

**Minutes of the 510<sup>th</sup> meeting of the State Level Expert Appraisal Committee held on 18<sup>th</sup> October 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 18/10/2022 at 13.30 hrs.

The 510<sup>th</sup> meeting of the State Level Expert Appraisal Committee (SEAC) was held online by Video conferencing on 18<sup>th</sup> October 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
7	Shri D.M.Thaker, Secretary, SEAC

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

1.	SIA/GJ/IND3/248039/2021	M/s. Alkem Laboratories Ltd. NH-8 at Naugama, Village:Mandva, Dist:Bharuch.	EC Refer Back
<ul style="list-style-type: none"> <li>Project proponent (PP) has submitted online application vide no. SIA/GJ/IND3/248039/2021 on dated 28/12/2021 for obtaining Environmental Clearance.</li> <li>PP has applied for Environmental clearance and the SEAC has recommended the project for grant of environmental clearance vide this office letter no. EIA-10-2021-IND2/4181 dated: 01.09.2022 for conditions as mentioned therein.</li> <li>The case was referred back by the SEIAA, Gujarat vide Letter No. SEIAA/GUJ/EC/2313/2022 dated 15.10.2022 with the following point:</li> </ul>			

1. Area adequacy is not given in recommendation letter.
2. Existing water consumption 380 KLD shown with 12 TPH boiler and after removed 12 TPH boiler it will be 447 KLD how it is possible please clarify?
3. Detail of bleed liquor not given in hazardous waste management matrix.
4. Detail of Hazardous process of sulphonation, Ammination & chlorination is not given along with safety measures.
5. Details of noise pollution control measures in EMP.
6. Compliance of earlier EC is not given and certified compliance report of IRO is also not submitted.

- Project proponent submitted reply vide email dated 15.10.2022 with supporting documents.
- The case was reconsidered in the SEAC meeting dated 18.10.2022
- Project proponent (PP) and Technical expert from M/s. Siddhi Green Excellence Pvt. Ltd. remain present during video conference meeting.
- PP presented their case pointwise is as under:
  1. Area adequacy is not given in recommendation letter.

**Reply:**

- ✓ Total plot area of the unit is 71241 Sq. m. and there shall be 5 nos. of Plant buildings having total area of 3977.89 sq. m. carpet area and will be expanded vertically also (Maximum up to G + 3). for manufacturing facility. Existing production capacity is 110.85 MTM. Proposed additional capacity is 20.019 MTM. There is appx. 18% increment only in production capacity. Hence, the area allotted is adequate for the expansion. Site layout plan showing various plant sections with area statement and area adequacy is given below.

**B-2**

**Area adequacy**

Total plot area of the unit is 71241 Sq. m. and there shall be 5 nos. of Plant buildings having total area of 3977.89 sq. m. carpet area and will be expanded vertically also (Maximum up to G + 3) for manufacturing facility. Existing production capacity is 110.85 MTM. Proposed additional capacity is 20.019 MTM. There is approx 18% increment only in production capacity. Hence, the area allotted is adequate for the expansion.

**Area Adequacy table:**

Storage	Period of storage	Maximum storage required (MT)	Type of storage	Required Space	Allocated space	Area no. of Site Plan
				sq. m	sq. m	
Raw Material	3 days	125	~375 Nos. of Drums (200 L	125	786.52	15

Store			each) ~1000 Nos. of Bags (50 kg each-Stacked in 3 layers)			
Finished Good store	7 days	30.5	~144 Nos. of Bags (50 kg each-Stacked in 3 layers) ~467 Nos. of Carboys (50 L each)	30.5	73.69	25
Solvent Storage	5 days	71	~314 Nos. of Drums (200 L each) for recovered solvent & 11 Nos. of Drums (200 L each) for fresh solvent	71	564.82	8 & 23
HW Storage	45 days	738	Drums and bags in stacking arrangement	246	307.13	10
Utility area	--	--	--	450	1631.95	13

**SEAC 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.

2. Existing water consumption 380 KLD shown with 12 TPH boiler and after removed 12 TPH boiler it will be 447 KLD how it is possible please clarify?

**Reply:**

- ✓ **After discontinuation of boiler 12 TPH, water requirement is 447 KLD (305 KLD fresh + 142 KLD condensate recycle of boiler, only 8 TPH boiler is considered). Hence, total fresh water requirement is reduced to 305 KLD from 380 KLD.** Boiler condensate recycle quantity was not accounted in existing CTO. Existing fresh water requirement is 125 KLD for boiler (1 no. of 12 TPH & 1 no. of 8 TPH) which shall be reduced to 50 KLD (Water requirement for 8 TPH boiler) after discontinuation of 12 TPH boiler. Additional @142 KLD (Condensate recycle of 8 TPH boiler) is taken as condensate recycle water.**There is actual reduction in fresh water consumption after discontinuation of Boiler but the value has ben increased due to inclusion of Boiler condensate recycle.**Total after expansion, there will be addition of 1 no. of boiler (4 TPH). Hence, Total fresh water requirement will be increased to 75 KLD. RO Permeate & MEE Condensate 75 KLD shall be used as Boiler make up water. Hence, Fresh water requirement for boiler shall be NIL. **Presently Unit is following ZLD and shall remain the same after expansion.**

