control Measures/ APCM
1.	During Construction phase	Dust	• Regular water sprinkling to suppress the fugitive dust. • Tarpaulin sheet will be used to cover the materials during transportation. • Green belt area will be developed within the factory premises to control the fugitive emissions from spreading into surrounding environment.

2.	Storage of raw materials including solvents	Dust/VOC	• All the raw materials will be stored in isolated storage area and containers will be kept tightly closed. • Provision of adequate ventilation system. • Provision of breather valve cum flame arrester. • Provision of adequate PPEs. • Solvent will be stored in separate solvent storage area.
3.	Solvent recovery system	VOC	• Solvent recovery system with steam condensation system having primary condenser with chiller water circulation and secondary condenser with chilled brine circulation will be provided. • If at all any vapors escapes, it will be scrubbed in VOC scrubber. • Pumps & motors will be Mechanical seal type.
4.	Handling of raw materials including Hazardous chemicals	Particulate Matter	• All the motors of pumps for the handling of hazardous chemicals will be flame proof and provided with suitable mechanical seal with stand-by arrangement. • Precautionary measures will be taken while handling various hazardous chemicals. • Reduce the exposure time of workers to the area by job rotation.
5.	Flange joints of pipeline, pump & motors	Dust/VOC	• The control of all parameters on a continuous basis will be done by adequate control valves, pressure release valves and safety valves etc. • All the flange joints of the pipelines will be covered with flange guards. • Pumps & motors will be mechanical seal type. • A regular preventive maintenance will be planned to replace or rectify all gaskets, joints etc. • LDAR program will be followed.
6.	Raw material transfer to reactor	Dust/VOC	• Hopper will be provided with powder transfer system. • Feeding of liquid raw material will be carried out by closed pipeline and mechanical seal pump.
7.	Loading /unloading at storage area	Dust/VOC	• Unloading through pipeline to container in a close system. • Hopper will be provided with powder transfer system.
8.	Process area and manufacturing activities	Dust/VOC	• Entire manufacturing activity will be carried out in closed reactors/ vessels. • Regular checking and maintenance of the same will be carried out to avoid any leakages. • Adequate ventilation system in process area. • To control the odor (if any) generated during the process, unit will be installed turbo jet ventilators on the roof top of the industrial shed area. • Unit will install portable detection system for VOCs in the process area. In addition, unit shall

			carry out regular workplace monitoring. • Regular workplace monitoring will be done.

Comments for E2, E3 & E4:

- The fuel to be used is approved fuel for the requirement of the heat energy and has been proposed the Air pollution Control measures so as to achieve the emission norms prescribed by the competent authorities.
- The air pollution control measures, has been proposed by PP for checking flue gas emission, Process gas emission, fugitive gas emission, with adequate systems of reaction/ reaction condensers, thermic fluid heaters, boilers, and scrubbing systems as per the requirements, to achieve the emission norms prescribed by the competent authorities.

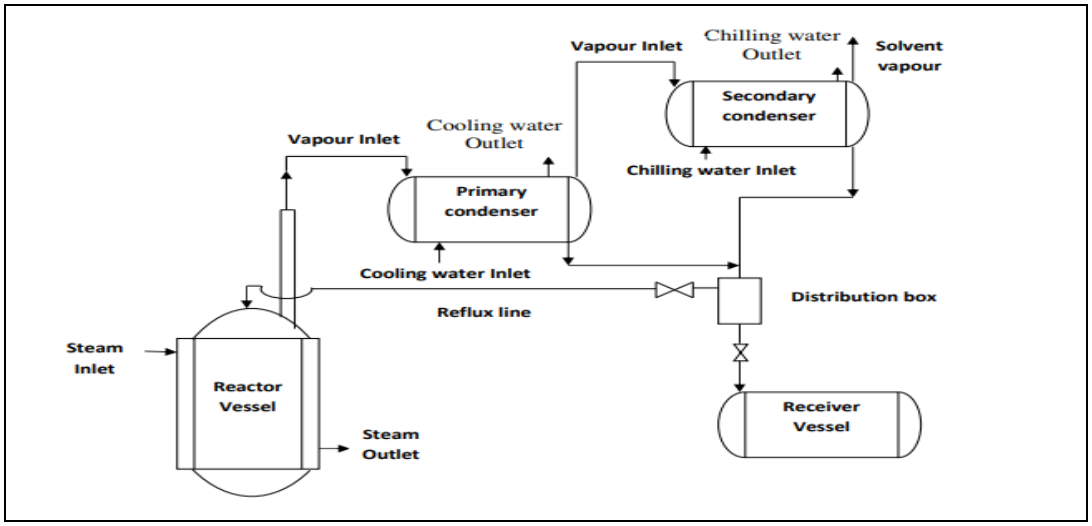
F **Solvent management, VOC emissions etc.**

F-1 **Types of solvents, Details of Solvent recovery, % recovery, reuse of recovered Solvents etc.**

Prod. Group	Product Name	Solvent Name	Qty. Used (MT/MT)	Qty. recovered (MT/MT)	Solvent Losses in Air (A)	Solvent Loss in Effluent - (stripped out) (B)	Distillation Residue (C)	Total Losses (A+B+C)	Solvent Recovery %
Bromine Derivatives									
Group-1	Para Nitro Benzyl Bromide	Methylene Dichloride	0.27	0.26	0.22	0.05	0.01	0.28	96%
		Methanol	1	0.97	0.32	0.08	0.03	0.43	97%
	Para Cyano Benzyl Bromide	Methylene Dichloride	0.25	0.24	0.20	0.05	0.01	0.26	96%
		Methanol	1	0.97	0.32	0.08	0.03	0.43	97%
	Meta Nitro Benzyl Bromide	Methylene Dichloride	0.27	0.26	0.22	0.05	0.01	0.28	96%
		Methanol	1	0.97	0.32	0.08	0.03	0.43	97%
	Para Nitro Benzyl Alcohol	Methanol	0.11	0.11	0.04	0.01	0.00	0.05	97%
	Para	Methylen	0.25	0.24	0.20	0.05	0.01	0.26	96%

		Bromo Benzyl Bromide	e Dichloride							
			Methanol	1	0.97	0.32	0.08	0.03	0.43	97%
	Group-2	Pyridine Hydro bromide	Methylene Dichloride	0.18	0.17	0.14	0.04	0.01	0.19	96%
			Methanol	0.8	0.78	0.26	0.06	0.02	0.34	97%
		Ortho Cyano Benzyl Bromide	Methylene Dichloride	0.25	0.24	0.20	0.05	0.01	0.26	96%
			Methanol	1	0.97	0.32	0.08	0.03	0.43	97%
		Meta Cyano Benzyl Bromide	Methylene Dichloride	0.25	0.24	0.20	0.05	0.01	0.26	96%
			Methanol	1	0.97	0.32	0.08	0.03	0.43	97%
		2,6 Dichloro Benzyl Bromide	Methylene Dichloride	0.63	0.60	0.50	0.13	0.02	0.65	96%
			Methanol	1	0.97	0.32	0.08	0.03	0.43	97%
	Group-3	Bromo OTBN (2-Cyano-4-Bromo Methyl Biphenyl)	Methylene Dichloride	0.27	0.26	0.11	0.03	0.01	0.14	96%
			Methanol	1	0.97	0.16	0.04	0.03	0.23	97%
		Tetra Butyl Ammonium Bromide	Acetonitrile	0.63	0.62	0.10	0.03	0.01	0.14	98%
			Ethyl Acetate	0.61	0.59	0.15	0.04	0.01	0.20	97%
	Group-4	Tetra Ethyl Ammonium Hydroxide	Ethanol	0.15	0.15	0.02	0.01	0.00	0.03	97%
		Ortho Cyano Benzyl Alcohol	Methanol	0.11	0.11	0.04	0.01	0.00	0.05	97%
		Ortho Bromo Benzyl Bromide	Methylene Dichloride	0.25	0.24	0.20	0.05	0.01	0.26	96%
			Methanol	1	0.97	0.32	0.08	0.03	0.43	97%

Antioxidants									
	Tri(tridecyl) phosphate	Dimethyl formamide	0.01	0.007	0.002	0.001	0.0001	0.00	98%
		Isopropyl Alcohol	0.08	0.076	0.04	0.01	0.002	0.05	96%



- Distillation Column will be connected with the sets of condensers having circulation of cooling media in main condenser and child water in vent condenser. Recovered solvent will be collected in the receiving tank. Following measures will be taken to ensure the maximum recovery of solvent.
- Distillation column will be connected with two numbers of condensers. Main condenser will have cooling water circulation while vent condenser will have chilled water circulation.
- The condensers will be provided with sufficient heat transfer area and residence time to achieve maximum recovery.
- The entire manufacturing activities & distillation process will be carried out in totally closed system.
- Mechanical seals will be provided for all the reactors to control losses due to fugitive emission.
- Heating rates during the distillation will be carefully modulated to ensure low vapor load in condenser.
- The condensers having appropriate design and capacity will be installed for solvent recovery.
- Reactor attached to primary condenser having chilled water circulation of 5°C followed by secondary condenser having chilled brine circulation of -15°C followed by scrubber.
- This will ensure that they get max. >95% recovery of solvent and if at all any vapors escapes it will be scrubbed in scrubber.
- The company do not have separate solvent recovery unit within premises, all solvent distillation is/will be done during processing as a part of process.
- Recovered (distilled) solvents generated from the processing are/will be reused back in manufacturing process and or mix solvent (if any) will be sent to solvent recovery facility for recovery/ reuse.

F-2	**VOC emission sources and its mitigation measures for achieving maximum solvent recovery and minimize VOC generation:**

Sr. No.	**Emission Source**	**Probable Pollutant Emission**	**Control measures**

1	Solvent Storage area	VOC (Air Pollutant)	• Provision of breather valve cum flame arrester. • Connected with vent condensers with chilled brine circulation. • Close handling system. • Carry out workplace area monitoring to find out concentration level in ambient air.
2	Solvent Recovery System	VOC (Air Pollutant)	• Primary condenser having chilled water circulation & secondary condenser will have chilled brine circulation along with scrubber to control VOC emission will be provided.
3	Solvents & Liquid raw material transferring to reactor	VOC, Acid fumes (Air Pollutant)	• Feeding of Solvents & liquid raw materials will be carried out by material transfer pumps with mechanical seals.
4	Flange joints of pipeline, pump & motors	VOC (Air Pollutant)	• All the flange joints of the pipelines will be covered with flange guards. • Pumps & motors will be mechanical seal type. • A regular preventive maintenance will be planned to replace or rectify all gaskets, joints etc. • LDAR program will be followed.
5	Process area and manufacturing activities	VOC (Air Pollutant)	• Process will be carried out in closed reactors/ vessels. • Regular checking and maintenance of the same will be carried out to avoid any leakages. • Unit will install portable detection system for VOCs in the process area. In addition, unit shall carry out regular workplace monitoring.

F-3 | 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	Weekly	Immediately

	dripping		
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.
- Record-keeping and reporting requirements.

The following LDAR Activities will be carried out:

Monitoring of Losses

- Workplace VOC monitoring through VOC meter,
- Photo ionization detector (PID) or flame ionization detector (FID) Instrumental method of measurement of leaks.
- Audio, visual and olfactory (AVO) leak detection; and
- Soap bubble method.
- Periodic Leakage Audit at Plant

Preventive Maintenance to prevent Leakages

- To prevent leakage from Pump, Seals, Valves etc. preventive maintenance is carried out periodically as per plan.
- In case of any recurring problem, action plan shall be prepared, or frequency shall be revised.

F-4 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.	Acetonitrile	HDPE Drum	By Pump & Fix Pipeline	Direct Vessel	• Leak from Valve (Failure of the valve packing & O-ring) • Leak from pump (Occur at seal) • Leak from tank • Leak from Connector	• For using Gas Detector by PID Sensor technology.	• If valve shall be leak stop pumping system and replace with new valve. • When pump seal shall be leak immediately stop	• Check Thickness of tank • Using fix pipeline for solvent transfer • Minimum use of Connectors & Joins • Provided sufficient Space (Solvent
2.	Ethanol	HDPE Drum	By Pump & Fix Pipeline	Direct Vessel				
3.	Ethyl Acetate	HDPE Drum	By Pump & Fix Pipeline	Direct Vessel				
4.	Isopropyl Alcohol	HDPE Drum	By Pump & Fix	Direct Vessel				

			Pipeline		s • Leak from open ended lines		solvent transfer and immediately repair or replace with new seal.	Unloading area) for Solvent Tanker
5.	Iso Butanol	HDPE Drum	By Pump & Fix Pipeline	Direct Vessel				
6.	Methanol	Tank	By Pump & Fix Pipeline	Direct Vessel				
7.	Methylene Dichloride	Tank	By Pump & Fix Pipeline	Direct Vessel				

Comments for F-1, F-2, F-3 & F-4

- 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 not 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).

G **Hazardous waste**

G-1 **Hazardous waste management matrix**

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Sr. No.	Type of Waste	Source of Generation	Schedule & Catg. *	Quantity (MT/Year)	Mode of Disposal
1.	Used Oil	Various Machineries	I-5.1	0.5	Collection, storage, Transportation sale to GPCB authorized end user /re-processor or re-use within the premises as a low-grade lubricant and/or waste co-processing facility.
2.	Empty Barrels / Discarded Carboys / Drums / Cylinders	Handling of raw materials, products, etc.	I-33.1	920	Collection, storage, reuse or returned to its supplier or sell to Authorized Recycler under Rule-9.
3.	ETP sludge	Effluent Treatment Plant	I-35.3	288	Collection, Storage, Transportation, and disposal to common TSDF and/or waste co-processing facility.
4.	Spray Dryer Salt	From spray dryer	35.3	1080	Collection, Storage, Transportation, and disposal to common hazardous waste management facility.

5.	Process Residue	Manufacturing Process	I-28.1	18.5	Collection, storage, Transportation, and disposal at CHWIF and/or waste co-processing facility.
6.	Spent Activated Carbon	Manufacturing Process	I-28.3	108	Collection, storage, Transportation, and disposal at CHWIF and/or waste co-processing facility.
7.	Bleed Liquor	Scrubbing System	I-35.1	720	Collection and conveyed to ETP for further treatment and disposal.
8.	Distillation Residue	Manufacturing Process	I-20.3	156	Collection, storage, Transportation and disposal at CHWIF and/or waste co-processing facility.
9.	Spent Solvent	Manufacturing Process	I-28.6	14835	Collection, Storage and send to in-house Solvent Recovery Facility and reuse within premises.
		Solvent Stripper		90	
10.	Spent HCl Solution	Air Pollution Scrubbing System	II-C2	295	Collection, storage and sell to end- users having valid permission from GPCB as per Haz. Waste Rule-9

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Comments:

- Waste management includes hazardous waste management and other solid waste management. Hazardous waste-management comprises of collection, storage, transportation, disposal, incineration, and recycle of waste. SEAC examined the details provided and found it as per requirement.
- The project proponent has to obtain membership of TSDF site & CHWIF before obtaining CTO of GPCB.

G-2	Non- Hazardous waste management matrix

1. Fly Ash generation – 342 MT/Year.: It will manage as per the Fly ash Notification 2009 & its amendment time to time, by sending it to brick manufacturer or cement industry and it shall be ensured that there is 100% utilization of fly ash to be generated from the unit.
2. MSW – 4.5 MT/Year: Collection, Storage and send to an onsite OWC and its manure will be used for gardening within premises.

Comments:

- 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.

H	**SAFETY details**
H-1	**Details regarding storage of Hazardous chemicals**

- **Storage of Hazardous chemicals in Tanks**

Sr. no	Name of Chemical	Capacity of Tank	Number of Tanks	Hazardous Characteristics of Chemical
1	Acetic Acid	20 KL	1	Flammable, Corrosive
2	Bromine	10 KL	2	Flammable, Corrosive, Health Hazard, Acute toxicity
3	Methanol	20 KL	2	Flammable, Acute toxicity
4	Methylene Dichloride	20 KL	1	Toxic, Flammable
5	M-Nitro Toluene	20 KL	1	Toxic, Flammable
6	Nitric Acid	20 KL	1	Flammable, Corrosive, Health Hazard, Oxidizing
7	Para Nitro Toluene	20 KL	1	Acute toxicity, Health Hazard, Flammable

Safety Measures for PESO Underground storage tank farm: None

- **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.	Acetonitrile	HDPE Drum	16	Flammable, Acute Toxic
2.	Ammonia	HDPE Drum	37	Acute Toxic, Corrosive
3.	Ethanol	HDPE Drum	15	Flammable, Toxic, Health Hazard
4.	Ethyl Acetate	HDPE Drum	15	Flammable, Toxic
5.	Formic Acid	HDPE Drum	1	Flammable, Acute Toxic, Corrosive
6.	Hydrogen Bromide	HDPE Drum	47	Corrosive, Toxic
7.	Hydrogen Peroxide	HDPE Drum	75	Corrosive, Health Hazard
8.	Iso Butyl Alcohol	HDPE Drum	27	Flammable, Toxic, Health Hazard
9.	Iso Propyl Alcohol	HDPE Drum	4	Flammable, Toxic, Health Hazard
10.	Phenol	HDPE Drum	24	Flammable, Corrosive, Irritant, Health Hazard, Oxidizing
11.	Phosphorus Trichloride	HDPE Drum	22	Toxic, Corrosive
12.	Pyridine	HDPE Drum	32	Flammable, Toxic, Health Hazard
13.	Sodium Hydroxide	HDPE Bag	132	Corrosive, Health Hazard
14.	Triethyl Amine	HDPE Drum	13	Flammable, Toxic, Corrosive, Health Hazard

- **Safety details of Hazardous Chemicals:**

Type of Hazardous Chemicals	Safety measures
FLAMMABLE & EXPLOSIVE	• Separate Isolated storage area will be constructed as per explosive department requirement and separation distance will be maintained, accordingly. (if required) • Workers and Operators handling such materials will be trained for the hazards (fire/explosion, health, and chemical reactivity) associated with them. • Lightening arrestor will be provided on the top of tallest structure.

	• NFPA label (hazard identification), capacity and content will be displayed on respective container. • Every time it will be ensured that containers are cleaned, and no chemicals are there 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. • 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	• 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 may be protected by suitable coatings, impervious to and unaffected by corrosives. • All containers shall be clearly labelled to indicate their contents and shall bear the symbol for corrosives. • Adequate ventilation and exhaust arrangement will be provided. • 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/eye washers will be provided.
TOXIC CHEMICALS	• All the toxic chemicals are pumped in closed loop to the reactors to avoid fugitive emission • All the toxic chemicals will be stored under adequate safe condition. The storage of corrosive and toxic chemicals will be segregated from each other. • Smoking is prohibited inside the factory. • Employees will be properly trained for handling of toxic and corrosive chemicals. All pipe joints will be provided with heavy duty gaskets to prevent any leakage. Self-breathing apparatus will be provided, and workers will be trained about their use also. • Spare barrels of sufficient quantity will be kept ready for any emergency spillage or leakage. Drum trolley will be used for the movement of drums of hazardous chemicals. Liquid chemicals will be transferred by mechanical seal pump through closed pipeline.

REACTIVE CHEMICALS	• Minimum quantities shall be stored. • It shall be stored away from incompatible chemicals, sources of heat, ignition sources. • 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. • Appropriate levels of security, hazard warning notices, fences, patrols. Control access including vehicles shall be ensured. • Appropriate gas/vapour/fume/pressure venting, e.g. flame arrestors, scrubbers, absorbers, stacks. • Adequate natural or forced general ventilation of the storage area. • All containers shall be clearly labelled to indicate their contents and shall bear the symbol for Reactive chemical(s). • Appropriate fire protection (sprinkler, dry powder, gas) shall be provided. Adequate access for both normal and emergency purposes with alternative routes shall be ensured.

➢ **Applicability of PESO:** The company shall obtain the required permission.

Comments:

➢ Committee was of the opinion that the provisions of PESO, licensing, condition compliance, monitoring, fall within the preview of The Petroleum and Explosives Safety Organization (PESO) and SEAC has very limited role in this. Nevertheless SEAC has examined it. The PP has submitted that the list of raw materials/products proposed to be produced along with the quantity, attract the provisions of PESO and they will abide by the requisite legal compliances with reference to storage and safety. SEAC has taken note of it.

Q	**Types of hazardous Processes involved and its safety measures:**

Types of process	Safety measures including Automation
Amination Process:	• Integrated DCS (Distributed Control System) base process controls and operation of plant will be installed. • Valve, pipeline will be checked and maintain, in good condition. • Sprinkler system provision will be made in storage area. • Ammonia leakage identification will be done by HCL torch. • Ammonia leakage control Kit will be kept available at store. • Hazard identification, control measures in case of leakage and first Aid procedure will be prepared and displayed at handling locations. • Sprinkler point and Eyewash/ Safety shower will be provided near Ammonia header point. • Adequate PPE will be kept handling 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 storage area. • Spark arrester will be installed on all vehicles inside the premises. • SBA set, Canister mask and airline mask will be provided. • Earthing& bonding will be provided.

Bromination Process:	• Bromine handling areas will be clearly marked and restricted to qualified, trained personnel only. • Bromine process area will be done with good ventilation • We will maintain bromine vapor concentration in the work area to less than 0.1 ppm with adequate exhaust hoods, ventilation systems and scrubbers. Analyze air for proper control. • Transfer or repackage bromine only in a controlled, closed environment. • Exhaust ventilating systems will be used in enclosed areas where bromine is handled. • Personal Protective Equipment's are to be made compulsory, when handling Bromine • Integrated DCS (Distributed Control System) base process controls and operation of plant will be installed.
Exothermic	• Exothermic reaction will be controlled by adequate dosing of reaction chemicals in a fixed time (not short duration) having adequate cooling water circulation in jacket of reaction vessels. Thus, any energy generated due to exothermic reaction will be controlled by external cooling circulation and therefore vessels will not be pressurized. • Reactant mass in reactor should be added such that surface-to-volume ratio is maintained and runaway reaction is prevented. • Cooling – jacketed system for the reactor should be in place to maintain the reaction temperature. • Integrated DCS (Distributed Control System) base process controls and operation of plant will be installed.
Nitration Process:	• The over-nitration and the unexpected decomposition can lead to very high • Chemical reactivity hazards with dangerous consequences. Such reactions are exothermic leading to generation of heat that can accelerate the reaction causing a rapid temperature and pressure increase in a vessel. Reactant mass in reactor should be added such that surface-to-volume ratio is maintained and run away reaction is prevented. • The Reactor will have Temperature control system cascaded with cooling water system consisting of Cooling tower, pumps and circulating system. In case of high temperature, the steam will get cut off and cooling water will start circulating through the reactor coils. Alternately Chilled water system is also provided for extreme emergencies. • The Reactor will have rupture disc and safety valves which will take care of excess pressure and the outlet of which is connected to the scrubbers. • The Reactor will also have a separate high local vent with pressure relief valve which is connected to a catch pot with water. The catch pot contents will be separated for recycle purpose. This will be additional safety, if 1 & 2 fail at the same time, which is unlikely. • In case of contact with eyes, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention immediately. • In case of contact with skin, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately. • Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Get medical attention. • If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately. • Evacuate the victim to a safe area as soon as possible

	• Integrated DCS (Distributed Control System) base process controls and operation of plant will be installed.

H-3	Details of Fire Load Calculation

Total Plot Area:	8770.55 m^2
Area utilized for plant activity:	10423 m^2
Area utilized for Hazardous Chemicals Storage:	2273 m^2
Number of Floors:	G+3
Water requirement for firefighting in KLD:	38.19
Water storage tank provided for firefighting in KLD:	300
Details of Hydrant Pumps:	Yes, One electrical (273 m^3/hr.) and one diesel pump (273 m^3/hr.) at 75 m head and Jockey pump 35 LPM.
Nearest Fire Station:	Dahej SEZ Fire Station – Approx. 9 km away from project site
Applicability of Off-Site Emergency Plan:	-

Comments:

- 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.

H-4	Details of Fire NOC/Certificate:

Unit will be obtained fire NOC after receipt of Environment Clearance.

H-5	Details of Occupational Health Centre (OHC):

-

Number of permanent Employee:	50
Number of Contractual person/Labor:	--
Area provided for OHC:	400 m^2

Number of First Aid Boxes:	15
Nearest General Hospital:	Dahej Health & Welfare Society Hospital: approx. 9 km away from project site
Name of Antidotes to be store in plant:	Required antidotes will be available at site.

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Comments

- Project proponent has provided Occupational health center with adequate provision of manpower, equipment and operational cost. SEAC finds it as per the provisions of Gujarat Factory Rules 1963.

H-6	**Details of Emergency measures proposed and preparedness action for chemicals and fire explosion etc.**

I	**Details of Membership for Common Facility:**

Sr. No.	Membership for Common Facility	Membership Certificate issuing agency Date of Issue and validity of membership
01	CETP	Not required, as our proposed unit is ZERO LIQUID DISCHARGE (ZLD).
02	TSDF site	Unit has obtained membership of common hazardous waste management facility of RSPL-Recycling Solution Pvt. Ltd. / SEPPL-Saurashtra Enviro Projects Pvt. Ltd.
03	Common Hazardous Waste Incineration Facility	
04	Common Spray Drying Facility	Not required. Since, in-house spray dryer facility will be utilized.
05	Common MEE Facility	Not required
06	Common Conveyance System	Dahej -3 GIDC (Water Supply)
07	PESO permission	To obtain permission under PESO, site visit is mandatory by officials from PESO for the inspection of the facility for which permission is sought. Hence the company needs to develop storage facilities as stated in the EC application. Then after the company can apply for permission required from PESO.
08	FIRE permission	It will be obtained after receipt of Environment Clearance
09	Health Certificate	It will be obtained after receipt of Environment Clearance

J	**Reduce / Reuse / Recycle measures adopted.**

(a) Reduce

Sr. No.	Item	Quantity	% Percentage
	Empty Containers	15 MT/M	30

(b) Reuse

Sr. No.	Item	Quantity	% Percentage
1.	Solvents		
	Acetonitrile	31.66	98
	Ethanol	15.00	97
	Ethyl Acetate	30.57	97
	Methanol	952.00	97
	Methylene Dichloride	273.50	96

(c) Recycle

Sr. No.	Item	Quantity	% percentage

K **EMP Details**

Sr. No.	Environmental Management Aspect	Capital Cost [Rs.]	Recurring Cost/Annum [Rs.]	Remarks
1.	**Air Pollution** (APCM i.e., multi cyclone, bag filter, scrubber stack monitoring facility & other supporting features)	70,00,000	8,00,000	Capital cost will include air pollution control devices and the recurring cost will include operation and maintenance of pollution control devices and stack emission monitoring & sample analysis charges.
2.	**Water Pollution** (Stripper, Spray dryer, ETP, and dispose to CETP, online monitoring system etc.)	95,00,000	55,00,000	Capital cost will include cost of ETP & spry dryer etc. and recurring cost will include maintenance charges, manpower salary, sample analysis charges & cost for operating ETP etc.
3.	**Noise Pollution** (Acoustic enclosure, vibration pad, PPE etc.)	50,000	50,000	Capital cost will include providing adequate sound enclosures and recurring cost will include monitoring of noise level.
4.	**Hazardous / Solid Waste Management** (storage area for hazardous waste, TSDF/ CHWIF Membership)	3,00,000	60,00,000	Capital cost will include expense for providing storage area for hazardous waste and recurring cost will be for solid/ hazardous waste packing & its disposal and for the membership of TSDF site.
5.	**Green Belt** (Tree plantation, maintenance)	3,65,500	1,75,000	Capital cost will include development of green belt within and outside the project premises and recurring cost will include maintenance charges, manpower salary etc.
6.	**Occupational Health & Safety** (PPE; first Aid; system, medical facility, safety training /awareness and safety audit etc.)	2,50,000	2,50,000	Capital cost will include cost of OHS Centre, stock/storage of PPE kits (safety helmet, safety glasses, gloves, safety shoes, first aid kit, protective jacket, Anti dots) and recurring cost will include maintenance charges medical check-up etc.
7.	**Fire & Safety and DCS system** Firefighting system and plant automation /DCS system	35,00,000	8,75,000	Capital cost will include cost of Firefighting system, DCS system, water storage tank (for fire), Automatic Sprinkler system, jockey pumps for fire system, Fire extinguisher (Dry Chemical Powder,

				Foam, Water, CO2 type, Sand Bucket Stand), Fire Hydrant Post, Hose Pipe, Safety boards, Safety shower, Eye Wash fountains, SOP for chemical hazards management, LDAR system, Mock drill / Training of emergency preparedness plan, and Medical Facility and recurring cost would include their maintenance charges, audits.
8.	**Miscellaneous** (QMS/EMS/OHAS system implementation, certification & monitoring audit etc.)	5,50,000	3,50,000	Capital cost would include expense for Miscellaneous activity such as QMS/ EMS/ OHAS system management implementation, certification, rain water harvesting and recurring cost would include its renewal/ maintenance, audit etc.
9.	**CER Activities**	30,00,000	0	CER activity will be implanted within nearby villages of the project site, during the period of 3 year after obtaining EC/starting the project activities as per implementation schedule.
	Total	**2,45,15,500**	**1,40,00,000**	

Comments:

- The overall environment management plan (EMP) provided for capital and recurrent cost for waste water treatment, air emission control, noise control, hazardous waste disposal, fire safety, occupational health, green belt and corporate social responsibility was deliberated and found satisfactory.

L | **Details of CER** -

PP shall carry out CER activities as below:

S. N.	Need Identified for CER Plan	Activities & Beneficiary Village/ Location	Budgetary Provision (Rs. in Lakhs) & Implementation Period (F.Y. 2023-24 to 2025-26)			
			1st Year	2nd Year	3rd Year	Total
1.	**Provision of solar lights in the villages**	Solar light, at common property of surrounding villages at Vav and Paniadara villages	2	2	-	**4**
2.	**Swachch Bharat Mission (SBM)**	Funds for One door to door waste Collection Vehicle & OWC (Organic Waste Convertor) unit to the Village Panchyat of Sambheti, Kadodara, villages.	5	5	-	**10**

3.	**Ensuring Safe drinking water**	Provision of supply of drinking water facility in terms of RO, water treatment system, etc., at panchayat Bhawan/ Schools at Sambheti, Janiadara, Galenda villages.	2	2	2	**6**
4.	**Infrastructure development/ repair and tree planation**	Rain water harvesting structure / village's pond renovation & Tree plantation at Sambheti village.	-	-	10	**10**
	TOTAL		**9**	**9**	**12**	**30**

14) **DELIBRATION AND RECOMMENDATION:**

"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:

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. 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.
3. Leak Detection and Repair (LDAR) program shall be prepared and implemented as per the CPCB guidelines. LDAR Logbooks shall be maintained.
4. 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.
5. 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.
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.
   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 provide water sprinkler to the ammonia storage cylinder.

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

l) Unit shall provide effective fire hydrants, water monitors & foam application system at solvent storage area and unit shall provide adequate safety system such as water sprinklers, water curtains, foam pouring system etc. to restrict cascade fire emergency in solvent storage area.

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

n) Unit shall Store Bromine Bottle in cool dry separate area, out of direct sunlight.

o) Unit shall provide safety valve and rapture disc, as well as auto dump or auto quench/, suppress system for nitration vessel safety.

p) Unit shall provide water sprinkler to the ammonia storage cylinder.

q) Unit shall provide safety valve and rapture disc, as well as auto dump or auto quench/, suppress system for exothermic reaction vessel safety.

WATER

9. Total water requirement for the project shall not exceed 98 KLD. Unit shall reuse 56 KLD of treated effluent within premises. Hence, fresh water requirement shall not exceed 42 KLD and it shall be met through GIDC water supply only. Prior permission from concerned authority for withdrawal of water shall be obtained.
10. The industrial effluent generation from the project shall not exceed 48.65 KLD.
11. Management of Industrial effluent shall be as under:
    - **High COD Stream (10.25 KLD):**
    - ✓ 10.25 KLD process effluent shall be treated in Solvent stripper, pre-treatment and in-house spray dryer.
    - **Low COD Stream (40.4 KLD):**
    - ✓ 31 KLD process effluent, 7.4 KLD effluent from utilities, washing & scrubber and 2 KLD, domestic effluent shall be treated in primary, secondary & tertiary ETP followed by RO. 33 KLD RO permeate shall be reused within premises and 7.4 KLD, RO reject shall be disposed through in-house spray dryer.
12. Complete Zero Liquid Discharge [ZLD] status shall be maintained all the time and there shall be no drainage connection from the premises.
13. Unit shall feed wastewater to in-house Spray dryer 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.
14. Domestic wastewater generation shall not exceed 2 KL/day for proposed project and it shall be treated in ETP and disposed through spray dryer. It shall not be disposed off into soak pit.
15. The unit shall provide metering facility at the inlet and outlet of ETP, Stripper, Spray Dryer & RO and maintain records for the same.
16. Proper logbooks of ETP Stripper, Spray Dryer & RO; 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 boiler, TFH, spray dryer with HAG and D G Sets as per the point no. E-2 as mentioned above.
18. Unit shall provide adequate APCM with flue gas generation sources to achieve the norms prescribed by GPCB.
19. Unit shall provide adequate APCM with process gas generation sources as the point no**. E-3** as mentioned above.
20. PP shall use approved fuels only as fuel in boilers.
21. The fugitive emission in the work zone environment shall be monitored. The emission shall conform to the standards prescribed by the concerned authorities fromtime to time (e.g. Directors of IndustrialSafety& Health). Following indicativeguidelines shall also be followed to reducethe fugitive emission.

    - Internal roads shall be either concreted or asphalted or paved properly toreducethe fugitive emission during vehicular movement.
    - Air borne dust shall becontrolled 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.

22. Regular monitoring of Volatile Organic Compounds (VOCs) shall be carried out in the work zone area and ambient air.
23. Forcontrol of fugitive emission, VOCs, following steps shall be followed :
    - ✓ Closed handling and charging system shall be provided for chemicals.
    - ✓ Reflux condenser shall be provided over Reactors / Vessels.
    - ✓ Pumps shall be provided with mechanical seals toprevent leakages.
    - ✓ Air borne dust at all transfers operations/ points shall be controlled either by spraying water or providing enclosures.
24. 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.

25. Regular monitoring of ground level concentration of PM_{10}, $PM_{2.5}$, SO_2, NOx, HCl, HBr and VOCs shall be carried out in the impactzoneand 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 toexceed the prescribed limits, necessary additionalcontrol 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:

26. All the hazardous/ solid waste management shall be taken care as per the point no. F-1 as mentioned above.
27. 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.
28. 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.
29. 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.
30. The project proponent has to obtain membership of TSDF site & CHWIF before obtaining CTO of GPCB.
31. 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

32. The PP shall develop green belt within premises (2921.3 Sq. m i.e. 33.3 % 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:

33. The project proponent shall carry out the activities of Rs 30 Lakhs [Solar light, at common property of surrounding villages at Vav and Paniadara villages; Funds for One door to door waste Collection Vehicle & OWC (Organic Waste Convertor) unit to the Village Panchyat of Sambheti, Kadodara, villages.; Provision of supply of drinking water facility in terms of RO, water treatment system, etc., at panchayat Bhawan/ Schools at Sambheti, Janiadara, Galenda villages and Rain water harvesting structure / village's pond renovation & Tree plantation at Sambheti 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.

34. All the recommendations, mitigation measures, environmental protection measures and safeguards proposed in the EIA report of the project prepared by M/s. Paramarsh (Servicing Environment & Development) 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.

COMPLIANCE OF ENVIRONMENT CLEARANCE/REPORTING/ADMINISTRATION/APPEAL:

35. 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.
36. 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.
37. Designated key person shall submit six monthly compliance report to SEIAA/SEAC, MOEF&CC, GPCB and Nodal Department of the Government.
38. 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.
39. 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.
40. 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.
41. 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

7.	SIA/GJ/IND3/61831/2021	**M/S.Enios Industries Pvt.Ltd.** Plot No: D-2-CH-393 Dahej –II Indu. Estate, Vagra Bharuch	EC-Reconsideration (Refer back again)

Category: **5(f)**

Project status: **New**

1) Project proponent (PP) has submitted online application vide no. SIA/GJ/IND2/61831/2021 and SEAC has accepted on dated 18.11.2021 for obtaining Environmental Clearance.
2) PP has applied for Environmental clearance and the SEAC recommended the project for grant of environmental clearance vide this office letter no. EIA-10-2021-IND2/3985 dated: 01.08.2022 for conditions as mentioned therein.
3) The case was referred back by the SEIAA, Gujarat vide Letter No. SEIAA/GUJ/EC/2083/2022 dated 13.09.2022 with the following point:

1. Details of noise pollution control measures are not given in the EMP.
2. Please give justification for decrease of industrial waste water generation 4.1 KLD against water consumption 202 KLD.
3. Data of waste water generation in disposal given in table D-3 and table D-4 in recommendation letter are not matched.
4. Segregation of high COD and low COD are not given in the recommendation letter.
5. Details of treatment of industrial waste water along with segregation of the stream are not given.

4) SEAC Committee has reconsidered in the SEAC meeting dated 10.10.2022 and recommended the project to SEIAA, Gujarat vide letter No:EIA-10-2021-IND2/4754 dated: 21.11.2022 for grant of Environmental Clearance with condition as mentioned in earlier Recommendation Letter vide No: EIA-10-2021-IND2/3985 dated: 01.08.2022.

5) Now the case was again referred back by the SEIAA, Gujarat vide Letter No. SEIAA/GUJ/EC/2887/2022 dated 07.12.2022 with the following point:

1. PP has not submitted clarification of SEIAA queries 3 & 4.

6) Project proponent submitted reply vide email dated 09.12.2022 with supporting documents.

7) The case was reconsidered in the SEAC meeting dated 15.12.2022.

8) PP and Technical expert remained present during video conference meeting dated: 15.12.2022.

9) PP presented the following details:

✓ **Query-3:** Data of waste water generation in disposal given in table D-3 and table D-4 in recommendation letter are not matched.

Reply: PP submitted that they have checked the data in Table D-3 and Table D-4 in SEAC Minutes and found that there is no deviation. Though Table D-3 and Table D-4 are as under:

D-3 **Waste water generation (KLD)**

Category	Waste water KLD	Remark
1. Domestic	1.5	To ETP-1
2. Industrial		
Process	65.0	45 KLD dilute stream to ETP-1 and 20 KLD concentrated stream to ETP-2
Washing	10.0	To ETP-1 (Dilute stream)
Boiler	2.0	To ETP-1 (Dilute stream)
Cooling	2.0	To ETP-1 (Dilute stream)
Others (Scrubber)	1.0	To ETP-1 (Dilute stream)
Total Industrial waste water	**80.0**	
Total [A + B]	**81.5**	

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Note: Wastewater generation will be less than the water consumption due to losses like drying loss of product (47.0 KLD), 63 KLD spent H_2SO_4 recovery, Water loss during condensation from boiler (8.0 KLD), Atm. Evaporation from cooling tower (8.0 KLD).

D-4 Break-up of waste water disposal & facility (For Domestic & Industrial)

Sr. no.	Quantity KLD	Facility
1.	61.5	Dilute stream (Low COD stream) from process (Mix Cleaves Acid, 4 NAP), scrubber, washing, utilities and domestic sewage will be treated in ETP-1 and passed through RO. Out of which 30 KLD will be send to CETP Dahej and RO permeate 31.5 KLD will be reused in process, utility and gardening. We will have separate production line for above 2 products and primary collection is separate for this stream.
2.	20.0	High Concentrated stream (High COD stream) of Dye intermediate (MPDSA, 4 NADAPSA, 2 NADAPSA, 4 ADAPSA, 6-Acetyl OAPSA, MPDDSA, 2 Piridone OAPSA, 6 NAPSA) process will be treated in ETP-2 and evaporated in in-house/common drying facility. We will have separate production line for above products and primary collection is separate for this stream.
Total	**81.5**	

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- ✓ **Query-4:**Segregation of high COD and low COD are not given in the recommendation letter
- ✓ **Query-5**: Details of treatment of industrial waste water along with segregation of the stream are not given.

Reply: The details of segregation of streams, mechanism for segregation and ETP (D-4 table), capacities are mentioned in D-5 and D-6 (water balance diagram) as under:

D-5	Treatment facilities
	Source of effluent generation will be process, scrubber, utilities & washing and domestic sewage. Effluent will be segregated in 2 parts as below. **Segregation of effluent:** **High COD effluent (20 KLD)** from Dye intermediates (MPDSA, 4 NADAPSA, 2 NADAPSA, 4 ADAPSA, 6-Acetyl OAPSA, MPDDSA, 2 Piridone OAPSA, 6 NAPSA) process will be primary treated in ETP-2 and supernatant of primary treated effluent is evaporation in in-house/common drying facility. **Low COD effluent (61.5 KLD) from process (Mix Cleaves Acid, 4 NAP), scrubber, washing, utilities and domestic sewage** will be treated in ETP-1 and after treatment it will be passed through to RO; Out of which 30 KLD will be disposed off at CETP Dahej for further treatment and disposal and RO permeate 31.5 KLD will be reused within premises. **ETP Details:** **ETP-1 (Dilute stream):** Effluent generation from process (dilute stream), scrubber, washing, utilities and domestic sewage will be treated in ETP-1. ETP will consist of collection cum neutralization tank, lime-alum-poly flock dosing tanks, Filter press, holding tank. After primary treatment, effluent will be passed through RO; out of which 30 KLD will be disposed off at CETP Dahej for further treatment and disposal and RO permeate (31.5 KLD) will be reused. Design capacity of ETP will be 100 KLD. **ETP-2 (Concentrated stream):** Concentrated stream from dye intermediate process, after segregation of spent H_2SO_4, will be collected in collection cum neutralization tank. Lime is added for adjustment of pH. This water is then pumped to filter press. Filtrate water from the filter press is collected in collection tank. Effluent will be evaporated in in-house/common drying facility. Design capacity of ETP will be 60 KLD. **Name and size of ETP-1 units (Capacity-100 KLD)**

Sr. No.	Name of unit	No	Capacity
ETP -1	Dilute stream		
1	Collection Tank	2	50 KL
2	Neutralization Tank	2	25 KL
	i).Lime Dosing Tank	1	5 KL
	ii). Alum Dosing Tank	1	2 KL
3	Filter Tank	1	36 " PP
4	Holding Tank	1	50 KL

Name and size of ETP-2 units (Capacity-60 KLD)

ETP -2	Concentrated stream		
1	Collection Tank	2	30 KL
2	Neutralization Tank	2	15 KL
	i).Lime Dosing Tank	1	5 KL
	ii). Alum Dosing Tank	1	2 KL
3	Filter Tank	1	36" PP
4	Holding Tank	1	25 KL

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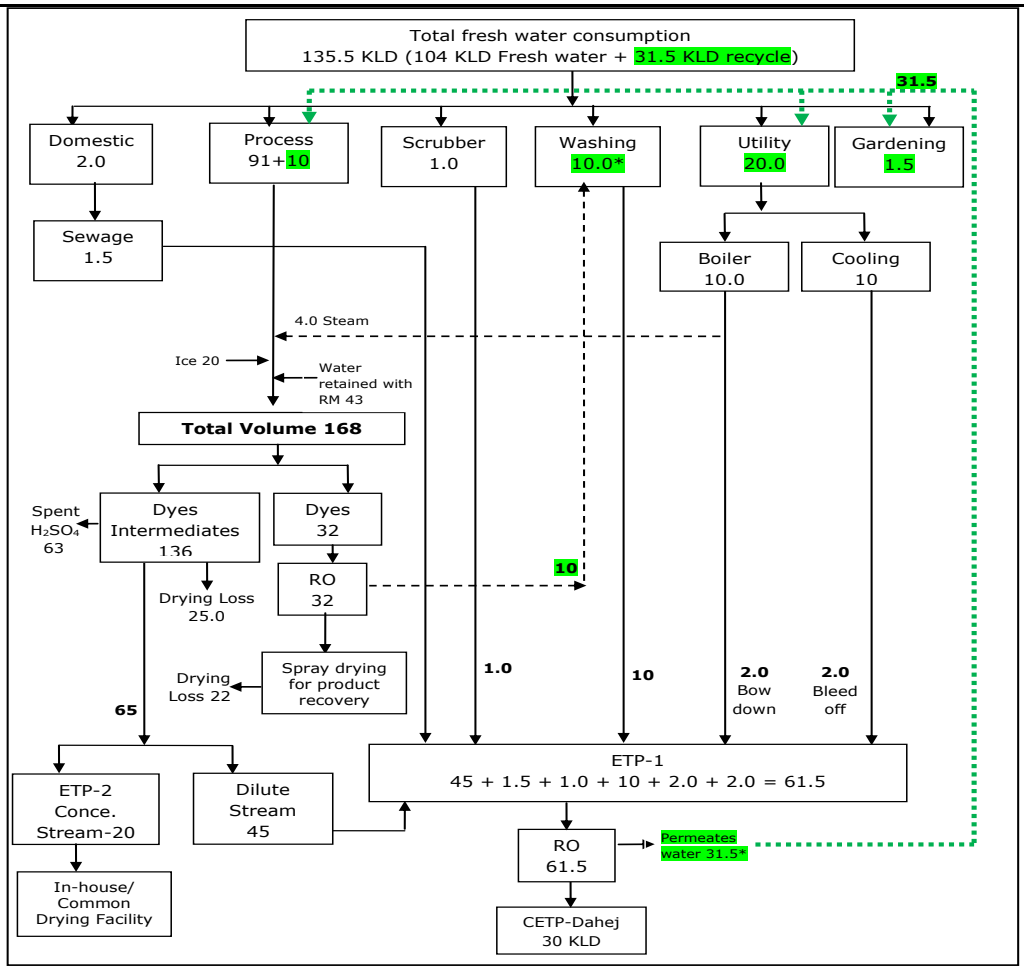
D-6 **Simplified water balance diagram with reuse / recycle of waste water**



10) Committee found submission of project proponent satisfactory.

After detailed discussion, it was decided to recommend the project to SEIAA, Gujarat for grant of Environmental Clearance condition remaining unchanged via Recommendation Letter forwarded from SEAC vide No. EIA-10-2021-IND2/3985 dated: 01.08.2022 and letter No:EIA-10-2021-IND2/4754 dated: 21.11.2022.