Water consumption is as under:

Category	Existing as per CC&A KLD (1)	After Discontinuation of existing Boiler KLD (2)	EC applied for additional quantity KLD (3)	Total after EC Expansion KLD (2+3)	Remarks
(A) Domestic	25	25	0	25	<b>Recycled quantity: 19 KLD</b> Fresh water requirement: 6 KLD RO Permeate & MEE Condensate 19 KLD shall be used as Toilet flushing and Floor Washing purpose. For drinking & personal hygiene purpose, fresh water shall be used.
(B) Gardening	30	30	55	85	<b>Recycled Quantity: 85 KLD</b> Treated Water @ 20 KLD from STP and RO Permeate & MEE condensate @ 65 KLD shall be used for greenbelt development and maintenance purpose. Hence, Fresh water requirement for Greenbelt development & maintenance shall be NIL.
<b>(C) Industrial</b>					
Process + APCM	155	155	40.5	195.5	Total fresh water requirement for Production is 195.5 KLD
Washing	0	0	7.5	7.5	<b>Recycled Quantity: 7.5 KLD</b> Additional Boiler blow down of 7.5 KLD shall be passed through cartridge filter and shall be used for washing purpose.
Boiler	125 (Fresh)	50 (Fresh) + 142 (Condensate recycle)	25 (Fresh) + 71 (Condensate recycle)	75 (Fresh) + 213 (Condensate recycle)	<b>Recycled quantity: 288 KLD</b> Note: At Start up stage (First Batch) the Fresh Water Consumption for boiler is 288 KLD &

						second batch onwards Fresh water consumption is reduced to 75 KLD from 288 KLD due to recycling condensate. RO Permeate & MEE Condensate 75 KLD shall be used as Boiler make up water. Hence, Fresh water requirement for boiler shall be NIL.
Cooling	100	100	0	100		<b>Recycled quantity: 100 KLD</b> RO Permeate & MEE Condensate 100 KLD shall be used as Cooling Tower make up water. Hence, Fresh water requirement for Cooling Tower shall be NIL.
Others	0	0	0	0		--
<b>Industrial Total</b>	<b>380</b>	447 (305 KLD fresh + 142 KLD condensate recycle of boiler 8 TPH)	144	591		<b>Total Fresh water requirement: 195.5 KLD, Recycled quantity: 395.5 KLD</b>
<b>Grand Total (A+B+C)</b>	<b>435</b>	<b>502</b>	<b>199</b>	<b>701</b>		<b>Total Fresh water requirement: 201.5 KLD, Recycled quantity: 499.5 KLD</b>

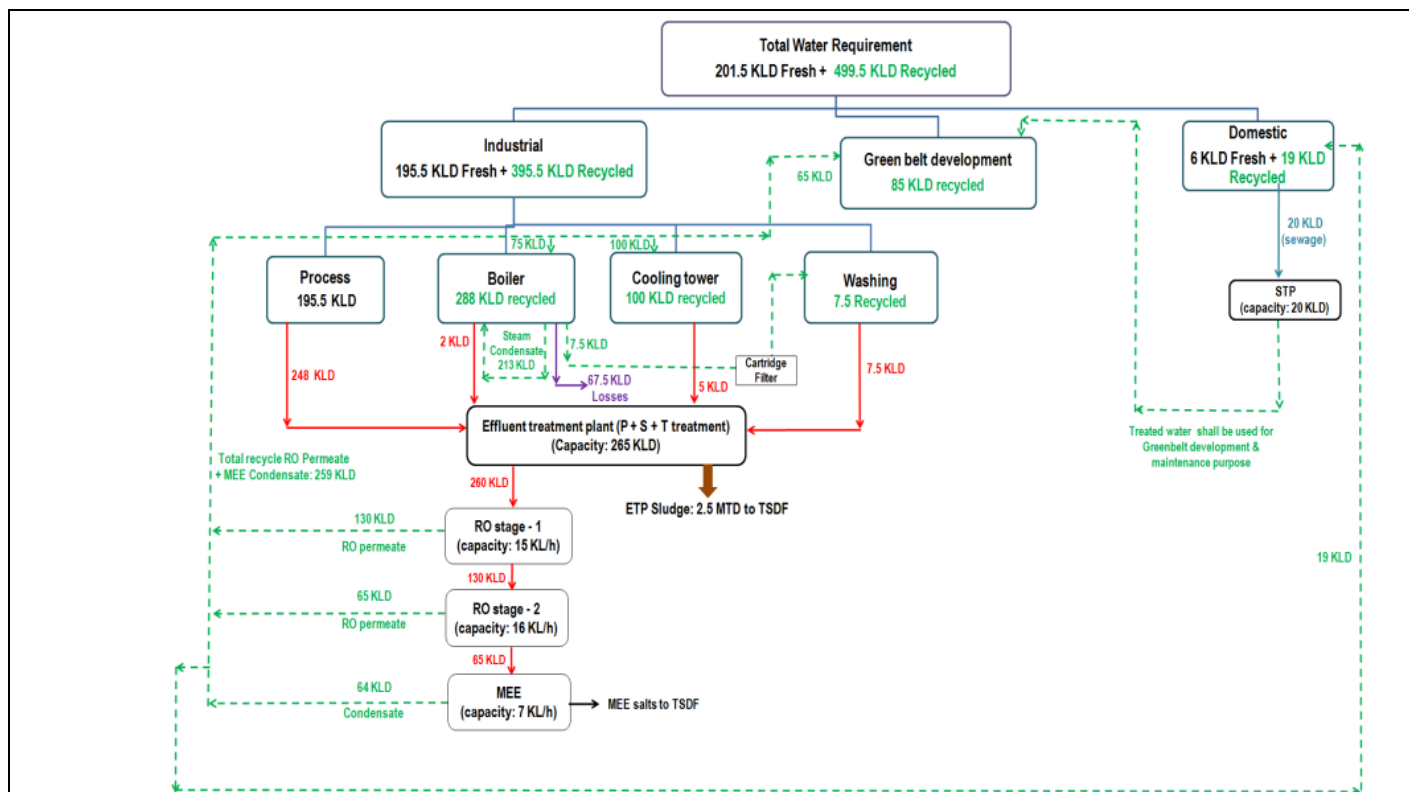
Wastewater generation is as under:

Category	Existing as per CC&A KLD (1)	After Discontinuation of existing Boiler KLD (2)	EC applied for additional quantity KLD (3)	Total after EC Expansion KLD (2+3)	Remarks
(A) Domestic	20	20	0	20	To STP
(B) Industrial					
Process + Bleed liquor from	195	195	53	248	To ETP

scrubber						
Washing	0	0	7.5	7.5	To ETP	
Boiler	5	2	7.5	9.5	<b>Recycled Quantity: 7.5 KLD</b> Additional Boiler blow down of 7.5 KLD shall be passed through cartridge filter and shall be used for washing purpose and then shall be given treatment in ETP.	
Cooling	5	5	0	5	--	
Others	0	0	0	0	--	
<b>Total Industrial waste water</b>	<b>205</b>	<b>202</b>	<b>68</b>	<b>270</b>	<b>Recycled Quantity: 266.5 KLD ETP &amp; MEE</b> <b>Sludge generation: 3.5 MTD</b> Existing effluent @ 202 KLD & additional effluent @ 60.5 KLD shall be treated in own ETP (P+S+T treatment) followed by RO & MEE and shall be recycled for cooling tower make-up. Boiler blow down 7.5 KLD shall be passed through cartridge filter and shall be used for washing purpose	
<b>Total (A+B)</b>	<b>225</b>	<b>222</b>	<b>68</b>	<b>290</b>	--	

**- \*Captive power plant (480 KW) shall be discontinued after expansion. Hence, existing Boiler – 2 (Capacity: 12 TPH) shall be discontinued.**

Simplified water balance flow diagram is as under(**Total After Expansion**) :



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

**Reply:**

- ✓ Regarding bleed liquor PP has clarified that there is no process gas emission from proposed expansion. From existing manufacturing process, HCl, Cl<sub>2</sub>, NO<sub>x</sub>, SO<sub>2</sub> is generated. Existing generated bleed liquor from scrubber is sent to ETP 100 L/day (i.e. 0.1 KLD Considering the worst case) which was incorporated with process effluent (195 KLD) during the last EC obtained from MoEF&CC in 2008 and also in existing CC&A from board. Hence, it is not incorporated in hazardous waste management matrix.

4. Detail of Hazardous process of sulphonation, Ammination & chlorination is not given along with safety measures.

**Reply:**

Types of hazardous Processes involved and its safety measures:

Type of Process	Safety measures including Automation
Hydrogenation process	<ul style="list-style-type: none"> <li>• Hydrogen cylinder should be placed at distance (min 15 m) from reactor area.</li> <li>• Safety relief valve to be provided. Effective earthing to be provided between the cylinders and vehicle to reduce risk of ignition from a leak.</li> <li>• Clamping device to minimize relative movement of the cylinders without causing unfavourable stresses.</li> <li>• Metal to metal contact to be avoided between the cylinders and cylinder and frame structure.</li> <li>• Manifolding should minimize the possibility of vibrations.</li> <li>• PLC automation to be implemented.</li> </ul>