8.	SIA/GJ/IND3/80077/2022	**M/s. Meghmani Finechem Limited** Plot No. D2/CH-27, GIDC Dahej-2, Tal: Vagra, Dist: Bharuch, Gujarat- 392130	EC-Reconsideration

Category of the unit: **5(f)**

Project status: **New**

1) Details of Application: **(Revised)**

1.1. Type of application:	EC-New
1.2. Proposal no.	SIA/GJ/IND3/80077/2022
1.3. Category of Project :	5 (f) – B1
1.4. Date of application : (Online accepted by SEAC)	16th July 2022

1.5. Documents Submitted by Project Proponent(PP)	Form -1, Pre-feasibility Report, EMP
1.6. TOR No. & Date :	File No. SIA/GJ/69304/2022dtd: 17/04/2022
1.7. Technical expert / Environmental Consultant :	M/s. Excel Enviro Tech
1.8. SEAC Meeting No. and Date:	512th SEAC-2 meeting dated 1 Nov 2022
1.9. ADS vide letter dated :	28.11.2022
1.10. Reply Submitted by PP dated:	02/12/2022
1.11. Revised Consideration SEAC Meeting No. and Date:	Meeting No. 540th Dated, 15/12/2022

2) This is a new project proposed for manufacturing of synthetic organic chemicals as mentioned below:

Sr. No	Name of the Products	CAS / CI no.	Quantity (MT/Month)	End-use of products
FLUORINATION/Chlorination				
1	Benzotrifluoride – BTF	98-08-8	2000	Speciality Chemicals
2	Para chlorobenzotrifluoride PCBTF	98-56-6		
3	2,4-dichlorobenzotrifluoride	320-60-5		
4	2,6-dichlorobenzotrifluoride	104359-35-5		
5	Pentafluoro benzoic acid	602-94-8		
6	Tetra fluoro benzyl alcohol	53072-18-7		
7	4-(Heptafluoroisopropyl)-2-methyl aniline	238098-26-5		
8	2,4 6 Tri Fluoro Benzonitrile	96606-37-0		
9	4 Fluoro Phenol	371-41-5		
10	2 Fluoro Phenol	367-12-4		
11	2 chloro 4-fluoro- benzophenon	1806-23-1		
12	4,4,-difluorobenzophenon	345-92-6		
13	4 fluorobenzophenone	345-83-5		
14	1,3-Difluoro Benzenes	372-18-9		
15	4-Fluoroaniline	371-40-4		
16	2-fluoroaniline	348-54-9		
17	2,4-difluoroaniline	367-25-9		
18	Hydrofluoroolefine (HFO -1234 ze)	754-12-1		
19	Tri FluoroMethoxy Benzene	407-14-7		
20	Bis (TrifluoroMethoxy benzene)	--		
21	KF (Potassium Fluoride)	7789-23-3		
22	34DCBTF (3,4-dichlorobenzotrifluoride)	328-84-7		
23	1,3 Hexafluoro meta Xylene	402-31-3		
24	2,6-Difluorobenzyl alcohol	19064-18-7		
25	3-Amino -4-Chloro BenzoTrifluoride	98-16-8		
26	4-Chloro Benzotrifluoride	98-15-7		
27	3-Chloro-4-Fluoro Benzotrifluoride	78068-85-6		
28	3 Bromo-4 fluoroBenzotrifluoride	68322-84-9		
29	3- TrifluoromethylAcetophenone (TFMAP)	349-76-8		
30	3-Hydroxy Benzotrifluoride	454-81-9		
31	3-trifluoromethyl Phenyl acetonitrile	2338-76-3		
32	2,4-Dichloro 3,5 dinitrobenzotrifluoride	29091-09-6		

33	2-Trifluoromethyl Benzamide	360-64-5		
34	4 Fluoro Nitro benzenes	350-46-9		
35	2 Fluoro Nitro benzenes	1493-27-2		
36	2-4 Difluoro Nitro benzene	446-35-3		
37	2-fluoro 4 chloro Nitro benzene	700-37-8		
38	3-4 Difluoro Nitro Benzene	369-34-6		
39	2-Chloro-6-Fluoro Benzaldehyde	387-45-1		
40	3-Chloro-4-Fluoro Benzaldehyde	34328-61-5		
41	2,4-difluorobenzaldehyde	1550-35-2		
42	2-Fluoro Benzaldehyde	446-52-6		
43	4-Fluoro Benzaldehyde	459-57-4		
44	4-Fluoro Benzyl Chloride	352-11-4		
45	3-Fluoro Benzoyl Chloride	1711-07-5		
46	4-Fluoro Benzoyl Chloride	403-43-0		
47	2-Fluoro Benzoic Acid	445-29-4		
48	4-Fluoro Benzoic Acid	456-22-4		
49	4-Fluoro Benzal Chloride	403-43-0		
50	2,3,4,5-Tetrafluoro Benzoyl Chloride	94695-48-4		
51	2,3,4,5-Tetrafluoro Benzoic Acid	1201-31-6		
MPP1 - Nitration/Reduction/oxidation/hydrolysis/methylation				
52	3- Amino Benzotrifluoride	98-16-8		
53	3,5-dinitro-4-chlorobenzotrifluoride (DNPCBTF)	393-75-9		
54	2,4-dichloro-3 5 dinitroBTF (DCDNBTF)	29091-09-6		
55	2 fluoro-4 chloro aniline	57946-56-2		
56	4 Chloro-2 aminon phenol	95-85-2		
57	4 Amino Phenol	123-30-8		
58	2- Amino Phenol	95-55-6		
59	2,3 dichloro benzoic acid	50-45-3		
60	3-nitro 4-chloro benzoic acid	96-99-1		
61	3-nitro benzoic acid	121-92-6		
62	2,4- dichloro-5 sulfomoyl benzoic acid	2736-23-4		
63	N-acetyl glycine	543-24-8		
64	3,4-dichlorobenzene carboxylic acid	51-44-5		
65	Para amino benzoic acid	150-13-0		
66	Para amino benzamide	2835-68-9		
67	4-chloro, 3-sulfomoul Benzoic acid	1205-30-7	2900	
68	2 CHLORO 4 NITRO BENZOIC ACID	99-60-5		
69	3 METHYL 4 NITRO BENZOIC ACID	3113-71-1		
70	3 METHYL 2 NITRO BENZOIC ACID	5437-38-7		
71	4 NITRO BENZYL CYANIDE	555-21-5		
72	5 NITRO ISOPTHALIC ACID	618-88-2		
73	5 Nitro Isophthalic Acid Dimethyl Ester	13290-96-5		
74	2 CHLORO 5 NITRO BENZOIC ACID	2516-96-3		
75	3 AMINO 4 CHLORO BENZOIC ACID	2840-28-0		
76	3 AMINO BENZOIC ACID	99-05-8		
77	3,5 DIAMINO BENZOIC ACID	535-87-5		
78	4 NITRO BENZAMIDE	2835-68-9		
79	3 NITRO BENZAMIDE	645-09-0		
80	4 CHLORO 3 NITRO BENZAMIDE	41614-16-8		
81	3 AMINO 4 CHLORO BENZAMIDE	19694-10-1		
82	2 AMINO 3,5 DINITRO BENZOIC ACID	609-97-2		
83	2 AMINO 4 CHLORO BENZOIC ACID	89-77-0		

84	5 AMINO ISOPTHALIC ACID	99-31-0		
85	4 AMINO 3 METHYL BENZOIC ACID	2486-70-6		
86	4 AMINO 3 METHYL BENZOIC ACID METHYL ESTER	18595-14-7		
87	4 BUTYRYLAMINO 3 METHYL BENZOICACID METHYL ESTER	301533-59-5		
88	2 HYDROXY 5 NITRO BENZOIC ACID(5 NITRO SALICYLIC ACID)	96-97-9		
89	2 HYDROXY BENZOIC ACID	69-72-7		
90	3 HYDROXY BENZOIC ACID	99-06-9		
91	4 HYDROXY BENZOIC ACID	99-96-7		
92	2 METHOXY BENZOIC ACID	579-75-9		
93	3 METHOXY BENZOIC ACID	586-38-9		
94	4 METHOXY BENZOIC ACID	100-09-4		
95	3,5 DINITRO BENZOIC ACID	99-34-3		
96	2 HYDRAZINO BENZOIC ACID HYDROCHLORIDE	52356-01-1		
97	3 HYDRAZINO BENZOIC ACID HYDROCHLORIDE	38235-71-1		
98	4 HYDRAZINO BENZOIC ACID HYDROCHLORIDE	24589-77-3		
99	TRANS-4-(AMINO METHYL) CYCLOHEXANE-1-CARBOXYLIC ACID	167690-53-1		
100	4 BUTYRYLAMINO 3 METHYL 5 AMINO BENZOIC ACID METHYL ESTER	--		
101	META PHENOXY BENZYL ALCOHOL	13826-35-2		
102	ORTHO TOLUIDINE	95-53-4		
103	META TOLUIDINE	108-44-1		
104	PARA TOLUIDINE	106-49-0		
105	PARA CHLORO BENZOIC ACID	74-11-3		
106	ORTHO CHLORO BENZOIC ACID	118-91-2		
107	META CHLORO BENZOIC ACID	535-80-8		
108	PARA NITRO BENZOIC ACID	62-23-7		
109	META NITRO BENZOIC ACID	121-92-6		
110	2,3 DI CHLORO BENZOIC ACID	50-45-3		
111	2,4 DI CHLORO BENZOIC ACID	50-84-0		
112	ORTHO TOLUIC ACID	118-90-1		
113	META TOLUIC ACID	99-04-7		
114	PARA TOLUIC ACID	99-94-5		
115	3 CHLORO PEROXY BENZOIC ACID	937-14-4		
116	4 BUTYRYLAMINO 3 METHYL 5 NITROBENZOIC ACID METHYL ESTER	152628-01-8		
MPP2 -Cyanation/Nitrile products/ diazotization/ Bromination				
117	orthochloro benzyl cyanide	2856-63-5	1800	
118	Para chloro benzyl cyanide	140-53-4		
119	2,4-dichloro benzyl cyanide	6306-60-1		
120	Para phenylene diacetonoitrile	622-75-3		
121	meta phenylene diacetonoitrile	626-22-2		
122	P chloro benzonitrile	623-03-0		
123	O chloro benzonitrile	873-32-5		
124	2,4 dichloro benzonitrile	6574-98-7		
125	2,6-dichloro benzonitrile	1194-65-6		
126	DL-2-CHLORO PHENYL GLYCINE	6212-33-5		

127	3-Cyanobenzoic acid	1877-72-1		
128	3-Cyanobenzoic acid methyl ester	13531-48-1		
129	Potassium Iodide	7681-11-0		
130	D(-)P-HYDROXYPHENYL GLYCINE METHYLESTER (A)	57591-61-4		
131	2,4-Dichloro Phenyl Acetic acid	19719-28-9		
132	2-Chloro 4-Fluoro Toluenes	452-73-3		
133	2-Chloro 6-Fluoro Toluenes	443-83-4		
134	6-Fluoro-2-Methyl Indole (6-FMI)	40311-13-5		
135	3-Fluoro benzo trifluoride	401-80-9		
136	Fluoro benzene	462-06-6		
137	1,2-difluoro benzene	367-11-3		
138	1,4-difluoro benzene	540-36-3		
139	Fluoro toluenes	352-32-9		
		95-52-3		
		352-70-5		
140	1-Bromo-4-Fluoro Benzene	460-00-4		
141	2-Bromo-4-Fluoro Aniline	1003-98-1		
142	Sodium Bromide	7647-15-6		
143	4-Bromo-2-Fluoro Aniline	367-24-8		
144	3-Bromo Benzo trifluoride	401-78-5		
145	3,4,5-Tri Fluoro Bromo Benzene (TFBB)	138526-69-9		
146	2-Bromo-4-Fluoro Acetanilide (BFAA)	1009-22-9		
147	Bis (trifluoro methyl) Bromo Benzene	328-70-1		
148	4-bromo-methyl -2-Cyanobiphenyl (OTBN)	114772 - 54 - 2		
MPP 3 - Organic Advance Intermediates				
149	Trifluoro acetic acid	76-05-1		
150	Trifluoro acetic anhydride	407-25-0		
151	Methyl chloro difluoro Acetate	1514-87-0		
152	Chloro difluoro Acetic acid	76-04-0		
153	Chlorodifluoroacetic anhydride	2834-23-3		
154	Ethyl trifluoroacetate	383-63-1		
155	Ethyl trifluoroacetoacetate	372-31-6		
156	Tetrafluorobenzyl Alcohol	4084-38-2		
157	Ethyldifluoroacetate	454-31-9		
158	Amino crotonate	14205-39-1		
159	Chlorotrichloro Methyl -Cyclopentene	72685-38-2		
160	2-methyl-4-（1,1,1,2,3,3,3-heptafluoro-2-propyl) aniline	238098-26-5		
161	Fluoromethyl ester	572880-17-2	5400	
162	2, 6 Diphenylphenol	29353-68-2		
163	Calcium Fluoride	778-75-5		
164	Tetrafluoropropene -1234yf	754-12-1		
165	Isobutyl Acetophenone	38861-78-8		
166	2-Bromo-5-fluorobenzotrifluoride	40161-55-5		
167	2,2-Difluoroethylamine	430-67-1		
168	2,3-Dichloro-5-trifluoromethyl-pyridine	69045-84-7		
169	N[1-{6-Chloro-3-pyridinyl)methyl)-2(1H)-pyridinylidene]-2,2,2,trifluoroacetamide	1689566-03-7		
170	(N-(4-fluorophenyl)-2-hydroxy-N-isopropylacetamide	54041-17-7		
171	1,1,2,2-Tetrafluoroethyl Methyl Ether	425-88-7		
172	Hexafluoropropylene	116-15-4		

173	Ethyl Difluoroacetoacetate	352-24-9			
174	Difluoromethanesulphonyl chloride	1512-30-7			
175	Triflic Acid	1493-13-6			
176	Trifluoromethanesulfonic Anhydride	358-23-6			
177	Trimethylsilyltrifluoromethanesulfonate	27607-77-8			
178	2,6-Dichloro-4-(trifluoromethyl) aniline	24279-39-8			
179	Trifluoromethylbenzamide	360-64-5			
180	Trifluoroacetyl chloride	354-32-5			
181	SulphurTetrafluoride	7783-60-0			
182	2- Trifluoromethylbenzoylchloride	312-94-7			
183	TrifluoroMethyl-2-EthoxyVinyl Ketone	--			
184	2-(2-Methoxyethoxymethyl)-6-trifluoromethyl-nicotinic acid ethyl ester	380355-55-5			
185	Mefenamic Acid	61-68-7			
186	Penta Fluro Phenol	771-61-9			
187	Mono methyl hydrazine	60-34-4			
188	Tri Fluoro acetone	421-50-1			
189	Methyl tri fluoro acetate	431-47-0			
190	Chlorodifluoroacetic Anhydride	2834-23-3			
191	Bromopentafluorobenzene	344-04-7			
192	4-Chlorobenzotrifluoride	98-56-6			
193	6-Fluoro 2-methyl 1H- indole	40311-13-5			
194	5-Bromo-2-2-difluoro-1-3-benzodioxole	33070-32-5			
195	Difluorobenzodioxole Carboxylic acid methyl ester	773873-95-3			
196	Hydrogen Bromide	10035-10-6			
197	2-Fluoro-5-nitrobenzoic acid	7304-32-7			
198	5-Chloro-3-(difluoromethyl)-1-methyl-1H-pyrazole- 4-carboxaldehyde	660845-30-7			
199	3-Difluoromethyl-5-fluoro-1-methyl-1H-pyrazole-4-carboxaldehyde	1255947-44-4			
200	2,5-Dichloro-4-(1,1,2,3,3,3-hexafluoropropoxy) benzenamine	103015-84-5			
201	2,4,5-Trifluorophenyl acetic acid	209995-38-0			
202	2,4-Dichloro-3,5-dinitrobenzotrifluoride	29091-09-6			
203	3-phenoxy benzaldehyde	39515-51-0			
204	3-phenoxy toluene	3586-14-9			
205	Methyl-2- Fluoroacrylate	2343-89-7			
206	Lithium tetrakis (pentafluorophenyl) borate	371162-53-7			
207	2-fluoro-5-bromobenzonitrile	179897-89-3			
208	Succinimide	123-56-8			
209	Orthomethyl benzyl chloride	552-45-4			
210	Ortho Methyl Benzyl Cyanide	22364-68-7			
211	2,5-Dimethylphenylacetic acid	13612-34-5			
212	2,5 Di Methyl Phenyl Acetyl Chloride	55312-97-5			
213	2,4,6 trichloroaniline	634-93-5			
214	2- cumaranone (70% acetic anhydride Soln)	553-86-6			
215	5-Bromo-2-2-difluoro-1-3-benzodioxole	33070-32-5			
216	2-2-difluoro-1-3-benzodioxole	1583-59-1			
217	1-cs-acetyl(1,4,5-oxadiazepam-4-yl)-ethanoneOR 4,5-diacetyl-[1 ,4,5]-oxadiazepine	83598-13-4			
218	2-Chloro-4-(4 chlorophenoxy)-acetophenone	119851-28-4			

219	Benzaldehyde-o-Sulfonic acid	1008-72-6		
220	OTBN (Ortho tolylbenzonitrile)	114772 - 54 - 2		
221	2-Chloro-4-fluoro-5-(2,6-dioxo-4-trifluoromethylpyrimidin-1-yl) benzoic Acid	120890-57-5		
222	8-Chloro-6-(trifluoromethyl) imidazo [1,2-a]pyridine-2- carboxylic acid (QEK-31)	353258-35-2		
223	2,4,6 trifluoro benzyl amine	214759-21-4		
224	1-Bromo-3-chloropropane	109-70-6		
225	1-Bromo-3-chloro-2-methylpropane	6974-77-2		
226	1-Bromo-3,4-dichlorobenzene	18282-59-2		
227	2-Bromopropionic acid	598-72-1		
228	MESELAMINE	89-57-6		
229	LAMOTRIGINE	84057-84-1		
230	MEBENDAZOLE	31431-39-7		
231	4 CHLORO 3 NITRO BENZOPHENONE	56107-02-9		
232	4 AMINO 3 NITRO BENZOPHENONE	31431-19-3		
233	3,4 DIAMINO BENZOPHENONE	39070-63-8		
234	LASAMIDE	2736-23-4		
235	FUROSEMIDE	54-31-9		
Inorganic Compounds*				
236	Aluminium Hydroxide	21645-51-2	6800	Inorganic Compounds
237	Ammonium Bisulphate	7803-63-6		
238	Potassium Chloride	7447-40-7		
239	Zinc Chloride	7646-85-7		
240	Zinc Fluoride	7783-49-5		
241	**Captive Co-gen Plant**	--	4.5 MW	
Total			**18900 MT/Month + 4.5 MW**	

3) The project falls under B1 category of project activity 5(f) as per the schedule of EIA Notification 2006.
4) The proposal was considered in the SEAC video conference meeting dated 01.11.2022.
5) Project proponent (PP) and their Technical Expert M/s Excel Enviro Tech remain present during video conference meeting.
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) 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-2021 to December-2021. Ambient Air Quality monitoring was carried out PM_{10}, $PM_{2.5}$, 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 “AERMOD”. 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).

8) 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.
9) 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.
10) Compliance of the ToR found satisfactory.
11) PP presented salient features of the project including Water, Air and Hazardous waste management are submitted.
12) **After deliberation, SEAC unanimously decided to consider the proposal in one of the upcoming meeting of SEAC after satisfactory submission of the following details:**
    1. Revised flue gas matrix by removing lignite as fuel in boiler.
    2. Floor-wise Fire Plan mentioning sprinklers system in utility/ boiler area, tank farm area, etc.
    3. Details of storage of hazardous chemicals in drums, barrels, carboys, etc.(other than tanks) mentioning characteristics of each chemical along with its safety measures.
    4. Provisional membership of TSDF for disposal of hazardous waste mentioning capacities i.e total capacity, booked capacity, allotted capacity ans spare capacity.
13) Project proponent submitted the reply of above query through Parivesh portal.
14) The case was reconsidered in the SEAC meeting dated 15.12.2022.
15) During meeting dated: 15.12.2022, PP presented the following details:
    - ✓ Revised flue gas matrix by removing Lignite as a fuel in Boiler and Coal will be used as a fuel in Boiler.
    - ✓ Floor-wise fire plan sprinkler system mentioning in the plan layout is submitted.
    - ✓ Storage details for hazardous chemicals in drums, barrels, carboys other tank are along with their characteristic are submitted.
    - ✓ PP also submitted the area adequacy for storage of raw materials.
    - ✓ Provisional membership of TSDF/CHWIF of BEIL dated: 24.11.2022.
16) Committee asked for safety measures for each type of hazardous chemicals instead of general safey measures. PP agreed and later on submitted the safety measures for each type of hazardous chemicals through email.
17) Committee found presentation and submission of PP found satisfactory.
18) Revised salient features of the project including Water, Air and Hazardous waste management are as under:

Sr. no.	Particulars	Details
A	Total **cost of Proposed** Project (Rs. in Crores):	

Total Project Cost
Rs. 225 Crores

Break-up of proposed project Cost:

Details	Project Cost (Rs. In Crores)
Land	20.0
Building	45
Machinery	60
Env. & Safety	23.23
Miscellaneous	76.77
Total	225.0

-

B **Land / Plot ownership details:**

(Linking between Land ownership and PP is required.)

GIDC plot allotment Letter is available.

Letter no. GIDC/RM/ANK/3834 Dated: 15/11/2021

B-1 **In case of outside GIDC only –**

Not Applicable as unit is located within GIDC

Siting Criteria

Sr. no.	Environmental Sensitivity	Name/Specific details	Aerial Distance, Km
1	Habitat (Residential Area)		
2	Eco sensitive zones		
3	Wild life sanctuaries/National Parks		
4	Water Bodies		
	River		
	Natural Nallah/Drain		
	Lake/Pond/Wetlands		
	Water supply Tanks/Reservoirs		
	Canal		
5	Protected Monuments/Heritage sites/Public Buildings etc.		
6	National/State Highway OR Express way		
7	Coastal Regulation Zone (CRZ) (In case of Coastal area projects)		
8.	Ground water table in meter		
9.	Railway Line		
10.	Air Port		

B-2 **Area adequacy**

Total Plot area
54075.51 Sq. m.

Area Adequacy table:

Land Area Break Up Table (In Sq. m)						%
SR. NO.	DESCRIPTION	G.F.	F.F.	S.F.	TOTAL AREA	
1	ADMIN, OHC & LAB	1051	1051	0	2102	1.9
2	SECURITY CABIN	24	0	0	24	0.04
3	PROCESS AREA	3469	3469	3469	10407	6.4
4	WARE HOUSE	1344	0	0	1344	2.5

5	PACKING MATERIAL STORAGE	460	460	460	1380	0.9
6	BOILER HOUSE	756	0	0	756	1.4
7	COAL STORAGE AREA	504	0	0	504	0.9
8	ETP AREA	1804	1804	0	3608	3.3
9	UTILITY AREA (PCC ROOM, DG SET ETC.)	1140	1140	0	2280	2.1
10	TANK FARM	11062	0	0	11062	20.5
11	HAZARDOUS WASTE STORAGE AREA	1021	0	0	1021	1.9
12	CYLINDER SHED	775	0	0	775	1.4
13	PARKING AREA	986	0	0	986	1.8
14	ROAD AND OTHER AREA	11679.51	0	0	11679.51	21.6
15	GREENBELT AREA	18000	0	0	18000	33.3
	TOTAL AREA	54075.51	7924	3929		100.0

Area adequacy:

Unit will provide 2264m^2 area for storage of Raw Material + 11062 m^{2}area for Tank farm. Out of which 3031m^{2}area will be provide for free movement.

Sr. No.	Storage Details	No. of Tank/IBC/ Bags/ Barrels	Total Storage (MT)	Total Area (m2)	Area for free movement	Area Dedicated for Storage	Required Area (m2)
1.	Raw Material Storage in Tank and tunner	37	1315	11062	2062	9000	6500
2.	Raw Material Storage in Drums	4500	4480.45	2264	969	1295	940
3.	Raw Material Storage in Bags	3000	2532.75				342
4.	Raw Material Storage in Barrels	155	7.5				13
	Total Area	**37 tanks, 4500 IBC, 3000 Bags and 155 Barrels**	**7020.7**	**13326**	**3031**	**10295**	**Tank Farm: 6500 m^2 + 1295 m^2**

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.

B-3 **Green belt area**

	Total(Sq. meter)
Area in Sq. meter	18000m^2
% of total area	33.29 %

Comments:

- The PP shall develop green belt within premises (18000 Sq. m i.e. 33.29 % of the total plot area) as per the undertaking 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.

C **Employment generation**

Total
175

-

D **WATER**

D-1 **Source of Water Supply : Dahej GIDC Supply**

Comments:

Prior permission from concerned authority shall be obtained for withdrawal of water.

D-2 **Water consumption (KLD)**

Category	Quantity KLD	Remarks
(A) Domestic	10.0	Fresh Water
(B) Gardening	40	(31.5 F + 8.5 R)
(C) Industrial		
Process	738.5	Fresh Water
Washing		
Boiler	120.0	120 Makeup water + 1080 R
Cooling	80.0	Fresh Water
Others (Scrubber)	35.0	Boiler + CT Blow down
DM Plant	130.0	Fresh water
Industrial Total	**1103.5**	
Grand Total (A+B+C)	**1153.5**	

Comments:

- The water Consumption above is found to be calculated considering the worst case scenario and in any case the waste water generation shall not exceed the same.

D-3 **Waste water generation (KLD)**

Category	Waste water KLD	Remarks
3. Domestic	8.5	Treated in STP and Gardening
4. Industrial		
Process	760	Sent to ETP
Washing		
DM Plant	10.0	
Others (Scrubber)	35.0	
Boiler	25.0	Reused in Scrubber
Cooling	10.0	
Total Industrial waste water	**840**	
Total [A + B]	**848.5**	

Note: Considering highest water consuming products and highest wastewater generating products for worst case scenario & other waste water will be generated from Dilute stream. Hence, process wastewater generation will be more than process water consumption.

Comments:

- The waste water generation above is found to be calculated considering the worst case scenario and in any case the waste water generation shall not exceed the same.

D-4	Break-up of waste water disposal & facility (For Domestic)

8.5 KLD Domestic Waste Water will be treated in STP & treated wastewater will be reused in gardening purpose within premises.

Comments:

- Domestic wastewater generation shall not exceed 8.5 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.

D-5	**Break-up of waste water disposal & facility (For Industrial)**

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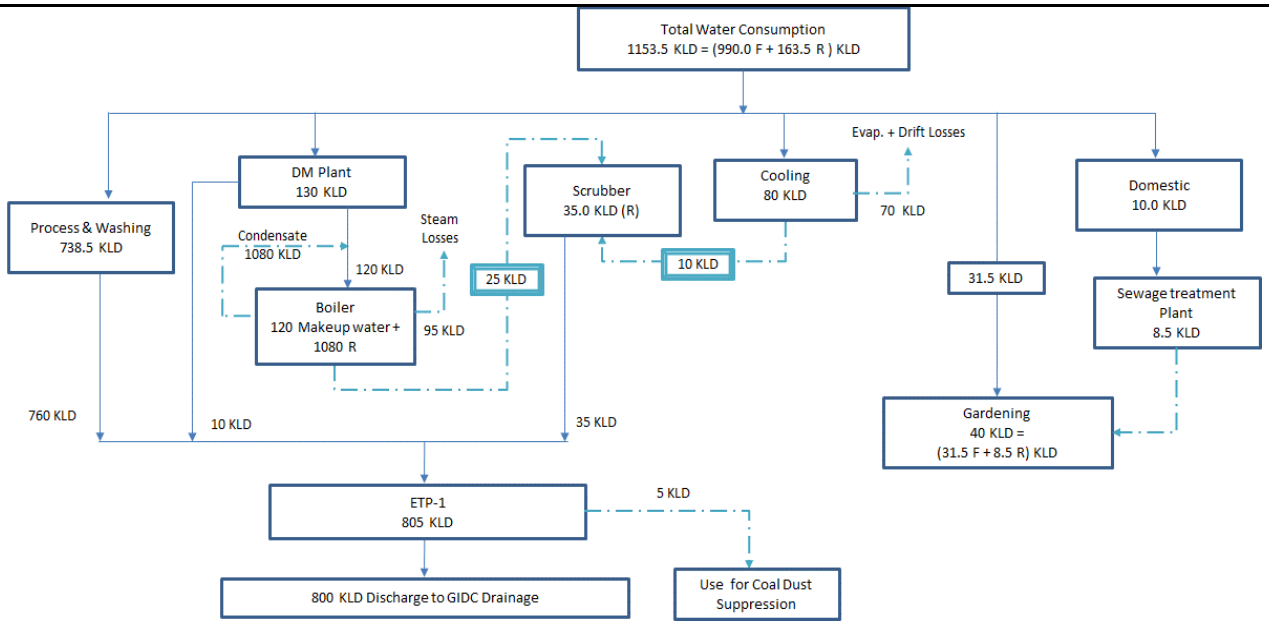
Sr. no.	Quantity KLD	Facility
1.	800	Industrial Waste water will be treated in conventional ETP. Then, Treated waste water will be disposed in to GIDC sewer line Dahej-Vilayat Pipeline/common disposal system up to the sea for final disposal at NIO designated point. The maximum effluent discharge per day will not exceed 800 KL.
2.	05	5 KLD will be use Coal dust suppression
3.	35	Reused in Scrubber
Total	840	As above

ETP Capacity: 900 KLD

Comments:

2. Management of Industrial effluent shall be as under:
   - ✓ 760 KLD process & washing effluent, 10 KLD DM effluent and 35 KLD bleed liquor shall be treated in primary & secondary ETP. Out of 805 KLD treated effluent, 800 KLD shall be discharge in GIDC drainage for deep sea disposal and 5 KLD shall be reused within premises for coal dust suppresion.
   - ✓ 25 KLD boiler blow down and 10 KLD cooling tower blow down shall be reused in scrubber.

D-6	**Simplified water balance diagram**



D-7 Summary

Summary of water requirement	**Quantity** KLD	Remarks
Total water requirement for the project **(A)**	1153.5	---
Quantity to be **recycled (B)**	163.5	---
Total **fresh water** requirement **(C)**	990.0	---

Ensure **Total water requirement = Recycled water + Fresh water i.e. A = B + C**

E	**AIR**
E-1	Power (Electricity) requirement:**66 KVA**
E-2	**Flue gas emission details**

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	Boiler – 1 (25 TPH)	45	Coal	12 TPH	PM SO_2 NO_x	Lime dosing + ESP + dry scrubber
2	Boiler – 2 (25 TPH)	45				
3.	DG Set (250 KVA) (4 No.)	10 (Each)	HSD	15 KL/Month		Adequate Stack height Provided

E-3 **Process gas**

Sr No	**Specific Source of emission (Name of the Product & Process)**	**Type of Emission**	**Stack/Vent Height (meter)**	**Air Pollution Control Measures (APCM)**
1	Plant 1 Scrubber-1 and scrubber-2	HCl, Cl2, HF, NH3, CO2, SO2, Br_2	20 (Each)	Alkali Scrubber and Water Scrubber Alkali Scrubber and water Scrubber

2	Plant 2 Scrubber-1 and scrubber-2	HCl, Cl2, HF, NH3	20 (Each)	Alkali Scrubber and Water Scrubber Alkali Scrubber and water Scrubber
3	Plant 3 Scrubber-1 and scrubber-2	HCl, HBr, Br2, Cl2, NH3, HF	20 (Each)	Alkali Scrubber and Water Scrubber Alkali Scrubber and water Scrubber
4	Common Scrubber (3 No.)	HCl, Cl2, HF, NH3, SO2, Br_2	20 (Each)	Alkali Scrubber and water Scrubber

E-4 Fugitive emission details with its mitigation measures.

Sr. No.	Source	Probable Pollutant Emission	Control Measures/ APCM
1	Solvent storage tank	Air pollutant (VOC)	i) The acids shall be taken from storage tanks to reactor through closed pipeline. Storage tanks shall be vented through trap receiver and condenser operated on chilled water.
2	Solventrecovry system	Air pollutant (VOC)	Preventive maintenance of flange connections and glands of pumps
3	Handling of raw material bags in storage area	Air pollutant (PM)	The acids shall be taken from storage tanks to reactor through closed pipeline. Storage tanks shall be vented through trap receiver and condenser operated on chilled water.
4	Flange joints of pipeline, pump & motors	Air pollutant (VOC)	▪ General control measures like routine & regular inspection to identify leakage, preventive maintenance and operational maintenance, provision of leak detection and repair system (LDAR). ▪ Preventive maintenance of flange connections and glands of pumps.
5	Solid raw material transferring to reactor	Air pollutant (PM)	▪ Management to ensure proper handling of the spillages during transfer, charging operation and provision of a Dust Collection System for collection of the air borne material wherever applicable. ▪ Relux condenser to be provided over the reactor.
6	Liquid raw material transferring to reactor	Air pollutant (VOC)	▪ Relux condenser to be provided over the reactor.
7	Loading /unloading at storage area	Air pollutant(VOC)	▪ Fugitive emissions in the work zone environment, product raw material storage area shall be monitored regularly

Comments for E2, E3 & E4:

- The fuel to be used is approved fuel for the requirement of the heat energy and has been proposed the Air pollution Control measures so as to achieve the emission norms prescribed by the competent authorities.
- The air pollution control measures, has been proposed by PP for checking flue gas emission, Process gas emission, fugitive gas emission, with adequate systems of reaction/ reaction condensers, thermic fluid heaters, boilers, and scrubbing systems as per the requirements, to

achieve the emission norms prescribed by the competent authorities.

F	Solvent management, VOC emissions etc.
F-1	Types of solvents, Details of Solvent recovery, % recovery, reuse of recovered Solvents etc.

As example given below.

Group 1:

Sr. No	Name of Product	Solvent Input	Qty.(MT/Month)	Solvent Recovered (MT/Month)	Solvent Recovered %	Solvent loss	Solvent Loss %
1	Tetra fluoro benzyl alcohol	Methanol	15080	15000	99	40	1
		Methylene dichloride	29200	28600	98	300	2
2	4-(HeptaFluoroIso Propyl)-2-methyl aniline	Sulfolane	6406	6406	100	0	0
3	2,4 6 TRIFLUOROBENZONITRILE	Sulfolane	9222	8944	97	153	3
5	2,6-Difluorobenzyl alcohol	Tetrahydrofuran	11764	11390	97	187	3
		Ethylene dichloride	9412	9340	99	36	1
6	3-trifluoromethyl Phenyl acetonitrile	Toluene	6438	6310	98	64	2
7	2-Trifluoromethyl Benzamide	Methanol	340	322	95	9	5
8	2-4 Difluoro Nitro benzene	Sulfone	4348	4343	100	2.5	0
9	3-4 Difluoro Nitro Benzene	Sulfone	4348	4343	100	2.5	0
		MCB	155	150	99	1	1
10	2-Chloro-6-Fluoro Benzaldehyde	Toluene	6000	5750	96	125	4
11	2,4-difluoro benzaldehyde	Toluene	5080	5000	98	40	2
12	2-Fluoro benzaldehyde	Toluene	6742	6434	95	137	5
13	4-Fluoro benzaldehyde	Toluene	6742	6434	95	137	5
14	3-Fluoro Benzoyl Chloride	Dichloroethane	6467	6381	99	45	1
15	4-Fluoro Benzoyl Chloride	Dichloroethane	6467	6381	99	45	1
16	2,3,4,5-Tetrafluoro Benzoic Acid	Sulpholane	8115	7869	97	154	3
17	4-Fluoroaniline & 2-fluoroaniline	Methanol	5304	5298	100	3	0
18	3-Amino -4-Chloro BenzoTrifluoride	Methanol	1886	1868	99	9	1
19	3-Bromo-4-fluoro Benzotrifluoride	Sulpholane	11023	10968	100	28	0
		Methanol	8104	7851	97	129	3
20	4-Fluoro Nitro Benzene & 2-Fluoro Nitro	MCB	265	240	90	14	10

	Benzene						

➢ **Group 2:**

Sr. No	Name of Product	Solvent Input	Qty.(MT /Month)	Solvent Recovered (MT/Month)	Solvent Recovered %	Solvent loss	Solvent Loss %
1	2 fluoro-4 chloro aniline	Ethylene Dichloride	11668	11376	98	100	3
2	4 Chloro-2 aminon phenol	Ethylene Dichloride	6027	5726	95	103	5
4	5 NITRO ISOPTHALIC ACID DIMETHYL ESTER	Methanol	5834	5688	98	5	3
5	4 NITRO BENZAMIDE	Ortho Dichloro Benzene	6482	6401	99	25	1
6	3 NITRO BENZAMIDE	Ortho Dichloro Benzene	6482	6401	99	25	1
7	4 CHLORO 3 NITRO BENZAMIDE	Ortho Dichloro Benzene	6482	6401	99	25	1
8	3 AMINO 4 CHLORO BENZAMIDE	Ortho Dichloro Benzene	6482	6401	99	25	1
9	4 AMINO 3 METHYL BENZOIC ACID METHYL ESTER	Methanol	5834	5688	98	5	3
10	TRANS-4-(AMINO METHYL)CYCLO HEXANE-1-CARBOXYLIC ACID	Methanol	1718	1675	98	50	3
11	4 BUTYRYLAMINO 3 METHYL 5 AMINO BENZOIC ACID METHYL ESTER	Methanol	3241	3201	99	25	1

➢ **Group 3:**

Sr. No	Name of Product	Solvent Input	Qty.(MT/Month)	Solvent Recovered (MT/Month)	Solvent Recovered %	Solvent loss	Solvent Loss %
1	2,4-dichloro benzyl cyanide	Methanol	7528	7329	97	111	3
2	Para phenylenediaceto noitrile	Dimethyl Formamide	1924	1872	97	29	3

3	Meta phenylenediaceto noitrile	Dimethyl Formamide	2052	1961	96	51	4
4	DL-2-(2-Chlorophenyl) glycine	Methanol	6483	6256	97	127	3
5	3-Cyanobenzoic acid	Methanol	6115	5973	98	80	2
6	3-Cyanobenzoic acid methyl ester	Acetone	7899	7667	97	130	3
7	D(-) P-HYDROXYPHEN YL GLYCINE METHYLESTER	Methanol	9806	9509	97	150	3
8	2,4-Dichloro Phenyl Acetic acid	Dichloroeth ane	5012	4974	99	21	1
9	6-Fluoro-2-Methyl Indole (6-FMI)	Methanol	3339	3323	100	9	0
		DMSO	4642	4619	100	13	0
11	3,4,5-Tri FluoroBromo Benzene (TFBB)	Methanol	3831	3714	97	79	3
12	4-bromo-methyl -2-Cyano biphenyl (Br-OTBN)	Dichlorome thane	1227	1202	98	14	2

- Group 4:

Sr. No	Name of Product	Solvent Input	Qty.(MT/Month)	Solvent Recovered (MT/Month)	Solvent Recovered %	Solvent loss	Solvent Loss %
1	2-methyl-4-1,1,1,2,3,3,3-heptafluoro-2-propyl aniline	Methyl tert butyl ether (MTBE)	1548	1425	92	0	8
2	2,6-Diphenylphenol	Heptane	3180	2925	92	0	8
		Isopropanol	2356	2221	94	0	6
3	1,1,2,2-Tetrafluoroethyl Methyl Ether	Terpene	81	81	100	0	0
		Dimethylformamide	32.5	32.5	100	0	0
4	Hexafluoropropylene	Terpene	81.2	81.2	100	0	0
		Dimethylformamide	32.5	32.5	100	0	0
5	Trifluoromethylbenzamide	Methylene chloride	7692	7475	97	0	3
6	2-TrifluoroMethylbenzoylchloride	MDC	3878	3802	98	0	2
7	2-(2-Methoxyethoxymethyl)-6-	Toluene	541.7	0	90	0	10

	trifluoromethyl-nicotinic acid ethyl ester						
8	MEFENAMIC ACID	Toluene	24737	24195	98	15	2
9	Pentaflurophenol	Toluene	1468	1424	97	0	3
10	Monomethyl Hydrazine	Methanol	10265	9750.6	95	0	5
11	DifluoroBenzodioxole carboxylic acid methyl ester	THF solvent	5417	5146	95	0	5
12	3-Difluoromethyl-5-fluoro-1-methyl-1H-pyrazole-4-carboxaldehyde	Chlorobenzene	7074.602	6771.25	96	0	4
		Methyl tertiary - butyl ether	5417	5146.15	95	0	5
13	2,4,5-Trifluorophenyl acetic acid	Sulfolane	2031	3954	97	0	3
		Acetonitrile	2166	4225	98	0	3
14	Methyl-2-Fluoroacrylate	Dimethylformamide	11823	11305	96	0	4
15	Lithium tetrakis (pentafluorophenyl) borate	Toluene	2291	2221	97	0	3
16	2-fluoro-5-bromobenzonitrile	Methylene Chloride	3786	3412	90	0	10
17	Ortho Methyl Benzyl Cyanide	Dimethyl Formamide	6234	5958	96	51	4
18	2, 5 Di Methyl Phenyl Acetyl Chloride	Toluene	5417	5200	96	40	4
19	2,5-Dimethyl Phenyl acetic acid	Toluene	2307	2275	99	12	1
20	2,4,6 trichloroaniline	MCB	9929	9479	95	83	5
21	2, 5 Dimethyl Phenyl Acetic acid	Toluene	5417	5200	96	40	4
22	2,5-Dimethyl Phenyl acetic acid	Toluene	3076	2921	95	43	5
23	2,4,6 trichloroaniline	MCB	9929	8775	88	213	12
24	2- cumaranone(70% acetic anhydride Soln)	Toluene	1625.1	1570.93	97	10	3
25	4,5-diacetyl-[1 ,4,5]-oxadiazepine	MCB	66163	63053	95	574	5
26	2-Chloro-4-(4 chlorophenoxy)-acetophenone	MTBE Solvent	5156	5091	99	12	1
		Dimethylformamide	1289	1191	92	18	8
27	Ortho Tolylbenzonitrile	2-Methyltetrahydro	108340	45096	100	20	0

	(OTBN)	furan					
		Toluene	17898	7426	100	14	0
28	2-Chloro-4-fluoro-5-(2,6-dioxo-4-trifluoromethylpyrimidin-1-yl) benzoic Acid:	Methanol	2708	2573	95	25	5
29	8-Chloro-6-(trifluoromethyl) imidazo [1,2-a]pyridine-2-carboxylic acid	Dichloromethane	6240	5927	95	58	5
30	2,4,6 trifluoro benzyl amine	Methanol	31418	31278	100	26	0
32	2-Bromopropionic acid	Methanol	7854	7584	97	50	3
33	LAMOTRIGINE	n-Propanol	16771	16603	99	10	1
34	MEBENDAZOLE	BENZENE	22610	22139	98	10	2
		METHANOL	23552	22845	97	15	3
35	4 CHLORO 3 NITRO BENZOPHENONE	BENZENE	17334	16612	96	20	4
36	3,4 DIAMINO BENZOPHENONE	Methanol	26878.24427	26051.22137	97	20	3
38	FUROSEMIDE	IPA	32068	31527	98	100	2

F-2 **VOC emission sources and its mitigation measures for achieving maximum solvent recovery and minimize VOC generation:**

F-2	**VOC emission Sources and its Mitigation Measures.**		
Sr. No.	**Emission Source**	**Probable Pollutant Emission**	**Control measures**
1	Storage and usage of raw materials.	VOC (Air Pollutant)	1. VOC analyzers will be provided to detect any solvent leakages during storage and handling. 2. Regular maintenance of valves, pumps, flanges, joints and other equipment will be done to prevent leakages and thus minimizing the fugitive emissions of VOCs. 3. Entire process will be carried out in the closed reactors with proper maintenance of pressure and temperature. 4. Ensure minimum number of flanges, joints and valves in pipelines. 5. Preventive maintenance of roofs and seals for tanks 6. Monitoring and preventive maintenance of valves, flanges, joints, etc. 7. VOC detectors will be installed to detect any solvent leakages during storage and handling.
2	Flange joints of pipeline, pump & motors	VOC	

F-3 **LDAR proposed:**

Sr.	**Source**	**Frequency of monitoring**	**Repair preventive maintenance**

No.			schedule
1	Pumps	Occur at seal	Leak from pumps can also be reduced by using dual seals with or without barrier fluid.
2	Valves	Occur at stem or glad area of valve caused by failure of valve packing	Leak from open ended line, sampling connection, compressors are usually fixed by modifying equipment. emission from pumps and valves can be reduced by use of leak less valves and seal less pumps
3	Connectors	Caused from gasket failure, torque bolts on flange	
4	Sampling Connection	Occur at outlet of sampling valve	
5	Compressor	Occur from seal	
6	Pressure Relief Device	Occur if valve is not sealed, operating too close to set point, seal is damaged, leaks from rupture disks can occur around the disk gasket if not installed properly	
7	Open Ended Lines	Occur at point of the line open to atmosphere and controlled by using caps, plug, flanges, Occur due to incorrect implantation of block and bleed procedure	

The Following methodology to be adopted during LDAR study:

- To prevent losses of these solvents in atmosphere, following infrastructure shall be used in addition to LDAR program.
- 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.
- To eliminate chances of leakages from glands of pumps, mechanical seal will be provided at all solvent pumps.
- All the rotating equipments like pumps will be installed with Mechanical Seals to arrest to arrest any sort of emissions.
- Condenser and scrubber through hoods and ducts by induced draft, and control by scrubber / dust collector to be ensured.
- 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 flammable liquid, switch off all the power supply in the area to prevent Electric spark.
- Flanges will be sealed so less loss will be there.

Monitoring of Solvent Losses

- In warding, storage and consumption of solvents in various products shall be measured through level transmitters and load cells weighing systems resp. the quantity at each stage shall be reconciled periodically to arrive at losses.
- Periodic monitoring of work area will be carried out to check the fugitive emission.
- VOC detectors will be installed at various places to detect leak.

Preventive Maintenance Leakages

In order to prevent leakage from Pump, seals Valves etc. preventive maintenance shall be carried out periodically as per plan. Regular maintenance of valves, pumps. Flanges, joints and other equipment will be done to prevent leakages and thus minimizing the fugitive emission of VOC's.

Immediate Repair of devices in case of Leakages

- A regular preventive schedule will be in place or rectify all gaskets and joints to ensure no fugitive emissions shall take place.
- Plant shall also have competent contractor team to handle leaked and can repair the same immediately

Standby equipments like pumps, valves etc shall be kept basis the critically and usage Plant shall also have access equipments like Boom lift to handle leakages at height immediately.

F-4 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	Methanol	Tank	By Pump & Fix Pipe line	Direct Vessel	Leak from Valve (failure of the valve packing & O-ring) · Leak from pump (Occur at seal) · Leak from open ended lines · Leak from tank · Leak from Connectors	For using Gas Detector by PID Sensor technology.	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.	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	Toluene	Tank						
3	Benzene	Tank						
4	n-Propanol	Tank						
5	Heptane	Tank						
6	Acetone	Tank						
7	Cyclohexane	Tank						
8	Anhydrous Hydrogen Fluoride (AHF)	Tank						
9	Thionyl Chloride	Tank						
10	Methylene dichloride	Drum						
11	Sulfolane	Drum						
12	Tetrahydrofuran	Drum						
13	Ethylene dichloride	Drum						
14	MCB	Drum						
15	Dichloroethane	Drum						
16	Ortho Dichloro Benzene	Drum						
17	Dimethyl Formamide	Drum						
18	Methyl tert butyl ether (MTBE)	Drum						
19	Terpene	Drum						
20	THF	Drum						
21	Chlorobenzene	Drum						
22	Methyl tertiary - butyl ether	Drum						

Comments for F-1, F-2, F-3 & F-4

- 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 not 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).