		<ul style="list-style-type: none"> <li>• Interlocking / Cut-off system shall be provided</li> <li>• Special training shall be provided for the operators for operating hydrogenation.</li> <li>• Hydrogenator shall be never left unattended when in operation.</li> <li>• Line jumpers and proper earthing shall be provided for static discharge.</li> <li>• Hydrogen detectors shall be available at Hydrogenation plant.</li> </ul>
	<b>Chlorination process</b>	<ul style="list-style-type: none"> <li>• Chlorine tonner shed – Chlorine tonners shall be stored separately and isolated area in compliance with requirement of Gas Cylinder Rules, 2016.</li> <li>• Shall be closed shed with chlorine kit, FRP hood with scrubber system, chlorine detectors and fully equipped with tonner resting and movement facilities.</li> <li>• Each tonner shall be examined, while receiving.</li> <li>• Personnel Protective Equipment to be issued to workers &amp; operatives.</li> <li>• Displayment of notice for filled and empty tonners.</li> <li>• Water shower with eye-washer to be provided.</li> <li>• Chlorine tonner shed shall be provided with all necessary gas containment and absorption equipment and facility to prevent and control chlorine tonner leakage scenario consisting of: Chlorine kit, neutralizing media, chlorine absorption hood and scrubber.</li> <li>• Chlorine gas monitors shall be installed which should be maintained and inspected regularly for effectiveness and set alarm level.</li> <li>• Chlorine gas is heavier than air so gas monitors should be mounted approximately two feet from the floor for quick and accurate detection.</li> <li>• Training to be given to selected workers for using the chlorine emergency kit, SCBA and scrubber hood.</li> <li>• Regular training and mock drills for using FRP hood and chlorine kit and emergency action for tonner leak should be conducted.</li> <li>• PLC based automation system</li> </ul>
	<b>Sulphonation Process</b>	<ul style="list-style-type: none"> <li>• Provision of Safety valve &amp; rapture disc on reactor.</li> <li>• Provision of auto dumping vessel.</li> <li>• Required PPEs like full body protection PVC apron, Handle gradually &amp; slowly. Charging will be done only through closed line and system.</li> <li>• Scrubber attached with closed system. Make sure the absorber unit (two stage Alkali scrubber) is working and capable of handling vented SO<sub>2</sub> / HCl fumes. Neutralizing agent will be kept ready for tackle any emergency spillage.</li> <li>• Safety Shower and eye wash will be provided near process area. For Thionyl Chloride evacuate area in down wind direction up to 0.3 km (300 meter) in small spillage.</li> <li>• Emergency siren and wind sock will be provided. Tele Communication system and mobile phone will be used in case of emergency situations for communication.</li> <li>• Total close process will be adopted for Thionyl chloride charging. Caution note and emergency first aid will be displayed and training is imparted for the same to all employees.</li> <li>• First Aid Boxes will be available in process area. Emergency organization and team will be prepared as per on site-Off site emergency planning. Emergency team will be prepared and trained for scenario base emergency. Like Toxic control team, Fire control team, First aid team, communication and general administration team, medical team etc.</li> <li>• Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Use water spray to reduce vapors; do not put water directly on leak, spill area or inside container. Keep combustibles (wood, paper, oil, etc.) away</li> </ul>



	<p>from spilled material. Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain.</p> <ul style="list-style-type: none"> <li>• PLC based automation system</li> </ul>
<b>Ammination Process</b>	<ul style="list-style-type: none"> <li>• Scrubber system provided to scrub the release</li> <li>• Chemical safety goggles, face shields, SCBA set, Aprons, rubber gloves, etc. to be provided.</li> <li>• PLC based automation system</li> <li>• proper ventilation</li> <li>• Circulation of cooling water in Jacket of Reactor</li> <li>• Provision of pressure gauge and pressure release valve which will be below than reactor hydraulic pressure.</li> <li>• Provision of rupture disk.</li> <li>• Dosing of chemicals will be controlled by flow meters and is value.</li> <li>• End of Toxic vapour release line will be connected with water tank.</li> </ul>

5. Details of noise pollution control measures in EMP.

**Reply:**

**EMP Details wherein Noise Pollution control measures included is as under:**

Sr. No	Unit	Detail	Capital Cost (Rs. In Lakhs)	Total Recurring Cost per Month (Rs. In Lakhs per Annum)
1	Wastewater	Augmentation of Effluent treatment plant, Effluent drainage network, drains around plants, storages & Installation of STP, Treatment cost including cost of treatment chemicals, pumping costs, manpower costs, power consumption & maintenance	20	160
2	Air	Installation of Scrubber systems for process gas emission control, and construction of stacks with platform and sampling arrangements, local exhaust and ventilation systems, Power and material consumption of APCM, manpower costs, maintenance of APCM systems	7	10
3	Hazardous Management	Construction of storage areas for different types of wastes in compliance with the HW rules together with necessary infrastructure and equipment for collection and transport, Manpower costs, transportation costs, charges for disposal at common disposal facilities	10	80
4.	Fire & Safety (Automation)	Fire extinguishers & fire hydrant, PLC based system, Fire-fighting	20	5

	control system-PLC)	& fire hydrant maintenance, maintenance of PLC System		
5	Green Belt Development	Plantation of green belt areas, Maintaining the greenbelt by hiring agency, irrigation and fertilizer, pesticides costs	1	1
6.	Occupational Health & safety	First Aid centre, PPE and medical facilities, Medical examinations and FMO charges, First aid centre expenses	5	2
7.	Noise Control	Acoustic enclosures at utility, Provision of PPEs, Noise Monitoring	2	1
8.	Environment Monitoring Program	In-house analytical facilities, EMS cell activities, third party monitoring expenses	2	3
	<b>Total</b>		<b>67</b>	<b>262</b>
9.	CER Activity	<ul style="list-style-type: none"> <li>▪ Solar Electrification through installation of 10 nos. of Solar Street Lights and solar roof-top system of 10 kW</li> <li>▪ Rain water harvesting system providing in 7 households</li> </ul>	8.76	

6. Compliance of earlier EC is not given and certified compliance report of IRO is also not submitted.

**Reply:**

The project was applied under B2 category dated 28<sup>th</sup> December, 2021. Unit has submitted self-attested EC compliance as the project is of B2 category applied during COVID period. And now unit has requested for CCR. PP has requested MoEF & CC vide their letter dated 15/10/2022 and submitted its copy.

- Committee found submission of project proponent satisfactory.

**After detailed discussion, Committee unanimously decided to consider the proposal in the upcoming SEAC meeting only after satisfactory submission of the following:**

1. Certified Compliance Report (CCR) from the concerned authority for existing EC as per the MoEFCC's OM No: F.No. IA3-22/10/2022-IA.III [E177258] vide dated 08/06/2022.

2.	SIA/GJ/IND3/249343/2021	Vital Chemtech Limited Liability Partnership Plot No D-3/I 5 & 5 8, Dahej GIDC, Ta.V agra, Dist: Bharuch.	Refer Back
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- Project proponent (PP) has submitted online application vide no. SIA/GJ/IND3/249343/2021 on dated 31/12/2021 for obtaining Environmental Clearance.
- 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-IND2/4184 dated: 01.09.2022 for

conditions as mentioned therein.

- The case was referred back by the SEIAA, Gujarat vide Letter No. SEIAA/GUJ/EC/2316/2022 dated 15.10.2022 with the following point:
  1. Details of noise pollution control measures in EMP is not given.
  2. Certified compliance report of Ro Is also not submitted.
  3. Data of wastewater generation given in table D-3 are not matched with the Description given for stream wise disposal are not matched.
  4. Details of Each Hazardous Chemicals along with characteristics are not given .
  5. In table H-2 (Details of Hazardous processes) it is mentioned that it is not applicable, however in process reaction  $Cl_2$  is generated as a pollutant then why chlorination is not mentioned in the Hazardous process , please clarify ?
- Project proponent submitted reply vide email dated 17.10.2022 with supporting documents.
- The case was reconsidered in the SEAC meeting dated 18.10.2022.
- Project proponent (PP) and Technical expert from M/s. TradeStone Enviro remain present during video conference meeting.
- PP presented their case as under:
  1. Details of noise pollution control measures in EMP is not given.

**Reply:**

- PP has submitted revised their EMP Cost and they have mentioned Noise control measures operating and requiring cost in our EMP. Following is the revised EMP cost with noise control measures:

Sr. No.	Description	Component	Capital Cost (Lakhs)	Recurring Cost (Lakhs/Annum)		
				Operating Cost	Maintenance Cost	Total Recurring Cost
1.	Air Pollution Control	Cost of stack installation	27.0	8.0	4.0	12.0
		Cost of scrubber				
		Cost of maintenance of APCM System				
2.	Water Pollution Control	Membership cost of common MEE.	45.0	12.0	7.0	19.0
		Construction cost of ETP				
		Treatment cost of effluent				
3.	Hazardous / Solid Waste Management	Membership cost of TSDF/ CHWIF	15.0	6.0	1.0	7.0
		Construction of Hazardous waste storage yard				
		Cost for TSDF disposal				
4.	Noise Pollution Control	Insulation and Lubrication of pumps, Valves, equipments etc.	1.0	0.4	0.3	0.7

5.	Fire & Safety	<b>Details</b>		<b>Cost in Lakh</b>	50.0	10.0	5.0	15.0	
		Civil Cost for Fire Tank							20.0
		Fire Extinguisher ABC Powder type 5 Kg							10.0
		Fire Extinguisher CO2 Powder type 5 Kg							
		Sand Bucket							
		Foam trolley 50 kg							
		DCP Type 5 kg							8.0
		Electrical Jockey Pump							
		Fire Hydrant System (Pipe Hydrant System, Flexible Pipe, Valve, Fire Brigade Booster, Booster Pump Set, Hydrant, Lay flat Fire Hose, Block Plan, etc.) & Fire Proximity Suits							12.0
6.	Occupational Health and Safety	Construction of Occupational Health & Safety		10.0	2.0	2.0	4.0		
		Medical Equipment and Antidotes							
		Medical Kits & PPEs							
7.	Green Belt Development	Land leveling, Plantation, Irrigation System Installation, Labour cost		4.0	1.0	1.0	2.0		
8.	AWH Monitoring	Self-monitoring & Third-party monitoring of Air, water and hazardous pollution control measurements		6.0	2.0	1.0	3.0		
9.	SCADA System	DCS based Automatic control system		19.0	5.0	5.0	10.0		
10.	CER Activity	Solar Panel 24 Volt -325 Watt	Nearest Village: Samatpor	18.0	9.0	9.0	18.0		
		Solar Street Light 32-Watt 12v DC	Nearest Village: Samatpor						
		Community Plantation Activity (Including maintenance)	Nearest Village: Samatpor						
<b>Total</b>				<b>195.0</b>	<b>55.4</b>	<b>35.3</b>	<b>90.7</b>		