G	**Hazardous waste**
G-1	**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	Spent Acid	Process	26.3	100000	Collection, Storage, Transportation, sale to Registered recycler having rule 9 Permission or can be consumed in-house as such.
2	Process residue	During Operation	26.1	110000	Collection, Storage, Transportation, Disposal at CHWIF/co-processing.
3	Spent Solvent	Process	26.4	105000	Collection, Storage, Transportation, Disposal under Rule-9 or co-processing
4	Iron Sludge	Process	26.1	40000	Collection, Storage, Transportation, Disposal at TSDF/Cement Industry.
5	Process Waste	Process	26.1	25000	Collection, Storage, Transportation, Disposal at Landfill Site
6	Inorganic Salt	Process	SCH-2 (C-15)	40000	Collection, Storage, Transportation, Disposal at TSDF
7	Inorganic Acid	Process	26.3	10000	Collection Storage, Transportation, Sale to registered recycler having rule 9 permission or can be consumed in-house as much as such.
8	ETP Sludge	From ETP	35.3	15000	Collection, Storage, Transportation, Disposal at TSDF

9	Discarded Containers/Barrels	Raw material Handling	33.1	400 MT (~20,000 nos.)	Collection, Storage, Transportation, Sale to registered recycler under Rule-9.
10	Used oil	Machineries & DG Set	5.1	100	Collection, Storage, Transportation, reused as lubricant in plant machinery or Sale to registered recycler under Rule-9.
11	Spent Resin	From DM	35.2	100	Collection, Storage, Transportation and Sale to registered recycler under Rule-9.
12	Insulation Waste	From Boilers	S-1	100	Collection, storage, transportation and disposal at common TSDF site.

Co-Product:

Sr. No.	Name of By-Products	Total MT/Annum
1	HBF4 Solution	25000
2	HBr Solution	30000
3	Ammonium Chloride Solution	101000
4	Ammonia Solution	20000
5	Sodium Nitrite Solution	13000
6	Sodium Acetate Solution	9500
7	Sodium Hyprochlorite	67000
8	Dilute hydrochloric Acid	110000
9	Dilute Sulphuric Acid	240000
10	Dilute Acetic Acid	60000
11	Dilute Phosphoric Acid	42000

Comments:

- Waste management includes hazardous waste management and other solid waste management. Hazardous waste-management comprises of collection, storage, transportation, disposal, incineration, and recycle of waste. SEAC examined the details provided and found it as per requirement.
- The project proponent has to obtain membership of TSDF site & CHWIF before obtaining CTO of GPCB.

G-2 Non- Hazardous waste management matrix

3. Fly Ash generation will be 7500 MTPA
4. STP sludge generation will be 120 MTPA

Comments:

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

H **SAFETY details**

H-1 | Details regarding storage of Hazardous chemicals

➢ **Storage of Hazardous chemicals in Tanks**

As example given below.

Sr. no	Name of Chemical	Capacity of Tank	Number of Tanks	Hazardous Characteristics of Chemical
1	Sulphuric Acid (98%)	200 KL	1	Corrosive
2	Hydrogen Peroxide (30%)	100 KL	1	Non-combustible
3	Sodium Hydroxide (48%)	50 KL	1	toxic
4	Oleum	50 KL	2(1 operated + 1 spare)	Corrosive
5	Hydrochloric Acid (30%)	100 KL	1	Corrosive
6	Ammonia Solution (20%)	100 KL	2	Corrosive
7	Methanol	100 KL	1	Flammable
8	Toluene	100 KL	1	Flammable
9	Benzene	100 KL	1	Flammable
10	n-Propanol	100 KL	1	Flammable
11	Heptane	100 KL	1	Flammable
12	Acetone	100 KL	1	Flammable
13	Cyclohexane	50 KL	1	Flammable
14	Acid Tank - 1	100 KL	1	--
15	Acid Tank - 2	100 KL	1	--
16	Acid Tank - 3	100 KL	1	--
17	Acid Tank - 4	100 KL	1	--
18	Chlorine gas	Tunner	(10 nos.)	Toxic
19	Bromine Liquid	10 KL	4	Corrosive
20	Ammonia Gas	40 KL	2(1 operated + 1 spare)	Corrosive
21	Anhydrous Hydrogen Fluoride (AHF)	40 KL	2	Corrosive

Storage of Hazardous chemicals in IBC Tank / Bags /Barrels

Sr. no	Name of Chemical	Capacity of Bags/ Drums/Barrels	Nos. Of Unit	IBC Tank /Bags/Barrels	Physical state	Characteristic
1.	1,1,2,2 - Tetrafluoroethylene	1.0 MT	308	IBC Tank	Liquid	Flammable
2.	1,2di Bromo HFP	1.0 MT	144	IBC Tank	Liquid	Corrosive
3.	2, 4-Dichloroacetophenone	1.0 MT	315	IBC Tank	Liquid	Corrosive
4.	2,3 dichloro Toluene	1.0 MT	117	IBC Tank	Liquid	Flammable
5.	2-Fluoroaniline	1.0 MT	165	IBC Tank	Liquid	Flammable
6.	Acetic acid	1.0 MT	2	IBC Tank (coated)	Liquid	Flammable
7.	Acetic Anhydride	1.0 MT	130	IBC Tank (coated)	Liquid	Flammable
8.	Acetonitrile	1.0 MT	213	IBC Tank	Liquid	Flammable
9.	Aqueous Ammonia	1.0 MT	88	IBC Tank	Liquid	Flammable

10.	Chlorosulfuric acid	1.0 MT	53	IBC Tank	Liquid	Corrosive
11.	Dimethyl Formamide	1.0 MT	611	IBC Tank	Liquid	Flammable
12.	Ethylene Dichloride	1.0 MT	519	IBC Tank	Liquid	Flammable
13.	Fluorosilic Acid (25%)	1.0 MT	151	IBC Tank	Liquid	Corrosive
14.	Hydrofluoric acid Anhydride	1.0 MT	269	IBC Tank	liquid	Highly corrosive
15.	Potassium chloride	1.0 MT	55	IBC Tank	liquid	Corrosive
16.	Methylene Chloride	1.0 MT	291	IBC Tank	liquid	Corrosive
17.	Methylene dichloride	1.0 MT	1298	IBC Tank	liquid	Corrosive
18.	Pentachlorobenzonitril e	1.0 MT	310	IBC Tank	liquid	Flammable
19.	PentafluoroBenzonitrile	1.0 MT	363	IBC Tank	liquid	Flammable
20.	Potassium Phosphate	0.25 MT	26	Barrels	liquid	Irritative
21.	P-Xylylene Chloride	1.0 MT	104	IBC Tank	liquid	Corrosive
22.	Sulfolane	1.0 MT	859	IBC Tank	liquid	Flammable
23.	Trifluoroacetic acid	1.0 MT	502	IBC Tank	liquid	Corrosive
24.	Ammonium bicarbonate	0.75 MT	23	Bags	solid	Irritant
25.	Caustic flakes	1.0 MT	89	Bags	solid	Highly corrosive
26.	Caustic lye	1.0 MT	52	Bags	solid	Irritating and corrosive
27.	Caustic lye(48%)	1.0 MT	194	Bags	solid	Irritating and corrosive
28.	o-Toulidine	0.75 MT	53	Bags	Solid	Corrosive
29.	Paraformaldehyde	0.75 MT	242	Bags	Solid	Flammable
30.	p-Hydroxy phenyl glycine	0.75 MT	99	Bags	Solid	Flammable
31.	Potassium Fluoride	1.0 MT	1500	Bags	Solid	Irritate
32.	Potassium nitrite	0.75 MT	98	Bags	Solid	Corrosive
33.	Raney Nickel	0.75 MT	11	Bags	Solid	Flammable
34.	Silica	0.25 MT	1	Barrels	Solid	Flammable
35.	Sodium Bi Sulphite	0.25 MT	3	Barrels	Solid	Corrosive
36.	Sodium bicarbonate	0.75 MT	73	Bags	Solid	Corrosive
37.	Sodium Borohydride	0.75 MT	66	Bags	Solid	Corrosive
38.	Sodium Carbonate	0.75 MT	11	Bags	Solid	Corrosive
39.	Sodium Cyanide	0.75 MT	89	Bags	Solid	Corrosive
40.	Sodium dithionate	0.25 MT	2	Barrels	Solid	Irritating, corrosive and toxic
41.	Sodium Hydroxide Flaks	0.75 MT	90	Bags	Solid	Flammable
42.	Sodium iodide	0.75 MT	301	Bags	Solid	Corrosive
43.	Sulfur	0.75 MT	48	Bags	Solid	Flammable
44.	2,4,6-trichlorobenzonitrile	0.75 MT	146	Bags	Solid	Corrosive
45.	2-Nitro Chloro Benzene	0.75 MT	192	Bags	Solid	Corrosive
46.	Activated carbon	0.25 MT	4	Barrels	Solid	Flammable

- **Note: Required area for Drums: 940 m^2**
- **Required area for Bags: 342 m^2**
- **Required area for Barrels: 13 m^2**

Total area requirement for the Raw material storage**: 1295 m^2**

Safety Measures for PESO Underground storage tank farm:
Not Any tank are Underground

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

  - Dedicated and well ventilated storage provided for hazardous chemicals stored other than in tanks.
  - Labelling of carboys, drums, barrels done for identification and safe handling of chemicals.
  - Min. inventory of hazardous chemicals maintained as per production planning.
  - **Safety details of Hazardous Chemicals:**

Type of Hazardous Chemicals	Safety measures
FLAMMABLE & EXPLOSIVE	• Earthing& bonding provision • Flame proof light fitting • Separate storage area • Safety Boards displayed near storage area • Handling of material with PPE like Safety glasses, hand gloves, gumboot, Apron etc. • Fire protection system • Hot work permit system
CORROSIVE& CHEMICALS	• Stored out of direct sunlight and convenient height. • Separate in storage from incompatible chemicals. • Labeling is done. • Removal of steam fumes and dust. • Adequate ventilation. • Use of drum pump for transferring. • Emergency shower and eyewash provided. • Check valve, hoses, pipes, gland, clips and pumps. PPE and First Aid box is provided.
TOXIC CHEMICALS	• Keep away from sources of ignition, tight closed container and dyke provision to storage area, storage area cool and dry • Safety boards displayed on the area • Store flammable and combustible liquid away from incompatible material like oxidizer • For accidental contact if anyone feels unwell, seek medical advice immediately • Handling of material with PPE like Safety glasses, hand gloves, gumboot, Apron etc. • Good ventilation must be provided. • Bonding and grounding provided for transferring liquid. • MSDS of all material keep available.
Explosive Chemical	• Total enclosed process system will be provided. • Nitrogen blanketing in hydrogenation reactor. • Safety valve and rupture disc provided on reactor. • Cooling chilling and power alternative arrangement have been made on reactor. • Hydrogen cylinder bank away from the reactor. • PRV station with shut off valve, safety valve provision will be made for hydrogenation reaction safety. • SOP will be follow for hydrogen gas charging in reactor and completion of

	nitrogen flushing 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 prepared and operators will be trained for the same. • Static earthing and electric earthing will be provided. • Jumper for static earthing on pipeline flanges of flammable chemical will be provided. • Hydrogen gas detector will be installed for gas leak. • Lightening arrestor on all chimney and building will be provided. • Safety permit system shall be followed for loading, unloading of hazardous chemical. • Fencing, caution note, hazardous identification board should be provided. • Only authorized person shall be permitted in storage tank area and register will be maintained.
REACTIVE CHEMICALS	• Store containers in a dedicated, well-marked, secure area having full access to containers from all sides • Ideal temperature is between 10 and 27 deg C and away from heat source • Gas detector at tonner/cylinder storage area, process area will be mandatory with low level mounting • Adequate ventilation • Container stored in upright position • SOP will be prepared for safe handling of Chlorine cylinder. • Chlorine Emergency Kit will be procured and kept ready at chlorine shed. • Chlorine Hood with blower will be provided with scrubbing arrangement. • Safety Shower and eye wash will be provided in Chlorine shed area. • Cylinder handling EOT crane will be installed in Chlorine shed area for safe cylinder handling. • Safety Valve will be provided on chlorine header line and it will be connected to caustic scrubber. • SCBA sets will be kept ready at chlorine handling area. • Safety valve will be provided on vaporizer header and outlet of safety valve connected to scrubber. • Flow and temperature controllers will be provided on process line. • Unit will obtain permission under Gas Cylinder Rule- Explosive Department. • Competent Authorities approved by DISH & PESO. Periodically inspection to be carried out as per rule (Third party inspection as per static pressure vessel (unfired) rules 1981).Installation is approved by Chief Controller of Explosives. • Internal and external inspection as per Rule 19 of SMPV • Periodically inspected as per rule (Third party inspection as per static pressure vessel (unfired) rules 1981). Installation is approved by Chief, Chlorine detector should be provided

➢ **Applicability of PESO:** Yes. Unit will obtain PESO License for storage of chemicals

Comments:

➢ Committee was of the opinion that the provisions of PESO, licensing, condition compliance, monitoring, fall within the preview of The Petroleum and Explosives Safety Organization (PESO) and SEAC has very limited role in this. Nevertheless SEAC has examined it. The PP has submitted that the list of raw materials/products proposed to be produced along with the quantity, attract the provisions of PESO and they will abide by the requisite legal compliances with reference to storage and safety. SEAC has taken note of it.

H-2	Types of hazardous Processes involved and its safety measures: Not Applicable

As example given below.

Types of process	Safety measures including Automation
Florination	**Safety measures for Fluorination Process** • Store in tightly closed containers in a cool, well-ventilated area away from Water and Steam as Ozone and Hydrofluoric Acid are produced. • Wherever Fluorine is used, handled, manufactured, or stored, use explosion-proof electrical equipment and fittings. • Containers may explode if subjected to shock. Protect from physical damage.
Nitration	**Safety measures for Nitration Process** • Use in ventilated areas and in proximity to eyewash and safety shower stations, hile wearing compatible gloves, safety goggles, and a lab coat. • Avoid contact with metals! Nitric acid is extremely corrosive in the presence of Aluminum, copper, and oxides and attacks all base metals. • Store in glass containers that are secured, dry, cool (<23'C/73.4'F), away from sources of ignition, combustible materials, other acids, bases, cyanides, and acetone. Use secondary containers to segregate nitric acid from other acids in your acids cabinet. • Storage containers must be dry, as nitric acid can react with water or steam to produce heat, and toxic, corrosive, and flammable vapours. • Pre-labelled and dated safety-coated glass bottles (PTFE) may be used for nitric acid waste; avoid using empty organic solvent bottles. • Proper waste segregation can help avoid laboratory accidents and explosions. Do not mix nitric acid waste with any other waste streams, including other inorganic acids. • Segregation of nitric acid waste from different processes or experiments is recommended. • In the case of a spill, absorb nitric acid with an inert dry material (earth, sand, or other non-combustible material), place in an appropriate waste container, and neutralize with dilute sodium carbonate.
Chlorination	**Safety measures for Chlorine Process** • Enclosed, sealed, and separated from other operating areas. ; • On the downwind side of the building, away from entrances, windows, louvers, walkways, and other occupied areas. ; • At least 60° F, but protected from extreme heat or direct sunlight. • A shatter-resistant inspection window mounted in an interior wall of the plant. ; • Doors equipped with panic hardware that provide an easy escape by opening outward to the building exterior. ; • A ventilating fan that exchanges the air at least once a minute. Run the fan whenever the room is occupied. ; • An air intake near the ceiling and an exhaust near the floor. Make sure the fan exhausts outdoors and moves air as far as possible away from doors, air inlets, or occupied areas. ; • Motorized louvers that provide airtight closure. ; • Individual vandal-proof switches for the fan and lights located both outside the chlorine room and at the inspection window. Provide signal lights if you can control the fan from more than one location. ; • A nonslip floor. Floor drains are a bad idea. If your chlorine room does have a floor drain, seal it or make sure it discharges outdoors away

	from air inlets, doors, or occupied areas. The drain should not connect to other internal or external drainage systems. • The chlorine room should have continuous leak-detection equipment with audible and visual alarms employees throughout the treatment plant can see and hear. • Follow the manufacturer's recommendation for calibrating and testing the equipment. Record your findings. • You can use a rag soaked in concentrated ammonia solution to locate gas leaks at fittings and pipe connections. A white cloud or vapor indicates a leak. • Make sure workers have a Chlorine Institute-approved leak repair kit (Kit A for cylinders and Kit B for containers).
Oxidation	**Safety measures for Oxidation Process** • Oxidizers should be stored in a cool, dry place. • 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 per chloric acid and nitric acid must be stored separately in compatible secondary containers away from other acids.
Bromination	**Safety measures for Bromination Process** • Store and handle bromine over drip pans drained by a sump that is vented to a scrubber system. • Bromine handling areas should be clearly marked and restricted to qualified and trained personnel only. • Maintain and clean uncontaminated equipment, floors, and work areas. • Immediately contain and clean up all bromine spills. • Wear approved respiratory equipment and protective clothing. • Carefully release anhydrous ammonia vapor to neutralize bromine vapours in the air. Be careful not to over apply anhydrous ammonia. • Pour soda ash solution or hypo solution on the liquid bromine to neutralize. • Using cold water, wash neutralized bromine to a sump for disposal. • Open doors and windows to ventilate. • Avoid contact of bromine with strong reducing agents, strong alkalis, metals, wood, paper products, fabric, grease, and oil or other combustible materials.

H-3 Details of Fire Load Calculation

Total Plot Area:	54075.51sq. m
Area utilized for plant activity:	13634 sq. m
Area utilized for Hazardous Chemicals Storage:	1510Sq.m.
Number of Floors:	GF + 2
Water requirement for firefighting in KLD:	34085
Water storage tank provided for firefighting in KLD	20000
Details of Hydrant Pumps:	10 HP jockey pump, 60 HP Main Pump
Nearest Fire Station :	MFL Fire Station
Applicability of Off Site Emergency Plan:	Not applicable

Comments:

- 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 20000 KL. SEAC found it as per the requirement.

H-4	Details of Fire NOC/Certificate:
Unit has already obtained Fire opinion	

H-5	Details of Occupational Health Centre (OHC):

Number of permanent Employee:	150
Number of Contractual person/Labour:	25
Area provided for OHC:	400 Sq. m.
Number of First Aid Boxes:	50
Nearest General Hospital:	Dahej Health & welfare society Hospital
Name of Antidotes to be store in plant:	Dilute lactic acid, soframycin, Benzocaine solution, Diazepam, Epicake Syrup,

Comments

- Project proponent has provided Occupational health center with adequate provision of manpower, equipment and operational cost. SEAC finds it as per the provisions of Gujarat Factory Rules 1963.

H-6	Details of Emergency measures proposed and preparedness action for chemicals and fire explosion etc.

EMERGENCY

- An emergency is the situation, which has potential to cause a large-scale damage or destruction to life or property or Environment or combination of these within or outside the factory. Therefore it is essential to have a laid down procedure to meet emergency systematically.
- In any industry, emergency can arise at any moment and this depends on the type of:
- Raw Materials
- Machines
- Nearby Industries
- Location of the Industry etc.

PROCEDURE ON NOTICING AN EMERGENCY

- ❑ If anybody notices any situation, which may lead to a disaster, should be immediately inform the Shift In-charge / site controller / Incident Controller / Fire & Safety Supervisor / Security.
- ❑ Take charge of the situation as Incident Controller.
- ❑ Rush to the site of emergency to get the correct picture and then to Emergency Control Center for speedy control over the situation by making an arrangement for raising the alarm.
- ❑ On arrival of Team members, he shall assign duties as required and activate the On-Site Emergency Plan.
- ❑ Ensure safety of the plant and the personnel in the plant. He will make an assessment of the emergency and decide on external assistance.
- ❑ Communicate and Coordinate among the Incidents Controller/ Site Controller/ Factory manager/ fire safety supervisor etc. and will be the final authority on all matters related with management of emergency such as:
- ❑ Fire fighting.
- ❑ Welfare and rescue operations.
- ❑ Arrange for Civil/Mechanical/Electrical work during emergency.
- ❑ Transport

Logistic facility /Tel Nos.	Destination	Distance Km.
Nearest Hospital	Dahej General Hospital	2.68 Km
Fire Brigade (101)	MFL fire station	1.5 Km
Nearest Police Station (100)	Dahej	3.85 Km

I	Details of Membership for Common Facility:

Sr. No.	Membership for Common Facility	Membership Certificate issuing agency Date of Issue and validity of membership
01	CETP	Not Applicable

02	TSDF site	Application dated on 02/11/2022 for BEIL
03	Common Hazardous Waste Incineration Facility	Application dated on 02/11/2022 for BEIL
04	Common Spray Drying Facility	--
05	Common MEE Facility	--
06	Common Conveyance System	Unit has obtained water discharged letter from GIDC Letter No. GIDC/BRH/DEE/DRG/ dated on 16-12-2022
07	PESO permission	Will be obtained
08	FIRE permission	Will be obtained
09	Health Certificate	Will be obtained

J **Reduce / Reuse / Recycle measures adopted.**

(c) Reduce

Sr. No.	Item	Quantity	% percentage
1	Recycle Water	163.5 KLD	14.17 % of total water requirement.

(d) Reuse

Sr. No.	Item	Quantity	% percentage
1	Reuse Water	163.5 KLD	14.17 % of water will be reuse

(c) Recycle

Sr. No.	Item	Quantity	% percentage
1	Recycle water within plant	163.5 KLD	14.17 % of water will be reuse for cooling tower, boiler and gardening

K **EMP Details**

Sr. No	Unit	Detail	Capital Cost (Rs. In Lakhs/Crores)	Total Recurring Cost per Month (Rs. In Lakhs/ Crores per Annum)
1	Wastewater	Effluent Treatment Plant & Sewage Treatment System (ETP, RO, includes power, manpower, chemical cost etc.),	800	180
2	Air	Air Pollution Control Equipments Maintenance (Power, cleaning, maintenance etc.)	200	70
3	Hazardous waste Management	Hazardous Waste Storage Facility, Collection, Transportation & Disposal	80	240
4.	Fire & Safety	Sprinklers, Fire Extinguishers, Hydrant System & Safety Equipment	292	147
5	Green Belt Development	Green Belt development Within premises	30	20

6.	Occupational Health	OHC & Health check-up of workers	50	10
7.	Noise Control	Enclosures, vibration control pads etc.	8	3
8.	VOC Control & LDAR	PLC based interlocks for critical reaction systems, System Automation	500	90
9	Environment Monitoring Program	Tie up with NABL accreditation laboratory for regulatory monitoring, etc	25	30
10	CER Activity	As per list	337.5	0
Total			2322.5	790

Comments:

- The overall environment management plan (EMP) provided for capital and recurrent cost for waste water treatment, air emission control, noise control, hazardous waste disposal, fire safety, occupational health, green belt and corporate social responsibility was deliberated and found satisfactory.