2. Certified compliance report of IRO Is also not submitted.

**Reply:** PP has informed that they have not obtained earlier EC for their existing product. Because, their existing product is not covered under EC/EIA Notification 2006. They informed that they have already applied for CCR. They have submitted request letter for compliance

report of existing CCA permission at Regional Office-Bharuch, and Regional Officer inform to them they will inspect their unit within a shortly and then after will give CCR letter.

PP has obtained CCA from Board CCA No.: AWH-109595 Issue Date: 30/10/2020 Valid Up to: 14/02/2026 as mentioned in their format.

3. Data of wastewater generation given in table D-3 are not matched with the Description given for stream wise disposal are not matched.

**Reply:** PP stated that they are extremely sorry for their typically mistake. Now they have revised their Waste Water Generation details. Here, we are attaching with revised Waste Water Generation details is as under:

Sr. No.	Particulars	Water Consumption (KL/Day)			Waste water Generation (KL/Day)		
		Existing	Proposed	After Expansion	Existing	Proposed	After Expansion
1.	Domestic	7.0	1.0	8.0	6.5	0.7	7.2
2.	Gardening	2.0	0.0	2.0	0.0	0.0	0.0
3.	Industrial						
	Process	1.90	18.45	20.35	0.0	25.0	25.0
b.	Washing	0.0	3.0	3.0	0.0	3.0	3.0
c.	Boiler	16.0	2.0	18.0	1.9	0.02	1.92
d.	Cooling	24.0	2.0	26.0	2.15	0.02	2.17
e.	Scrubbing	8.0	1.0	9.0	8.0	1.0	9.0
f.	R & D	0.0	0.1	0.1	0.0	0.1	0.1
	Total (3)	49.9	26.55	76.45	12.05	29.14	41.19
	Total (1+2+3)	58.9	27.55	86.45	18.55	29.84	48.39

- PP has informed that total Fresh Water Consumption: 86.45 KLPD (8.0 KLPD for Domestic Use + 2.0 KLPD for Gardening Use + 76.45 KLPD for Industrial Use).
- Total Effluent generation: 48.39 KLPD (7.2 KLPD Domestic Effluent + 41.19 KLPD Industrial Effluent)
- Sewage effluent will generate 7.2 KLPD & it will be send to STP and then after reuse in flushing activity.
- Total Generation of Industrial effluent will be 41.19 KLPD (Process effluent 25.0 KLPD, Boiler blow Down 1.92 KLPD, washing effluent 3.0 KLPD, scrubbing effluent 9.0 KLPD, Cooling bleed off 2.17 KLPD and R & D 0.1 KLPD) which will be treated in the ETP plant and after treatment will be send to BEIL for evaporator

(Use in house evaporator in case of failure in BEIL).

4. Details of Each Hazardous Chemicals along with characteristics are not given .

**Reply:** PP has submitted Major Hazardous Chemicals and their Storage. PP has submitted details of hazardous chemical storage with characteristic and its safety measures is as under

<b>H</b>		<b>SAFETY details</b>							
<b>H-1</b>		<b>Details regarding storage of Hazardous chemicals (For tank storages only including spent acid and spent solvent tanks)</b>							
		<b>Storage of Hazardous chemicals in Tanks</b>							
<b>Sr. No.</b>	<b>Name of Chemical</b>	<b>Concentration</b>	<b>Physical State</b>	<b>Packing size/Storage (kg)</b>	<b>Maxi. Storage Capacity (MT)</b>	<b>Means of Storage (Tank/Drum /Bag)</b>	<b>Storage Pressure (atm)</b>	<b>Storage Temperature (OC)</b>	<b>Type of Hazard Possible</b>
1.	Acetone	99.0%	Liquid	1000	1.0	Tank	Atmospheric	Ambient	Flammable
2.	Formaldehyde	99.5%	Liquid	500	1.0	Drum	Atmospheric	Ambient	Flammable
3.	Toluene	99.2%	Liquid	1000	1.0	Tank	Atmospheric	Ambient	Flammable
4.	Isopropyl Alcohol	99.3%	Liquid	100	5.0	Drum	Atmospheric	Ambient	Flammable
5.	Chloroform	99.5%	Liquid	200	0.5	Drum	Atmospheric	Ambient	Toxic
6.	Nitric acid	99.2%	Liquid	50	0.05	Drum	Atmospheric	Ambient	Corrosive
7.	Cyclohexane	99.5%	Liquid	200	0.5	Drum	Atmospheric	Ambient	Flammable
8.	Ethyl Acetate	99.3%	Liquid	1000	1.0	Tank	Atmospheric	Ambient	Flammable
9.	Methylene Chloride	99.0%	Liquid	35	0.14	Drum	Atmospheric	Ambient	Flammable
10.	Acetic acid	99.7%	Liquid	5000	5.0	Tank	Atmospheric	Ambient	Flammable
11.	THF	99.3%	Liquid	100	0.14	Drum	Atmospheric	Ambient	Flammable
12.	Potassium Hydroxide	36.0%	Liquid	100	0.1	Drum	Atmospheric	Ambient	Flammable
13.	n-Hexane	99.5%	Liquid	25	0.05	Drum	Atmospheric	Ambient	Flammable
14.	O-Xylene	99.0%	Liquid	25	0.05	Drum	Atmospheric	Ambient	Flammable
15.	Acetonitrile	99.2%	Liquid	50	0.005	Drum	Atmospheric	Ambient	Flammable
16.	Sulphuric Acid	99.5%	Liquid	5000	5.0	Tank	Atmospheric	Ambient	Corrosive
17.	Acetic Anhydride	99.0%	Liquid	50	0.05	Drum	Atmospheric	Ambient	Corrosive
18.	Benzoyl chloride	99.3%	Liquid	35	0.25	Drum	Atmospheric	Ambient	Corrosive
19.	Cyclohexane	99.0%	Liquid	35	0.14	Drum	Atmospheric	Ambient	Flammable
20.	Hexane	99.5%	Liquid	25	0.025	Drum	Atmospheric	Ambient	Flammable
21.	Triethylamine	99.0%	Liquid	25	0.05	Drum	Atmospheric	Ambient	Flammable