Details of CER -

PP shall carry out CER activities as below:

Sr. No.	Sector	Activities	Years					Total amount (in Lakhs)
			2022-23	2023-24	2024-25	2025-26	2026-27	
1	Educational activities	Scholarships to meritorious students and providing education materials to economically weaker students	10	10	10	10	10	50
		Providing furniture like tables, benches, chairs in nearby schools						
2	Health care programme	Arranging medical camp for people of nearby villages	15	15	10	10	10	60
		Providing medicines to nearby health centres						
		Providing drinking water in nearby villages						
3	Environment protection measures	Providing financial assistance for construction of toilet blocks under Swachha Bharat Abhiyan" in nearby villages	20	15	15	15	10	75
		Tree Plantation Activity						
4	Infrastructural development	Conducting rain water harvesting programme by construction of wells	42.5	35	30	25	20	152.5
		Construction /repairing of road in nearby villages						
		Construction of rest						

		houses for Narmada parikrama pilgrims						
Total			**87.5**	**75**	**65**	**60**	**50**	**337.5**

19) **DELIBRATION AND RECOMMENDATION:**

"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:

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. 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.
3. Leak Detection and Repair (LDAR) program shall be prepared and implemented as per the CPCB guidelines. LDAR Logbooks shall be maintained.
4. 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.
5. 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.
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) Unit shall obtain all required permissions from the Narcotics Control Bureau for manufacturing, storage and handling of Acetic Anhydride & any such chemicals.
   b) PP shall obtain PESO permission for the storage and handling of hazardous chemicals.
   c) PP shall provide Occupational Health Centre (OHC) as per the provisions under the Gujarat Factories Rule 68-U.
   d) 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.
   e) Unit shall adopt functional operations/process automation system including emergency response to eliminate risk associated with the hazardous processes.
   f) 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.
   g) 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.
   h) 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.
   i) 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.
   j) Flame proof electrical fittings shall be provided in the plant premises, wherever applicable.
   k) Unit shall provide water sprinkler to the ammonia storage cylinder.
   l) Unit shall never store drum/barrels/carboys of incompatible material/chemical together.
   m) Unit shall provide effective fire hydrants, water monitors & foam application system at solvent

storage area and unit shall provide adequate safety system such as water sprinklers, water curtains, foam pouring system etc. to restrict cascade fire emergency in solvent storage area.

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

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 rapture disc, as well as auto dump or auto quench/, suppress system for nitration vessel safety.

r) Unit shall provide a spare tank with emergency transfer system and bund/ dyke wall to Oleum storage tank.

WATER

9. Total water requirement for the project shall not exceed 1153.5 KLD. Unit shall reuse 163.5 KLD of treated effluent within premises. Hence, fresh water requirement shall not exceed 990 KLD and it shall be met through GIDC water supply only. Prior permission from concerned authority for withdrawal of water shall be obtained.
10. The industrial effluent generation from the project shall not exceed 840 KLD.
11. Management of Industrial effluent shall be as under:
    - ✓ 760 KLD process & washing effluent, 10 KLD DM effluent and 35 KLD bleed liquor shall be treated in primary & secondary ETP. Out of 805 KLD treated effluent, 800 KLD shall be discharge in GIDC drainage for deep sea disposal and 5 KLD shall be reused within premises for coal dust suppresion.
    - ✓ 25 KLD boiler blow down and 10 KLD cooling tower blow down shall be reused in scrubber.
12. Treated waste water shall be sent to GIDC-Dahej drainage only after complying with the inlet norms of common facilities prescribed by GPCB to ensure no adverse impact on Human Health and Environment.
13. Domestic wastewater generation shall not exceed 8.5 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.
14. 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.
15. Unit shall provide buffer water storage tank of adequate capacity for storage of treated waste water during rainy days.
16. The unit shall provide metering facility at the inlet and outlet of ETP & STP and maintain records for the same.
17. Proper logbooks of ETP & STP; reuse/ recycle of treated/ untreated effluent; chemical consumption in effluent treatment; quantity & quality of treated effluent discharged in GIDC-Dahej drainage; 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 boilers and D G Sets as per the point no. E-2 as mentioned above.
19. Unit shall provide adequate APCM with flue gas generation sources to achieve the norms prescribed by GPCB.
20. Unit shall provide adequate APCM with process gas generation sources as the point no**. E-3** as mentioned above.
21. PP shall use approved fuels only as fuel in boilers.
22. The fugitive emission in the work zone environment shall be monitored. The emission shall conform to the standards prescribed by the concerned authorities fromtime to time (e.g. Directors of IndustrialSafety& Health). Following indicativeguidelines shall also be followed to reducethe fugitive emission.

    - Internal roads shall be either concreted or asphalted or paved properly toreducethe fugitive emission during vehicular movement.
    - Air borne dust shall becontrolled 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. Forcontrol of fugitive emission, VOCs, following steps shall be followed :
    - ✓ Closed handling and charging system shall be provided for chemicals.
    - ✓ Reflux condenser shall be provided over Reactors / Vessels.
    - ✓ Pumps shall be provided with mechanical seals toprevent leakages.
    - ✓ 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. Regular monitoring of ground level concentration of PM_{10}, $PM_{2.5}$, SO_2, NOx, HCl, Br_2, Cl_2, NH_3, HF, CO_2, HBr and VOCs shall be carried out in the impactzoneand 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 toexceed the prescribed limits, necessary additionalcontrol 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:

27. All the hazardous/ solid waste management shall be taken care as per the point no. F-1 as mentioned above.
28. 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.
29. 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.
30. 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.
31. STP sludge shall be collected and used as manure in gardening activity or send to TSDF site for landfilling.
32. The project proponent has to obtain membership of TSDF site & CHWIF before obtaining CTO of GPCB.
33. 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

34. The PP shall develop green belt within premises (18000 Sq. m i.e. 33.29 % 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:

35. The project proponent shall carry out the activities of Rs 337.5 Lakhs [Scholarships to meritorious students and providing education materials to economically weaker student; Providing furniture like tables, benches, chairs in nearby schools; Providing medicines to nearby health centres; Providing drinking water in nearby villages; Providing financial assistance for construction of toilet blocks under Swachha Bharat Abhiyan" in nearby villages; Tree Plantation Activity; Conducting rain water harvesting programme by construction of wells; Construction /repairing of road in nearby villages and Construction of rest houses for Narmada parikrama pilgrims] 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.

36. All the recommendations, mitigation measures, environmental protection measures and safeguards proposed in the EIA report of the project prepared by M/s. Excel Enviro tech 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.

COMPLIANCE OF ENVIRONMENT CLEARANCE/REPORTING/ADMINISTRATION/APPEAL:

37. 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.
38. 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.
39. Designated key person shall submit six monthly compliance report to SEIAA/SEAC, MOEF&CC, GPCB and Nodal Department of the Government.
40. 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.
41. 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.
42. 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.
43. 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

9.	SIA/GJ/IND2/174838/2020	**PARI PHARMA INDUSTRIES** Survey No. 160/ P-1, Plot No. 15, 16, 17, 18, Village: Pipaliya, Taluka: Rajkot, District: Rajkot,	EC-Refer back

1) Project proponent (PP) has submitted online application vide no. SIA/GJ/IND2/174838/2020 on dated 19/01/2021 (accepted by SEAC on dated: 18.02.2021) for obtaining Environmental Clearance.
2) PP has applied for Environmental clearance and the SEAC recommended the project for grant of environmental clearance vide this office letter no. EIA-10-2022-IND2/4253 dated: 12.09.2022 for conditions as mentioned therein.

3) This case was reconsidered in SEAC MOM dated: 15.12.2022.
4) PP or their technical expert has not submitted any communication regarding remaining absent in the meeting and remained absent during the meeting dated: 15.12.2022.

After deliberation, SEAC unanimously decided to defer the proposal and consider the same in one of the upcoming meeting of SEAC.

10.	SIA/GJ/IND3/291815/2022	**M/s.LANXESS INDIA PVT. LTD.** Plot NO. 748/2/A, 748/3, 748/4/A & 748/4/B, GIDC-Jhagadia, District-Bharuch.	EC-Amendment (Reconsideration)

Category: **5(f)**

Project status: EC-Amendment

1) This is an existing unit and proposed for expansion of "Synthetic Organic Chemicals" for which was accorded Environmental Clearance vide letter no. SEIAA/GUJ/EC/5(f)/647/2020 dated: 09.06.2020.
2) Now, project proponent has applied online vide proposal no. SIA/GJ/IND3/291815/2022 for EC-Amendment in EC letter no. SEIAA/GUJ/EC/5(f)/647/2020 dated: 09.06.2020 for Split of the current Lanxess plot into 2 Plots.
3) The proposal is scheduled in the SEAC video conference meeting dated 18.10.2022 but due to technical error in their internet they could not able to join the meeting through VC.
4) This proposal is reconsidered in SEAC meeting dated **19.10.2022**. Project Proponent remains present in the meeting and made presentation before Committee.
5) During meeting, Committee noted that PP submitted following details:
   - ✓ LANXESS India Private Limited ("LIPL") is located at Plot No. 748/2/A, 748/3, &748/4/B +748/4/A, GIDC Jhagadia, Bharuch
   - ✓ Currently manufacturing 16 products out of 19 products as indicated in theri EC Order No. SEIAA/GUJ/EC/5(f)/647/2020
   - ✓ These products classified into 4 categories: (i) ION Exchange Resin Chemicals, (ii) Rubber Chemicals, (iii) Semi-Crystalline Products, (iv) Rubber & Leather Chemicals
   - ✓ Due to strategic initiatives taken by their Germany HQ Office, they have split their existing plot into 2 plots and have transferred the plot that is manufacturing Semi-Crystalline Products to a new company [LANXESS Performance Materials (India) Private Limited]
   - ✓ They have now applied for Amendment of their existing EC such that the Semi-Crystalline Products and associated mass/water balances, waste generation, etc. are removed.
   - ✓ LANXESS India Private Limited ("LIPL") is located at Plot No. 748/2/A, 748/3, &748/4/B +748/4/A, GIDC Jhagadia, Bharuch. The total area is 182,400 sqm.
   - ✓ PP has mentioned that they have received approval from GIDC vide order no. GIDC/RM/ANK/SD/FSO/JHA2/10 for splitting of existing plot 748/2/A, 748/3, &748/4/B +748/4/A, into 2.
   - ✓ PP has mentioned that that after splitting of plots, they have received approval from GIDC vide order

no. GIDC/RM/ANK/TRF/FTO/JHA2/148 dated 12/10/2022 for transfer of Plot 2 (i.e. 748/2/A, 748/3, &748/4/B +748/4/A/2), to the new company i.e. LANXESS Performance Materials (India) Private Limited

- ✓ As per the current EC vide order no. SEIAA/GUJ/EC/5(f)/647/2020 issued by the authority, for 19 products following 16 products are manufactured by LANXESS India Private Limited. PP has submitted an application to amend this product listing such that product # 8, # 9 and # 10 (Durethan A, Durethan B and Pocan) are removed from current EC.
- ✓ Further PP mentioned that the three products (Durethan A, Durethan B and Pocan) that are proposed to be removed from the existing EC do not fall under the category of an EC product. MoEF. These 3 products and underlying processes are not covered in the Schedules of this Notification. These 3 products are manufactured through Mixing/Blending processes and no chemical reaction or synthesis is involved.

6) Committee noted that this is B1 category project and earlier obtained EC letter no. SEIAA/GUJ/EC/5(f)/647/2020 dated: 09.06.2020 for which they have submitted application alongwith EIA report. Further PP has applied for EC amendment without submitting addendum to EIA/EMP report.

7) <u>After deliberation, SEAC unanimously decided to consider the proposal in next upcoming meeting of SEAC.</u>

1. Submit addendum to EIA/EMP report through NABET accrediated consultant with all details covered in the EIA/EMP report regarding impacts on water, Air, Soil, Noise, Flora fauna etc. due to bifurcation of products, plants, RM storage facilities, utilities, EMS from LANXESS India Private Limited into LANXESS Performance Materials (India) Private Limited.
2. Notarized undertaking and NOC of LANXESS India Private Limited for EC-split.
3. Board Resolution of LANXESS India Private Limited for splitting of unit into two parts.
4. Memorandum of Article and Article of Association of LANXESS India Private Limited and LANXESS Performance Materials (India) Private Limited.
5. Separate possession letter from GIDC for both the units i.e LANXESS India Private Limited and LANXESS Performance Materials (India) Private Limited.
6. Notarized undertaking regarding acceptance of EC conditions of LANXESS India Private Limited.
7. Risk assessment of critical hazardous chemicals of LANXESS India Private Limited and LANXESS Performance Materials (India) Private Limited.

8) Project proponent submitted the reply of above query through Parivesh portal.

9) The case was reconsidered in the SEAC meeting dated 15.12.2022.

10) PP and Technical expert M/s San Envirotech Pvt Ltd remained present during video conference meeting.

11) During meeting dated: 15.12.2022, PP presented the following details:

- ✓ **<u>Reason of EC-Amendment:</u>** Due to strategic initiatives taken by management, we have to split existing plot into 2 plots and have transferred the plot that is manufacturing Semi-Crystalline Products(Non-EC Products) to a new company [**LANXESS Performance Materials (India)**

Private Limited]. Practically, there is no splitting of EC, It is reduction of land area, products and environmental components from existing EC because, other unit **LANXESS Performance Materials (India) Pvt. Ltd.** will have non EC products and **no need to issue second EC** after splitting. We have applied for Amendment for existing EC such that the Semi-Crystalline Products and associated mass/water balances, waste generation, etc. are removed from existing EC. Rest of all the products are remain with **LANXESS India Pvt. Ltd.**

- ✓ Required MoU and GIDC transfer/split order is submitted to SEAC/SEIAA, Gujarat.
- ✓ Addendum to EIA/EMP report of M/s San Envirotech Pvt Ltd (NABET accredited consultant) with layout, bifurcation of products, Water consumption, w/w generation, stacks, hazardous waste details, EMS cost break up, Land use break up, Impact and mitigation measures on various environmental parameters is submitted.
- ✓ Copy of Board Resolution of LANXESS India Private Limited for splitting of unit into two parts (in EC point of view it is amendment).
- ✓ Legal identity of Company i.e. ROC documents of **LANXESS Performance Materials (India) Private Limited**.
- ✓ Separate possession letter from GIDC for both the units i.e. LANXESS India Private Limited and LANXESS Performance Materials (India) Private Limited is submitted.
- ✓ Notarized undertaking and NOC of LANXESS India Private Limited for EC amendment.
- ✓ Memorandum of Article and Article of Association of LANXESS India Private Limited and LANXESS Performance Materials (India) Private Limited.
- ✓ Notarized undertaking regarding acceptance of EC conditions of LANXESS India Private Limited is submitted.

12) Committee asked for following details:

- ✓ Detailed justification about proposed reduction group/products are non-EC products.
- ✓ Break up of CER cost after EC amendment.

13) Later on PP submitted the following details through email:

- ✓ **Detailed justification about proposed reduction group/products are non-EC products:** Semi Crystalline Product process is physical process without taking any Chemical Reaction and Crystalized either Ambient Temperature or below Ambient Temperature. Manufacturing process is submitted. Further, GPCB has granted our CC&A followed by CTE for additional capacity of product from 20000 MTPA to 60000 MTPA without EC, which is self-explanatory that competent Authority (GPCB) has checked the applicability of EC for Semi Crystalline products.
- ✓ Break up of CER cost after EC amendment are as under:

S. No.	Particular	As per EC/EIA Report	Cost details for LANXESS India Pvt. Ltd. after amendment	Cost details for LANXESS PerformanceMaterial (India) Pvt. Ltd. after amendment

		Recurring cost per annum (In Rs. lakh)	Capital cost (In Rs. Lakh)	Recurring cost per annum (In Rs. Lakh)	Capital cost (In Rs. Lakh)	Recurring cost per annum (In Rs. Lakh)	Capital cost (In Rs. Lakh)
1	Air Pollution Control	1103	1620	1098	1580	5	40
2	Water Pollution Control	876	2000	869	1990	7	10
3	Noise Pollution Control	5	25	4	15	1	10
4	Solid and HazardousWaste Management	150	214	143	209	7	5
5	Environment Monitoring And Management	130	50	125	45	5	5
6	Occupational Health& Safety	150	1000	120	900	30	100
7	Greenbelt developme nt	50	30	40	25	10	5
8	CER Fund	-	96	-	96	-	-
	Total	**2464**	**5035**	**2399**	**4860**	**65**	**175**

- ✓ The summary of Amendment in EC are as under:

Sr. No.	Condition no. in which Amendment is proposed	As per EC	As per proposed amendment	Justification
1	2nd Para	Plot no 748/2A, 748/3, 748/4/A, 748/4/B with plot area is Total Plot area 182400 m^2.	Plot no (748/2A, 748/3, 748/4/A, 748/4/B)/**1** with plot area is 158401.36 m^2	Plot no (748/2A, 748/3, 748/4/A, 748/4/B)/**2** with plot area is 23998.64 m^2 is transfer to LANXESS Performance Materials (India) Pvt. Ltd. as per the Management decision. Following Supporting documents attached.

				➢ Copy of Board Resolution duly signs by Authorized person. ➢ Legal identity of Company i.e. ROC documents of LPMIPL. ➢ GIDC order for split of plots. (Above all 3 documents are attached with sets of application)
2	2nd Para	Product details is given below	Product details is given below	Management decision to split the part of LANXESS India Pvt. Ltd. to LANXESS Performance Materials (India) Pvt. Ltd.
3	A.2 (15)	Total water requirement for the project shall not exceed 5776 KLD* and Unit shall reuse 1618.7 KLD treated wastewater. Hence, total fresh water requirement shall be **4157.3 KLD** and it shall be met through GIDC water supply only. Prior permission from the concerned authority shall be obtained for withdrawal of water.	Total water requirement for the project shall not exceed **5786.0 KLD (including recycle water)** and unit shall reuse **1618.7 KLD** treated wastewater. Hence, total fresh water requirement shall be **4074.8 KLD** and it shall be met through GIDC water supply only. Prior permission from the	Around **82.5 KLD** water consumption reduce due to reduction in production as mentioned in EC condition A.3 (22).

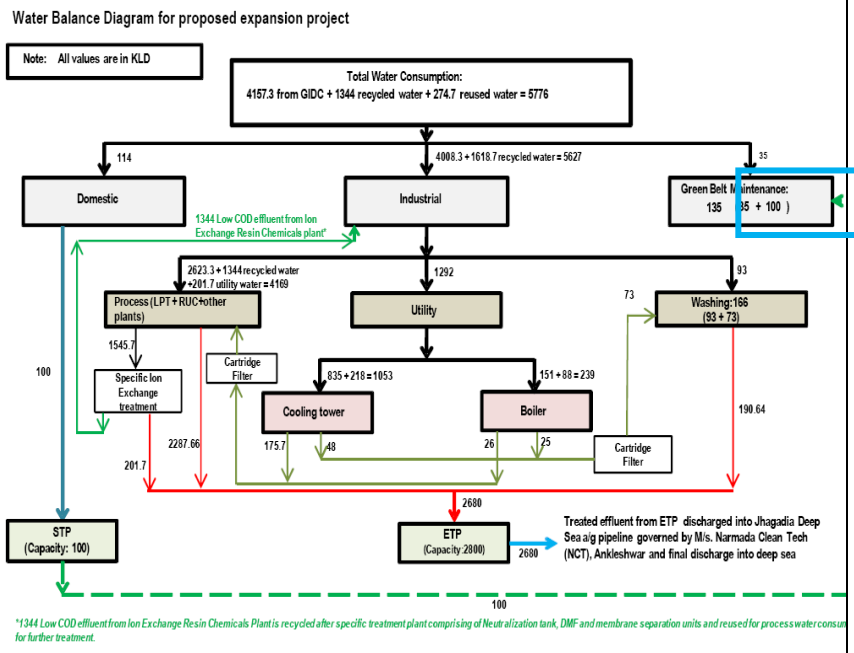
			concerned authority shall be obtained for withdrawal of water.	
	*** The figure 5776 KLD is not correct, Actual and correct figure is 5876 KLD with following justification.** **Water Balance Diagram (As per EIA)**  **Water Table (As per EIA)**		Water balance in EIA report is covered 135 KLD w/c for greenbelt whereas table shown 35 KLD only. So 100 KLD difference is carry forward in EC. So we have tried to correct the mistake.	

Table 2-7 Water Consumption (For Existing & Proposed expansion)

				Existing KLD	Proposed (Additional) KLD	Total after Expansion KLD	Remarks
(A) Domestic	:			109	5	114	--
(B) Gardening	:			35	0	35	--
(C) Industrial	:	Processing	:	4134*	35	4169*	*1344 KLD from recycling of Low COD effluent from Ion Exchange Resin Chemicals Plant after specific treatment plant comprising of Neutralization tank, Dual Media Filter and membrane separation units 201.7 KLD from reuse of utility blowdown after passing through cartridge filter GIDC water requirement shall be 2623.3 KLD
		Boiler	:	151	88	239	--
		Cooling	:	835	218	1053	--
		Washing	:	93	73	166	93 KLD freshwater + 73 KLD from reuse of 25 KLD boiler blow down and 48 KLD cooling
		Others	:	0	0	0	tower blow down after passing through cartridge filter)
		INDUSTRIAL TOTAL	:	**5213****	**414**	**5627****	**Existing Freshwater requirement from GIDC for Industrial use : 3869 KLD After proposed expansion : 4013.3 KLD**
		TOTAL (A+B+C)	:	**5357**	**419**	**5776****	**Existing TOTAL Freshwater requirement from GIDC : 4013 KLD After proposed expansion : 4157.3 KLD Fresh water: 4157.3 KLD + Recycled water: 1618.7 KLD**

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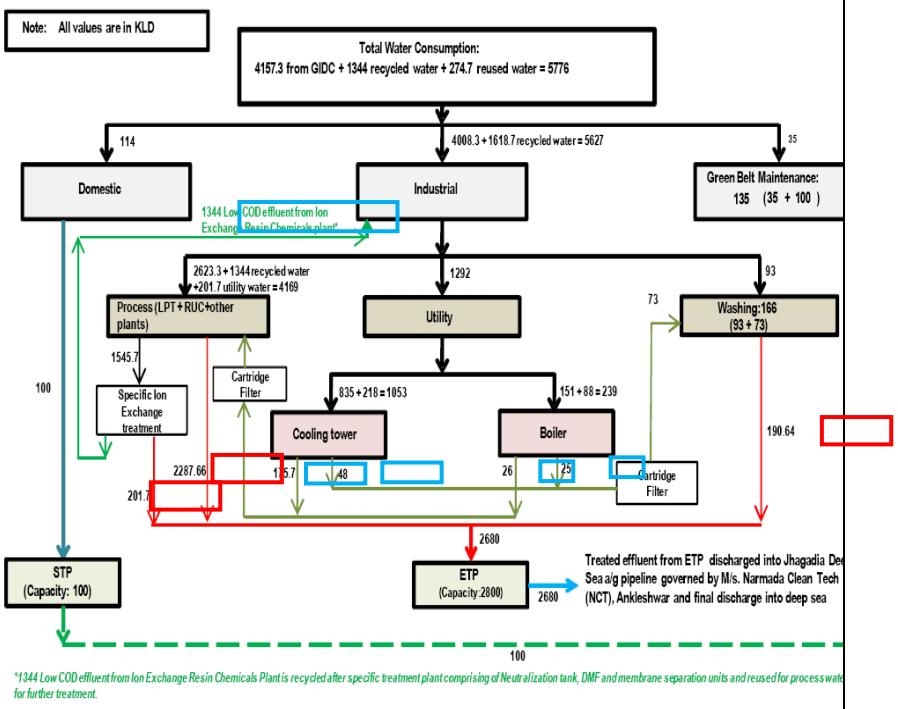
Project Sector as per Schedule of EIA Notification, 2006 – Sr. No. 5(f) – Synthetic Organic Chemicals Industry