22.	Hydrochloric Acid	99.0%	Liquid	5000	5.0	Tank	Atmospheric	Ambient	Corrosive
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- All Chemicals will be stored in carboy/drum/barrels only, no tanks will be used.
- All Liquid materials will be stored in drums.
- All solid materials will be stored in bags.

**Brief note on storage of Hazardous chemicals other than Tanks i.e. Drum, Barrels, Carboys, Bags etc.**

- Fire hydrants shall be provided as per requirement.
- Hazardous display boards and national fire prevention association code shall be displayed on all storage media.
- On site detectors for fire based on heat&/or smoke detection with alarm system shall be provided as per requirement.
- Breathe valves and Flame arrestors shall be provided.
- No smoking display boards shall be displayed.
- Wind indicator and siren shall be provided.
- Storage of drums at ground level and take measures to prevent corrosion of the drum base.
- Eye washer & safety shower in tank farm area.
- Flexible blower provided to storage area.
- MSDS displayed at storage area.
- Sign board as well as DO & DON'T instructions board at the entrance of storage area.
- Training to staff / operating personal w.r.t. safety precaution in handling & incase of emergency

**Safety details of Hazardous Chemicals:**

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

	<ul style="list-style-type: none"> <li>MSDS of chemicals stored will be available in storage area.</li> </ul>
Corrosive	<ul style="list-style-type: none"> <li>Preventing or minimizing contact between corrosive substances and skin, mucous membranes and eyes.</li> <li>Corrosive substances should not be allowed to come in contact with materials that may react.</li> <li>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.</li> <li>All containers or receptacles should be clearly labelled to indicate their contents and should bear the danger symbol for corrosives.</li> <li>Adequate ventilation and exhaust arrangement whether general or local, should be provided whenever corrosive toxic gases or dust are present.</li> <li>Personal protective devices shall be used</li> <li>First aid treatment facilities shall be provided and all concerned should be instructed to follow safe practices such as (a) Prolonged washing with water (b) Removing contaminated clothing (c) Seeking immediate medical help.</li> <li>Safety showers and eye washers is provided.</li> </ul>
Toxic Chemicals	<ul style="list-style-type: none"> <li>Ventilation must be sufficient to prevent accumulation of vapor pockets.</li> <li>All fan switches should be outside the storage area.</li> <li>Self-breathing apparatus, gas mask and 'emergency kits' should be located at strategic points under working condition and to be easily accessible in the event of emergency.</li> <li>Appropriate minimum safety distances as stipulated in the above mentioned rules have to be maintained from buildings or group of buildings or adjacent property.</li> </ul>

#### Applicability of PESO :

- **Not Applicable**

5. In table H-2 (Details of Hazardous processes) it is mentioned that it is not applicable, however in process reaction  $Cl_2$  is generated as a pollutant then why chlorination is not mentioned in the Hazardous process , please clarify ?