EIA – EMP With Risk Assessment & DMP Report For Proposed Expansion In Existing Unit Of

For proposed Expansion of Synthetic Organic Chemicals at existing unit of **M/s. LANXESS INDIA PRIVATE LIMITED** at Plot No. 748/2/A, 748/3, 748/4/A & 748/4/B, Jhagadia Notified GIDC Industrial Estate, Taluka -Jhagadia, Dist. Bharuch, State - Gujarat, India

Chapter 2. Project Description

4	A.2 (17)	The total industrial effluent generation from the project shall not exceed 2753 KLD.*	The total industrial effluent generation from the project shall not exceed **4263.7 KLD** after recycling of treated w/w.	Around **35 KLD** Industrial effluent reduce due to reduction in production as mentioned in EC condition A.3 (22).
	* There is some representation mistake of w/w in EIA report. In EIA Report, there is no inclusion of close loop recycling of w/w i.e. 1618.7 KLD. Fact figure as per the water balance of EIA report is **4298.7 KLD.** **Water Balance Diagram (As per EIA)**			

	Water Balance Diagram for proposed expansion project  			
5	A.2 (18)	The industrial effluent shall be segregated and treated as follows:		
		a) Stream-1: The industrial effluent 2680 KLD generated (2287.66 KLD from process, 201.7 KLD from specific ion exchange plant and 190.64 KLD from washing & Decontamination facility) shall be treated in ETP having primary, secondary and tertiary treatment. Treated effluent from ETP shall be discharged into Jhagadia deep Sea pipe line of M/s. NCT for deep sea disposal.	a) Stream-1: The industrial effluent **2645 KLD** generated (2257.66 KLD from process, 201.7 KLD from specific ion exchange plant and 185.64 KLD from washing & Decontamination facility) shall be treated in ETP having primary, secondary and tertiary treatment. Treated effluent from ETP shall be discharged into Jhagadia deep Sea pipe line of M/s. NCT for deep sea disposal.	Around **35 KLD** Industrial effluent reduce due to reduction in production as mentioned in EC condition A.3 (22).
		b) Stream-2: The industrial effluent from 1545.7 KLD generated from manufacturing process shall be treated in specific ion exchange plant. 1344 KLD	b) Stream-2: The industrial effluent from	There is no change in EC condition

		treated effluent from specific ion exchange plant shall be reused within plant premises for industrial purpose. 201.7 KLD reject effluent from specific ion exchange plan shall be treated in ETP having primary, secondary and tertiary treatment. Treated effluent from ETP shall be discharged into Jhagadia deep sea pipe line of M/s. NCT for deep sea disposal.	1555.7 KLD generated from manufacturing process shall be treated in specific ion exchange plant. 1354 KLD treated effluent from specific ion exchange plant shall be reused within plant premises for industrial purpose. 201.7 KLD reject effluent from specific ion exchange plan shall be treated in ETP having primary, secondary and tertiary treatment. Treated effluent from ETP shall be discharged into Jhagadia deep sea pipe line of M/s. NCT for deep sea disposal.	except original summing mistake in EIA report is corrected here which is 1555.7 KLD generated from manufacturing process shall be treated in specific ion exchange plant. 1354 KLD treated effluent from specific ion exchange plant shall be reused within plant premises for industrial purpose.
		c) Stream-3: The industrial effluent 274.7 KLD generated (223.7 KLD from cooling tower and 51 KLD from boiler) out of which 201.7 KLD shall be reused in manufacturing process after passing through cartridge filter-2.	c) Stream-3: The industrial effluent 264.7 KLD generated (213.7 KLD from cooling tower and 51 KLD from boiler) out of which 181.7 KLD shall be reused in manufacturing process after passing through cartridge filter-2.	Around **10 KLD** effluent reduce due to reduction in cooling bleed off.
6	A.2 (19)	Domestic wastewater generation shall not be exceeding **100 KLD** and it shall be treated in STP treated effluent from STP shall be reused within plant premises for development of Green Belt development and gardening purpose.	Domestic wastewater generation shall not be exceeding **92.5**	Around **7.5 KLD** sewage generation will be reduced due

			KLD and it shall be treated in STP treated effluent from STP shall be reused within plant premises for development of Green Belt development and gardening purpose.	to reduction in manpower
7	A.3 (22)	Unit shall not exceed fuel consumption for Boiler, Incinerator, Hot water generators, Thermo cleaning machines, Fire hydrant pumps and DG Sets as mentioned EC.	Unit shall not exceed fuel consumption for Boiler, Incinerator, Hot water generators, Thermo cleaning machines, Fire hydrant pumps and DG Sets as mentioned in amended EC.	Part of Flue gas stack will be transfer to LANXESS Performance Materials (India) Pvt. Ltd.
8	A.3 (24)	Unit shall provide adequate APCM with process gas generation sources as mentioned EC	Unit shall provide adequate APCM with process gas generation sources as mentioned in amended EC.	Part of Flue gas stack will be transfer to LANXESS Performance Materials (India) Pvt. Ltd.
	A.4	**SOLID / HAZARDOUS WASTE**		
		All the hazardous waste management shall be taken care as mentioned in EC	All the hazardous waste management shall be taken care as mentioned in amended EC.	Part of hazardous waste will be transfer to LANXESS Performance Materials (India) Pvt. Ltd.
	B.2.7 (95)	The unit shall develop green belt within the premises as per the CPCB guidelines. However, if the adequate land is not available within the premises, the unit shall take up adequate plantation on road sides and suitable open areas in GIDC estate or any other open areas in consultation with the GIDC/GPCB and submit an action plan of plantation for next three years to the GPCB. Unit has already enhanced the existing greenbelt on the periphery as well as within the industrial establishment to cover 74570.6 sq.m (~40.8% of	Unit has already enhanced the existing greenbelt on the periphery as well as within the industrial establishment to cover 66910.6 sq. (~42.2% of plot area) and is	Greenbelt area will be reduced due to reduction in overall plot area which ultimate transfer to LANXESS Performance Materials

		plot area) and is following the EC condition thoroughly. In addition to this, proponent is participating in social forestry programmers of GIDC and forest department for green belt development and has planted trees in surrounding villages.	following the EC condition thoroughly. In addition to this, proponent is participating in social forestry programmers of GIDC and forest department for green belt development and has planted trees in surrounding villages.	(India) Pvt. Ltd. Transfer greenbelt area to LPMIPL will be establishment to cover 7660 sq. (~32.0% of plot area). LPMIPL will increase the greenbelt area up to 33% to comply the greenbelt conditions.

14) Revised salient features of the project including Water, Air and Hazardous waste management are as under:

Sr. no.	Particulars	Details
A-1	Total **cost of Proposed** Project (Rs. in Crores):	

Total Project
95.845

A-2	**Details of Environmental Management Plan (EMP)**	As below:

Sr. No	**Unit**	**Detail**	**Capital Cost (Rs. In Lakhs)**	**Total Recurring Cost (Rs. In Lakhs)**
1	Waste Water	ETP & Membership	1990	869
2	Air	Installation of Stack, APCM	1580	1098
3	Hazardous Management	Storage area & Membership	209	143
4	Environment Monitoring Programme	pH meter, COD apparatus, Balance, Glassware etc.	45	125
5	Green Belt Development	Plantation, manuring, fencing	25	40
6	Occupational Health	First Aid facility, OHC	900	120
7	Noise Pollution Control	Suspensor and Rubber packing at	15	4

		vibrating part Machinery		
8	CER	Social upliftment	96	-
		Total	**4860**	**2399**

B	**Land / Plot ownership details:** GIDC has allotted plot in the name of M/s. LANXESS India Pvt. Ltd.
B-1	**Plot area**

	Total Plot area
As per EC	182400 Sq. m.
After amendment of EC	158401 Sq. m

B-2	Brief note on **Area adequacy** in line to proposed project activities:
B-3	**Green belt area**

	As per EC	After amendment of E
Area in Sq. meter	47146.6	39486.6
total area (inside of the ct)	25.85%	25.0%

has already developed about 27424 sq.m (~17.3% of total plot nbelt in Sardarpura village, Shantivan School and on GIDC allocated e total greenbelt area is ~42.3% of the total plot area.

C	**Employment generation**

As per EC	After amendment of EC
720	680

D	**WATER**
D-1	**Source of Water Supply** (GIDC Bore well, Surface water, Tanker supply etc...) **GIDC Water Supply**
	Status of permission from the concern authority. ➢ GIDC already supply the required water.
D-2	**Water consumption (KLD)**

S. No.	Category	As per EC	Proposed changes	After EC amendment
A	**Domestic**	114	-10	104
B	**Gardening**	135	0	135
C	**Industrial**			
1	Process	4169	-33	4136
2	Boiler	239	0	239
3	Cooling	1053	-42	1011
4	Washing	166.0	-5	161
	Total Industrial	**5627.0**	**-80**	**5547**
	Total (A+B+C)	**5876.0**	**-90**	**5786**

	Close loop Recycled Water	**1618.7**	**0**	**1618.7**
	Recycled Water (Treated sewage)	**100**	-7.5	**92.5**
	Fresh Water Requirement	**4157.3**	**-82.5**	**4074.8**

D-3 **Waste water generation (KLD)**

Sr. No.	Source	As per EC	Proposed changes	After EC amendment
I	**Domestic**	100	-7.5	92.5
II	**Industry**			
A	Process	3833.36	-20	3813.36
B	Boiler	51	0	51
C	Cooling	223.7	-10	213.7
D	Washing & Decontamination facility	190.64	-5	185.64
	Total Industrial generation (II)	**4298.7**	**-35**	**4263.7**
	Grand Total (I+II)	**4398.7**	**-42.5**	**4356.2**
	Close loop Recycled Water	**1618.7**	**0**	**1618.7**
	Treated sewage (Utilize for Greenbelt development)	**100.0**	**-7.5**	**92.5**
	Total discharge to NCT	**2680.0**	**-35.0**	**2645**

Brief Note on worst case scenario for waste water generation (Qualitative and Quantitative):

Treatment facility within premises with **capacity [For existing and Proposed]**
[In-house ETP (Primary, Secondary, Tertiary), MEE, Stripper, Spray Dryer, STP etc.

D-4 Mode of Disposal & Final meeting point

Domestic:	92.5 KLD Domestic wastewater will be treated in STP and utilized for greenbelt development
Industrial:	Total Industrial effluent generation: 4263.7 KLD; out of which 1618.7 KLD Close loop Recycled Water, 2645 KLD Total discharge to NCT

D-5 Treatment facilities

For Domestic waste water:

Sewage will be treated in STP and utilized for greenbelt development.

For Industrial waste water: Treatment facility within premises with **capacity**
[In-house ETP (Primary, Secondary, Tertiary), MEE, Stripper, Spray Dryer, STP etc.
Treatment scheme including segregation at source. **(Give Characteristics of each stream i.e. COD, BOD, TDS etc.) In case of stream segregation, Separate ETP (ETP-1, ETP-2….) for each stream shall be proposed.**

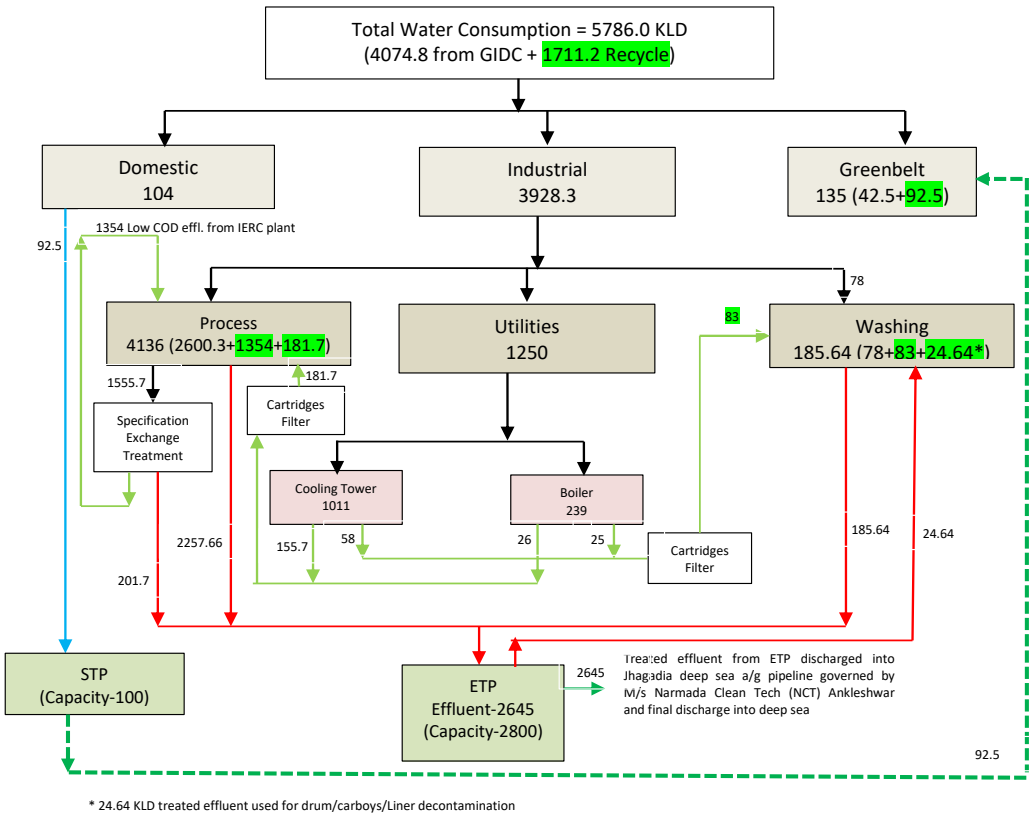
- **ETP Capacity: 2800 KLD, STP Capacity: 2800 KLD**

D-6 In case of Common facility (CF) i.e. **CETP, Common Spray dryer, Common MEE, CHWIF etc.**

Name of Common facility (CF) (For waste water treatment)

- NCT

D-7	**Simplified water balance diagram with reuse / recycle of waste water (after EC amendment)**



E	**AIR**
E-1	**Brief Note on fuel based Heat energy requirement and worst case scenario thereof:**
E-2	**Flue gas emission details** No. of Boilers/TFH/Furnaces/DG sets etc. with capacities viz. TPH, Kcal/hr, MT/hr, KVA etc.

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	Incinerator (Off gas)	30	NG	341 Sm^3/h	Particulate Matter SO_2 NOx	Water Scrubber
2	D.G. set – 1 SIS (500 KVA) (Stand by)	12	Diesel	102 L/h	Particulate Matter SO_2, NOx	Diesel engine meets stringent exhaust emission tests as per MoEFCC norms
3	Multi Fuel Boiler (14 TPH)*	40	Coal Or Biomass (Mix) or	3300 kg/h or 4666	Particulate Matter SO_2, NOx	ESP + Water Scrubber

			both	kg/h		
4	DG Set – 2 ION (500 KVA) (Stand by)	18	Diesel	102 L/h	Particulate Matter SO_2, NOx	Diesel engine meets stringent exhaust emission tests as per MoEFCC norms
5	Diesel Generator (1010 KVA) (Stand by)	30	Diesel	204 L/h	Particulate Matter SO_2, NOx	Diesel engine meets stringent exhaust emission tests as per MoEFCC norms
6	Fire Hydrant pump-1 (156 HP)	5	Diesel	27.4 L/h	Particulate Matter SO_2, NOx	Diesel engine meets stringent exhaust emission tests as per MoEFCC norms
7	Boiler – 8 TPH	21	NG	600 Sm^3/h	Particulate Matter SO_2, NOx	Boiler meets stringent exhaust emission tests as per MoEFCC norms
8	Fire Hydrant pumps-2 (156 HP)	5	Diesel	27.4 L/h	Particulate Matter SO_2, NOx	Diesel engine meets stringent exhaust emission tests as per MoEFCC norms
9	Multi Fuel Boiler-8 TPH*	40	Coal or Biomass (Mix)- or both	1886 kg/h or 2666 kg/h	Particulate Matter SO_2, NOx	ESP + Water Scrubber
10	Boiler (8 TPH)**	21	NG	600 Sm^3/h	Particulate Matter SO_2, NOx	Boiler meets stringent exhaust emission tests as per MoEF & CC norms

*Unit shall follow guidelines provided in GPCB office Order No. GPCB/ANK-C992/215695 Dated-07/06/2014

** If steam will be supplied by nearby company like Shriram Alkali & chemicals, unit shall not install proposed new boiler.

E-3

Process gas i.e. Type of pollutant gases (SO_2, HCl, NH_3, Cl_2, NO_x etc.)

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Sr. no.	Specific Source of emission (Name of the Product & Process)	Type of emission	Stack/Vent Height (meter)	Air Pollution Control Measures (APCM)
1	Storage tank Vents (Acetone)	Hydrocarbon	--	--
2	Amine Scrubber	Ammonia	30	Scrubber
3	Off gas – 2 from CME section	Hydrocarbon	30	Scrubber
4	Blender	SPM	9	Bag Filter
5	Kneader & Classifier unit	SPM	9	Dust Collector
6	HS Packing silo area	SPM	9	Bag Filter

7	Process Vent ION – Off gas line -1	HCl	30	Scrubber
8	Process Vent (Preventol Vessel- 1)	SPM	9	Bag Filter
9	Reactor (Renodive Vessel)	SPM	9	Bag Filter
10	Process Vent (Preventol Vessel- 2)	SPM	9	Bag Filter
11	Accelerator packing silo	SPM	9	Bag Filter
12	HCl process Column - 1	HCl	30	Scrubber
13	Fluidised bed dryer – 01U001	SPM	15	Bag Filter + Cyclone separator
14	Fluidised bed dryer – 01U002	SPM	15	Bag Filter + Cyclone separator
15	CME lab scrubber blowers	HC	9	CME scrubber
16	DA System - MFB	SPM	15	Source Emission
17	Common vent from 1416K25	HC	18	Water Scrubber
18	Common vent from 1416K26	HC	18	Water Scrubber
19	Chemical weighing station	SPM	12	Dust Collector
20	Chemical weighing station 2	SPM		Dust Collector
21	Kneader Dust collector	SPM	12	Dust Collector
22	Vibrator unit	SPM	12	Dust Collector
23	Filling station	SPM	12	Dust Collector
24	Granulator – dosing unit	SPM	12	Dust Collector
25	HCl Process Column - 2	HCl	30	Scrubber

E-4 **Fugitive emission** details with its mitigation measures.

Sr.	Probable Sources	Proposed Control Measures
1.	Pump, agitators and compressor Emissions	Use of mechanical seals in pumps, agitators and compressors where VOC are handled Unit has provided many provisions like pressurized seal, Teflon coated, magnetic coupling and mechanical seals to avoid leakage from the coupling.
2.	During Charging	Liquid raw materials charged by pumping & closed loops and dosing will be done by metering system to avoid fugitive emissions. Dedicated measuring tanks are provided for each reactor. Suitable stoichiometric calculations is done and followed to regulate the quantity of reactants to be charged to reaction vessels in order to avoid use of excess chemicals, which in turn will minimize organic load in the effluent.
3.	During reactions & Solvent recovery systems	All reactors & solvent recovery systems are closed and provided with primary and secondary condensers for vapour recovery Solvent recovery of minimum 95% is achieved. Temperature and pressure conditions are stringently controlled through DCS as per the process requirement and optimized with low temperature and vacuum conditions wherever feasible. Off-gas incinerator for controlling hazardous vapours from process vents. Even scrubber outlets are connected with incinerator.
4.	Pressure Relief Valve Emissions from pipelines	For highly pressurized lines, pressure equalization is followed with return lines so that the pipelines as well as connected equipment do not get pressurized unduly.
5.	Release from	Using a closed loop sampling system.

	Sampling Lines	
6.	Emissions from Bulk Storage Tanks during Storage, loading and unloading	Breather valves, PSVs, Rupture discs provided Closed transfer system. Vapor recovery system installed for process/ storage tank vents Tank Pressure equalization applied wherever required Use of ISO tankers wherever required
7.	Valves, Flanges, Plugs and Instrument connections	Welded pipes used wherever feasible Suitable gasket material used Suitable gland packing used in valves Periodic inspection and maintenance of pipes and pipe fittings
8.	Chemical Vapor from wet cake in filtration, centrifuge and drying area	Covered transfer systems shall be adopted, workers shall be provided PPE, fume extraction systems shall be provided, wherever required
9.	Warehouse storing drums and bags	Spillages are strictly prevented by providing drip pans, proper handling equipment, minimum manual operations, local exhausts and roof top ventilators Spill control procedures and equipment are provided.

F	**Hazardous waste** (As per the Hazardous and Other Wastes (Management and Transboundary Movement) Rules 2016.
F-1	**Hazardous waste management matrix**

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Sr. No.	Type of waste	Source of generation	Sch & Category (As per 2016	Generation (MT/Annum)			Source of generation	Facility, Mode of disposal & remarks
				As Per EC	Qty. remain with LIPL	Qty. remain with LPMIPL		
1	Discarded asbestos	Old gaskets & insulation rope	I-15.2	1.0	1.0	--	Old gaskets & insulation rope	Collection, Generation, Storage, Transportation, Disposal by send it to TSDF.
2	Contaminated aromatic, aliphatic or naphthenic solvents may or may not be fit for reuse	From manufacturing Process of Ion exchange resin chemicals	I-20.1	80	80	--	From manufacturing Process of Ion exchange resin chemicals	Collection, Generation, Storage, Transportation, Disposal by incineration in CHWIF.
3	Spent solvents	From laboratory	I-20.2	35	35	--	From laboratory	Collection, Generation, Storage, Transportation, Disposal by incineration in CHWIF.
		From Manufacturi		288	288	--	From Manufacturi	Spent solvent: Reused without

		ng Process of Rubber Chemicals, 4-Aminodiphenylamine & Cinnamyl Alchocol					ng Process of Rubber Chemicals, 4-Aminodiphenylamine & Cinnamyl Alchocol	any storage in the premises. As per point no. 2 mentioned in EC vide letter no. SEIA/GUJ/EC/5(f)/1246/2018 dated 26-11-2018: 1360666 MTA recovered solvent: Reused continuously in production through distillation columns having Primary and Secondary condensers inbuilt with reactors without any storage in the premises.
4	Distillation residues	From manufacturing Process of Ion exchange resin chemical and Rubber Chemicals and 4-Amino diphenylamine	I-20.3	1412	1412	--	From manufacturing Process of Ion exchange resin chemical and Rubber Chemicals and 4-Amino diphenylamine	Disposal by co-processing at authorized Cement industry OR by incineration in CHWIF and or pre-process for co-processing of M/s. BEIL, Ankleshwar
5	Process sludge	From manufacturing Process of Ion exchange resin chemicals	I-20.4	2000	2000	--	From manufacturing Process of Ion exchange resin chemicals	Co-Processing, Collection, generation, disposal, Transportation, storage, Disposal by co-processing at authorized Cement industry OR by sending it to TSDF and/or pre-process for co-processing, M/s. BEIL, Ankleshwar.
6	Process wastes, residues and sludge	From manufacturing Process of Rubber and Leather	I-21.1	292	292	--	From manufacturing Process of Rubber and	Collection, generation, incineration, disposal, storage, transportation,

		Chemicals and 4-Amino diphenylamine					Leather Chemicals and 4-Amino diphenylamine	Disposal by incineration in CHWIF
7	Sludge and filters contaminated with oil	During filtration	I-3.3	0.2	0.2	--	During filtration	Collection, Generation, Incineration, Storage, transportation, Disposal by incineration in CHWIF.
8	Empty barrels/containers/liners contaminated with hazardous chemicals/wastes	From raw material and product handling	I-33.1	499	478	21	From raw material and product handling	Collection, Recycling, Decontamination, Generation, Disposal, Reuse, storage, transportation, Disposal by send it to authorized decontamination facility/recycler or reuse or send back to supplier
9	Exhaust air or gas cleaning residue	From stack	I-35.1	2.0	2.0	--	From stack	Collection, generation, incineration, disposal, storage, transportation, Disposal by incineration in CHWIF
10	Spent ion exchange resin containing toxic metals	From ion exchange plant	I-35.2	0.1	0.1	--	From ion exchange plant	Collection, generation, incineration, storage, transportation, Disposal by incineration in CHWIF
11	Chemical sludge from waste water treatment	From ETP	I-35.3	2575	2575	--	From ETP	Co-Processing, Collection, Generation, Storage, Transportation, Disposal by processing at authorized Cement industry OR by send it to TSDF

								and/or pre-process for co-processing M/s. BEIL Ankleshwar
12	Spent carbon or filter medium	From carbon filter	I-36.2	22	22	--	From carbon filter	Collection, Generation, Incineration, ,Storage, Transportation, Disposal by incineration in CHWIF
13	Used or spent oil	Gear box & transformer	I-5.1	54	51	3	Gear box & transformer	Collection, Recycling, Generation, Reuse, Recovery, Storage, Transportation, Disposal by reuse in plant & machinery as lubricant or sell it to authorized re-refiners/ recycler.
14	Inorganic Acids (Sulfuric acid (65-85%))	From manufacturing Process of Ion exchange resin chemicals	II-B15	6000	6000	--	From manufacturing Process of Ion exchange resin chemicals	Collection, recycling, generation, recovery, storage, transportation, Sell to authorized user having authorization with valid CTO and Rule 9 permission
15	Corrosive (NaSH solution)	From manufacturing Leather Chemicals	II-C2	2000	2000	--	From manufacturing Leather Chemicals	Collection, Recycling, Generation, Disposal, Recovery, Storage, Transportation, Sell to authorized user having authorization with valid CTO and Rule 9 permission
16	Ammonia Solution	From manufacturing Process of Ion exchange resin chemicals	II-C2	6000	6000	--	From manufacturing Process of Ion exchange resin chemicals	Collection, Recycling, Generation, Disposal, Storage, Transportation, Sell to authorized user having authorization with

								valid CTO and Rule 9 permission
17	Contaminated cotton rags or other cleaning materials	From manufacturing process	I-33.2	100	80	20	From manufacturing process	Collection, Generation, Storage, Transportation, Disposal by incineration in CHWIF.
18	Off –spec product/ raw material OR failed batch	From R&D products	-	6	6	--	From R&D products	Collection, Stored in drums/ bags in separate place (shed with RCC flooring), Transportation and sent for co-processing OR to CHWIF.

F-2	Membership details of **TSDF, CHWIF** etc. **(For HW management)**

F-3	Details of Non-Hazardous waste & its disposal **(MSW and others)**	**No, generation of any Non-Hazardous waste**

Sr. no.	**Type/Name of Other wastes**	**Specific Source of generation (Name of the Activity, Product etc.)**	**Quantity (MT/Annum)**	**Management of Wastes**
1				

G	**Solvent management**, VOC emissions etc.
G-1	Brief Note on types of solvents, Details of Solvent recovery, % recovery, reuse of recovered Solvents etc.

Solvents are used both as media as well as raw materials. Reactors are provided with:

1) Chiller at the outlet of common vent system to condensed solvent vapors. Condensed liquid is delivered to storage tank.
2) Distillation column for enriching solvent purity.

Product Sr No	**Product**	**Solvent**	**Solvent charged to reactor**	**Subject to recovery**	**Recovered Solvent**	
			Per Batch (kg)	**Kg per batch**	**Per batch (kg)**	**% Recovery**
17	4-Aminodiphenylamine	Aniline	12882	11034.36	11173	>99
18	Cinnamyl Alcohol	Methanol	8190	8108.10	8151.3	>99

G-2	**Brief Note on 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	-

G-3	**VOC emission** sources and its mitigation measures

- Handling of chemicals is in closed system. Primary and secondary condensers are also provided

Storage Details	Name of major Hazardous Chemicals	Remarks
Storage Tanks	Aniline, Sulfuric acid (H2SO4), Nitrobenzene, Tetramethyl ammonium hydroxide (TMAOH) catalyst, Methanol	Tanks (Storage Details for Proposed Expansion Only)

Hydrogen gas supplied by pipeline

15) Committee found presentation and submission of PP satisfactory.

After detailed deliberation, Committee unanimously decided to recommend grant of EC – Amendment to SEIAA, Gujarat with amended address, product profile and change in "Condition No: 15, 17, 18, 19, 22, 24, 31 & 95" as follows and with remaining condition unchanged in EC granted by SEIAA, Gujarat vide Letter No. SEIAA/GUJ/EC/5(f)/647/2020 dated on 09/06/2020.

Amended address shall be read as under:

Plot NO. 748/2/A, 748/3, (748/4/A & 748/4/B)/1, GIDC-Jhagadia, District-Bharuch.

Product profile shall be read as under:

Sr. no.	Name of the Products	CAS no.	Quantity (MT/Annum)			End-use of the products
			Qty. as per EC	Proposed changes	Total after amendment	
A	**ION Exchange Resin Chemicals**					
Polymerization (Internal use)		--	35000	-	35000	In water treatment
1.	Strong Acid Cation	--				
2.	Week Acid Cation	--				
3.	Strong base Anion	--				
4.	Week base Anion	--				
5.	Mixed Beds	--				
B	**Rubber Chemicals**					
6.	**Antioxidants**		35000	0	35000	In Rubber Industry
	Vulkanox 4010	101-72-4				
	Vulkanox 4020	793-24-8				
	Vulkanox 4030	3081-14-9				
	Vulkanox 4005	101-96-2				
	Vulkanox HS	26780-96-1				
	Vulkanox 4688	15233-47-3				
	Vulkanox SP	61788-44-1				
	Vulkanox MB2	53988-10-6				
	Vulkanox ZMB2	61617-00-3				
7.	**Accelerators**		6000	0	6000	In Rubber industry
	Vulkacit ZM	155-04-4 (=84%) 149-30-4 (11 – 16%)				
	Vulkacit NZ	95-31-8 (90-99%) 64742-54-7-(1-10%)				
	Vulkacit CZ	95-33-0 (90-99%) 64742-54-7-(1-10%)				
	Vulkacit DZ	4979-32-2				

		(>95%)				
	Vulkacit ZM2	155-04-4 (>90) 149-30-4 (>1 < 2.5)				
C	**Semi Crystalline Product**		60000	-60000	00	Automotive, Electrical and Electronics industries
8.	Durethan A	--				
9.	Durethan B	--				
10.	Pokan	--				
D	**Rubber & Leather Chemicals**					
11.	Leather Chemicals -Syntans	--	10000	0	10000	Rubber and Leather industries
12.	Leather Chemicals -Finishing Chemicals	--				
13.	Preservatives	--				
14.	Rubber compounding	--				
15.	Zinc di - thiophosphates	19210-06-1	4000	0	4000	
16.	Lubricant oil additive packages	--	2000	0	2000	
	Total of group D		**16000**	**--**	**16000**	
17.	4-Aminodiphenylamine	101-54-2	10000	--	10000	In Rubber Chemicals
18.	Cinnamyl Alcohol	104-54-1	1500	--	1500	Used in perfumery and as a deodorant
19.	R & D Products	--	6	--	6	All above including specialty chemicals
		Total	**163506**	**-60000**	**103506**	

Condition No: 15, 17, 18, 19, 22, 24, 31 & 95 shall be read as under:

15. Total water requirement for the project shall not exceed 5786 KLD. Unit shall reuse 1711.2 KLD treated wastewater. Hence, total fresh water requirement shall be 4074.8 KLD and it shall be met through GIDC water supply only. Prior permission from the concerned authority shall be obtained for withdrawal of water.

17. The total industrial effluent generation from the project shall not exceed 4263.7 KLD.

18. The industrial effluent shall be segregated and treated as follows:
    a) Stream-1: The industrial effluent 2645 KLD generated (2257.66 KLD from process, 201.7 KLD from specific ion exchange plant and 185.64 KLD from washing & Decontamination facility) shall be treated in ETP having primary, secondary and tertiary treatment. 2645 KLD, Treated effluent from ETP shall be discharged into Jhagadia deep Sea pipe line of M/s. NCT for deep sea disposal.
    b) Stream-2: The industrial effluent from 1555.7 KLD generated from manufacturing process shall be treated in specific ion exchange plant. 1354 KLD treated effluent from specific ion exchange plant shall be reused within plant premises for industrial purpose. 201.7 KLD reject effluent from specific ion exchange plan (as mentioned in Stream-1).
    c) Stream-3: The industrial effluent 264.7 KLD generated (213.7 KLD from cooling tower and 51 KLD from boiler) shall be passed through cartridge filter. Out of 264.7 KLD treated effluent 181.7 KLD shall be reused in manufacturing process and 83 KLD shall be reused in washing.
19. Domestic wastewater generation shall not be exceeding 92.5 KLD and it shall be treated in STP treated effluent from STP shall be reused within plant premises for development of Green Belt development and gardening purpose.
22. Unit shall not exceed fuel consumption for Boiler, Incinerator, Fire hydrant pumps and DG Sets as mentioned below:

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	Incinerator (Off gas)	30	NG	341 Sm^3/h	Particulate Matter SO_2 NOx	Water Scrubber
2	D.G. set – 1 SIS (500 KVA) (Stand by)	12	Diesel	102 L/h	Particulate Matter SO_2, NOx	Diesel engine meets stringent exhaust emission tests as per MoEFCC norms
3	Multi Fuel Boiler (14 TPH)*	40	Coal Or Biomass (Mix) or both	3300 kg/h or 4666 kg/h	Particulate Matter SO_2, NOx	ESP + Water Scrubber
4	DG Set – 2 ION (500 KVA) (Stand by)	18	Diesel	102 L/h	Particulate Matter SO_2, NOx	Diesel engine meets stringent exhaust emission tests as per MoEFCC norms
5	Diesel Generator (1010 KVA) (Stand by)	30	Diesel	204 L/h	Particulate Matter SO_2, NOx	Diesel engine meets stringent exhaust emission tests as per MoEFCC norms
6	Fire Hydrant pump-1 (156 HP)	5	Diesel	27.4 L/h	Particulate Matter SO_2, NOx	Diesel engine meets stringent exhaust emission tests as per MoEFCC norms
7	Boiler – 8 TPH	21	NG	600 Sm^3/h	Particulate Matter	Boiler meets stringent exhaust

					SO_2, NOx	emission tests as per MoEFCC norms
8	Fire Hydrant pumps-2 (156 HP)	5	Diesel	27.4 L/h	Particulate Matter SO_2, NOx	Diesel engine meets stringent exhaust emission tests as per MoEFCC norms
9	Multi Fuel Boiler- 8 TPH*	40	Coal or Biomass (Mix)- or both	1886 kg/h or 2666 kg/h	Particulate Matter SO_2, NOx	ESP + Water Scrubber
10	Boiler (8 TPH)**	21	NG	600 Sm^3/h	Particulate Matter SO_2, NOx	Boiler meets stringent exhaust emission tests as per MoEF & CC norms

*Unit shall follow guidelines provided in GPCB office Order No. GPCB/ANK-C992/215695 Dated-07/06/2014

** If steam will be supplied by nearby company like Shriram Alkali & chemicals, unit shall not install proposed new boiler.

24. Unit shall provide adequate APCM with process gas generation sources as mentioned below:

Sr. no.	Specific Source of emission (Name of the Product & Process)	Type of emission	Stack/Vent Height (meter)	Air Pollution Control Measures (APCM)
1	Storage tank Vents (Acetone)	Hydrocarbon	--	--
2	Amine Scrubber	Ammonia	30	Scrubber
3	Off gas – 2 from CME section	Hydrocarbon	30	Scrubber
4	Blender	SPM	9	Bag Filter
5	Kneader & Classifier unit	SPM	9	Dust Collector
6	HS Packing silo area	SPM	9	Bag Filter
7	Process Vent ION – Off gas line - 1	HCl	30	Scrubber
8	Process Vent (Preventol Vessel-1)	SPM	9	Bag Filter
9	Reactor (Renodive Vessel)	SPM	9	Bag Filter
10	Process Vent (Preventol Vessel-2)	SPM	9	Bag Filter
11	Accelerator packing silo	SPM	9	Bag Filter
12	HCl process Column - 1	HCl	30	Scrubber
13	Fluidised bed dryer – 01U001	SPM	15	Bag Filter + Cyclone separator
14	Fluidised bed dryer – 01U002	SPM	15	Bag Filter + Cyclone separator
15	CME lab scrubber blowers	HC	9	CME scrubber
16	DA System - MFB	SPM	15	Source Emission
17	Common vent from 1416K25	HC	18	Water Scrubber
18	Common vent from 1416K26	HC	18	Water Scrubber
19	Chemical weighing station	SPM	12	Dust Collector
20	Chemical weighing station 2	SPM		Dust Collector
21	Kneader Dust collector	SPM	12	Dust Collector
22	Vibrator unit	SPM	12	Dust Collector
23	Filling station	SPM	12	Dust Collector

24	Granulator – dosing unit	SPM	12	Dust Collector
25	HCl Process Column - 2	HCl	30	Scrubber

31. All the hazardous waste management shall be taken care as mentioned below:

Sr. No.	Type of waste	Source of generation	Sch & Category (As per 2016	Generation (MT/Annum)			Source of generation	Facility, Mode of disposal & remarks
				AS Per EC	Qty. remain with LIPL	Qty. remain with LPMIPL		
1	Discarded asbestos	Old gaskets & insulation rope	I-15.2	1.0	1.0	--	Old gaskets & insulation rope	Collection, Generation, Storage, Transportation, Disposal by send it to TSDF.
2	Contaminated aromatic, aliphatic or naphthenic solvents may or may not be fit for reuse	From manufacturing Process of Ion exchange resin chemicals	I-20.1	80	80	--	From manufacturing Process of Ion exchange resin chemicals	Collection, Generation, Storage, Transportation, Disposal by incineration in CHWIF.
3	Spent solvents	From laboratory	I-20.2	35	35	--	From laboratory	Collection, Generation, Storage, Transportation, Disposal by incineration in CHWIF.
		From Manufacturing Process of Rubber Chemicals, 4-Aminodiphenylamine & Cinnamyl Alchocol		288	288	--	From Manufacturing Process of Rubber Chemicals, 4-Aminodiphenylamine & Cinnamyl Alchocol	Spent solvent: Reused without any storage in the premises. As per point no. 2 mentioned in EC vide letter no. SEIA/GUJ/EC/5(f)/1246/2018 dated 26-11-2018: 1360666 MTA recovered solvent: Reused continuously in production through distillation columns having Primary and Secondary condensers inbuilt with reactors without any storage in the premises.
4	Distillation residues	From manufacturin	I-20.3	1412	1412	--	From manufacturin	Disposal by co-processing at

		g Process of Ion exchange resin chemical and Rubber Chemicals and 4- Amino diphenylamin e					g Process of Ion exchange resin chemical and Rubber Chemicals and 4- Amino diphenylami ne	authorized Cement industry OR by incineration in CHWIF and or pre-process for co-processing of M/s. BEIL, Ankleshwar
5	Process sludge	From manufacturin g Process of Ion exchange resin chemicals	I-20.4	20 00	2000	--	From manufacturin g Process of Ion exchange resin chemicals	Co-Processing, Collection, generation, disposal, Transportation, storage, Disposal by co-processing at authorized Cement industry OR by sending it to TSDF and/or pre-process for co-processing, M/s. BEIL, Ankleshwar.
6	Process wastes, residues and sludge	From manufacturin g Process of Rubber and Leather Chemicals and 4-Amino diphenylamin e	I-21.1	29 2	292	--	From manufacturin g Process of Rubber and Leather Chemicals and 4-Amino diphenylami ne	Collection, generation, incineration, disposal, storage, transportation, Disposal by incineration in CHWIF
7	Sludge and filters contaminated with oil	During filtration	I-3.3	0.2	0.2	--	During filtration	Collection, Generation, Incineration, Storage, transportation, Disposal by incineration in CHWIF.
8	Empty barrels/containe rs/liners contaminated with hazardous chemicals/wast es	From raw material and product handling	I-33.1	49 9	478	21	From raw material and product handling	Collection, Recycling, Decontamination, Generation, Disposal, Reuse, storage, transportation, Disposal by send it to authorized decontamination facility/recycler or reuse or send back

								to supplier
9	Exhaust air or gas cleaning residue	From stack	I-35.1	2.0	2.0	--	From stack	Collection, generation, incineration, disposal, storage, transportation, Disposal by incineration in CHWIF
10	Spent ion exchange resin containing toxic metals	From ion exchange plant	I-35.2	0.1	0.1	--	From ion exchange plant	Collection, generation, incineration, storage, transportation, Disposal by incineration in CHWIF
11	Chemical sludge from waste water treatment	From ETP	I-35.3	2575	2575	--	From ETP	Co-Processing, Collection, Generation, Storage, Transportation, Disposal by processing at authorized Cement industry OR by send it to TSDF and/or pre-process for co-processing M/s. BEIL Ankleshwar
12	Spent carbon or filter medium	From carbon filter	I-36.2	22	22	--	From carbon filter	Collection, Generation, Incineration, ,Storage, Transportation, Disposal by incineration in CHWIF
13	Used or spent oil	Gear box & transformer	I-5.1	54	51	3	Gear box & transformer	Collection, Recycling, Generation, Reuse, Recovery, Storage, Transportation, Disposal by reuse in plant & machinery as lubricant or sell it to authorized re-refiners/ recycler.
14	Inorganic Acids (Sulfuric acid (65-85%))	From manufacturing Process of Ion exchange resin chemicals	II-B15	6000	6000	--	From manufacturing Process of Ion exchange resin chemicals	Collection, recycling, generation, recovery, storage, transportation, Sell to authorized user having authorization with valid CTO and

								Rule 9 permission
15	Corrosive (NaSH solution)	From manufacturing Leather Chemicals	II-C2	2000	2000	--	From manufacturing Leather Chemicals	Collection, Recycling, Generation, Disposal, Recovery, Storage, Transportation, Sell to authorized user having authorization with valid CTO and Rule 9 permission
16	Ammonia Solution	From manufacturing Process of Ion exchange resin chemicals	II-C2	6000	6000	--	From manufacturing Process of Ion exchange resin chemicals	Collection, Recycling, Generation, Disposal, Storage, Transportation, Sell to authorized user having authorization with valid CTO and Rule 9 permission
17	Contaminated cotton rags or other cleaning materials	From manufacturing process	I-33.2	100	80	20	From manufacturing process	Collection, Generation, Storage, Transportation, Disposal by incineration in CHWIF.
18	Off –spec product/ raw material OR failed batch	From R&D products	-	6	6	--	From R&D products	Collection, Stored in drums/ bags in separate place (shed with RCC flooring), Transportation and sent for co-processing OR to CHWIF.

95. The PP shall develop green belt within premises (66910.6 Sq. m i.e. 42.2 % 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.

11.	SIA/GJ/IND3/294091/2022	**M/s. Best Value Organics Private Limited** Plot No. D3/5/1, GIDC Estate, Dahej-III – 392 130, District- Bharuch,	EC-Corrigendum

Category of the unit: **5(f)**

Project Status: **EC-Corrigendum**

1) This is a Greenfield project proposed for manufacturing of “Synthetic Organic Chemicals” for which was accorded Environmental Clearance vide letter no. SEIAA/GUJ/EC/5(f)/2644/2022 dated on 07/11/2022.
2) Now, project proponent has applied online vide proposal no. SIA/GJ/IND3/294091/2022 for EC-Corrigendum in EC letter no. SEIAA/GUJ/EC/5(f)/2644/2022 dated on 07/11/2022 in which there is a

typographical error in name of the unit and type of the project. The details are as under:

Sr. no.	Condition no. in which Corrigendum is proposed.	As per EC	As per proposed amendment	Justification
1.	Page no. 1	Environment Clearance to M/s. Best Value Organics Limited for setting up manufacturing plant of 'Synthetic Organic Chemicals' at Plot No. D3/5/1, GIDC Estate, Dahej-lll – 392 130, District Bharuch. In Category 5(f) of Schedule annexed with EIA Notification dated 14/09/2006.	Environment Clearance to ***M/s. Best Value Organics Private Limited*** for setting up manufacturing plant of 'Synthetic Organic Chemicals' at Plot No. D3/5/1, GIDC Estate, Dahej-lll – 392 130, District Bharuch. In Category 5(f) of Schedule annexed with EIA Notification dated 14/09/2006.	Correction is required in the name of unit.
		The proposal is for Environmental Clearance to M/s. Best Value Organics Limited for setting up manufacturing plant of 'synthetic Organic Chemicals' at Plot No. D3/5/1, GIDC Estate, Dahej-lll - 392,130, District Bharuch. lt is a proposed an existing unit for manufacturing following products, which falls in the category - 5(f) of the schedule of the EIA Notification-2006.	The proposal is for Environmental Clearance to ***M/s. Best Value Organics Private Limited*** for setting up manufacturing plant of 'Synthetic Organic Chemicals' at Plot No. D3/5/1, GIDC Estate, Dahej-lll - 392,130, District Bharuch. lt is a proposed ***new*** unit for manufacturing following products, which falls in the category - 5(f) of the schedule of the EIA Notification-2006.	
2.	Page no. 12	Issued to: M/s. Best Value Organics Limited Plot No. D3/5/1, GIDC Estate, Dahej-lll – 392 130, District Bharuch	Issued to: ***M/s. Best Value Organics Private Limited*** Plot No. D3/5/1, GIDC Estate, Dahej-lll – 392 130, District Bharuch	

3) During meeting dated: 15.12.2022, committee noted that there is a typographical error in name of the unit and type of the project (Greenfield project but mentioned as existing).
4) The facts were verified with SEAC meeting MOM dated: 09.06.2022 and 06.10.2022 in which the EC case was appraised.
5) Committee noted the following:
   - ✓ There is a typographical error in name of the unit submitted by PP in prescribed SEAC format (Project details) for SEAC meeting dated: 09.06.2022 and 06.10.2022. Hence the same is mentioned in SEAC MOM dated: 09.06.2022 and 06.10.2022.
   - ✓ In SEAC recommendation letter No: EIA-10-2022-IND2/4021 dated: 04.08.2022 in which the

type of unit is mentioned as new project. Hence, there is a typographical error in mentioning type of unit i.e greenfiled (mentioned as existing unit) in EC letter.

6) **After detailed deliberation, Committee unanimously decided to recommend grant of EC – Corrigendum to SEIAA, Gujarat with amended name of project and Para-2 as follows and with remaining condition unchanged in EC granted by SEIAA, Gujarat vide Letter No. SEIAA/GUJ/EC/5(f)/2644/2022 dated on 07/11/2022.**

Name of the Unit shall be amended as under:

M/s. Best Value Organics Private Limited

Para-2 shall be amended as under:

The proposal is for Environmental Clearance to ***M/s. Best Value Organics Private Limited*** for setting up manufacturing plant of 'Synthetic Organic Chemicals' at Plot No. D3/5/1, GIDC Estate, Dahej-lll - 392130, District Bharuch. lt is a proposed unit for manufacturing following products, which falls in the category - 5(f) of the schedule of the EIA Notification-2006.

The meeting ended with a vote of thanks to the chair.

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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 Anand Zinzala, Member, SEAC	
6.	Shri B. M. Tailor, Member, SEAC	