- **Reply:** PP has informed that they have applied for EC, at that time uploaded old SEAC Format. So, some details were not mentioned in SEAC B2 Format. But, their process reaction  $Cl_2$  is generated as a pollutant is Existing Process gas emission and they have mentioned proposed gas emission from plant will be Nil. So, they have given details in mentioned proposed emission is Not Applicable. Now, they are submitting revised details with chlorination process alongwith other process with safety details is as under:

#### **Safety Measures Regarding Hazardous Process**

##### ❖ **Automated Monitoring System:**

- For process automation unit will adopt SCADA (supervisory control and data acquisition) and PLC



(programmable logic controller) system and costing of the same is also mention in the EMP

- Only Distillation Process, Ammination Process, Chlorination Process, Bromination Process, Hydrogenation Process and Sulphonation Process is identified in proposed project.
- However, Unit will provide SCADA and PLC system with our reactors and Distillation in which we will recover solvent directly from reactor.
- Based on hazardous process ; we have identified the hazardous component to control the hazardous process; which are as followed:
- Temperature & Flow rate (solvent addition/Solvent recovery)
- The main component of SCADA and PLC are as follow;
  - (1) Process control unit (in which computer with specific programming will be installed)
  - (2) Sensor connected with analyzer (Specific temperature and specific flow rate)
  - (3) Analog (Monitor condition and control the Plant parameters automatically)

By adopting this process; unit will fully atomized control on the process and prevent the risk of explosion.

#### **Safety Measures Regarding Chlorination Process:**

- Chlorination Process will be carried out through PLC System.
- Required PPEs like full body protection PVC apron, hand gloves, gumboot etc. will be provided to operator.
- To avoid runaway reaction, chlorine charging will be done gradually & slowly.
- Chlorine Emergency Kit will be procured and kept ready at process site.
- Charging will be done only through closed line and system.
- Neutralizing agent will be kept ready for tackle any emergency spillage.
- PLC (Programmable Logical Control) base process controls and operation of plant will be installed.
- SCBA (Self-contained breathing apparatus) sets will be kept ready at site.
- First Aid Boxes and Occupational health centre will be made at site.
- Emergency siren and wind sock will be provided.
- Emergency team will be prepared and trained for scenario base emergency. Like Toxic control team, Fire control team, First aid team, Communication and general administration team, Medical team etc.
- SOP will be prepared for safe charging of Chlorine tonners.
- Flow and temperature controllers will be provided on process line.
- Safety showers and eye wash will be provided near process area.
- Total close process will be adopted for chlorine charging.
- Emergency team will be prepared and trained for scenario base emergency. Like Toxic control team, Fire control team, First aid team, Communication and general administration team, Medical team etc.

#### **Safety Measures Regarding Reduction Process:**

- Training of MSDS of all chemicals involved.
- HAZOP and pre-start up safety review will be conducted before starting first batch.
- Trained persons will handle chemicals and process as it involved chemicals Fe+HCl, sodium borohydride, raney nickel.
- Control / slow charging of chemicals through dedicated line and control valves.
- Scrubbing system will be provided in storage area and process area.

- Batch process control record will be filled for following safety will be all stage.
- PLC with SCADA based auto process controlling system will be provided
- Cooling and chilling both systems will be provided in reactor with standby arrangement.
- Two temperature indicators will be installed on reactor.
- High temperature stirrer locking system will be provided.
- Safety valve will be provided on the jacket.
- Thickness and hydraulic testing will be carried out periodically.
- Regular preventive maintenance will be carried out for all equipment.

**Safety Measures Regarding Condensation Process:**

- Training of MSDS of all chemicals involved.
  - HAZOP and pre-start up safety review will be conducted before starting first batch.
  - Trained persons will handle chemicals and process as it involved chemicals
  - Control / slow charging of chemicals through dedicated line and control valves.
  - Scrubbing system will be provided in storage area and process area.
  - Batch process control record will be filled for following safety in all stage.
  - PLC with SCADA based auto process controlling system will be provided
  - Cooling and chilling both systems will be provided in reactor with standby arrangement.
  - Two temperature indicators will be installed on reactor.
  - High temperature stirrer locking system will be provided.
  - Safety valve will be provided on the jacket.
  - Thickness and hydraulic testing will be carried out periodically.
  - Regular preventive maintenance will be carried out for all equipment.
- Committee found submission of project proponent satisfactory.

**After detailed discussion, Committee unanimously decided to consider the proposal in the upcoming SEAC meeting only after satisfactory submission of the following:**

1. Certified Compliance Report (CCR) from the concerned authority for existing unit as per the MoEFCC's OM No: F.No. IA3-22/10/2022-IA.III [E177258] vide dated 08/06/2022.

3.	SIA/GJ/IND3/63707/2021	M/s. Aarti Drugs Limited Plot No.DP-94 , DP-95 & DP-96,GIDC Industrial Estate ,saykha Ta, Vagra Dist: Bharuch	EC Refer Back
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- Project proponent (PP) has submitted online application vide no. SIA/GJ/IND3/63707/2021 on dated 18/10/2021 for obtaining Environmental Clearance.
- 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-IND2/4185 dated: 01.09.2022 for

conditions as mentioned therein.

- The case was referred back by the SEIAA, Gujarat vide Letter No. SEIAA/GUJ/EC/2317/2022 dated 15.10.2022 with the following point:
  1. Justification is not given regarding drastic reduction of Waste water generation of 939 KLD against water consumption 1746KLD'
  2. Whether the environment facilities proposed and pollution load worked out matches with the production capacity 8000 MT/Month'
  3. Capacity of ETP & STP not given
  4. Segregation of wastewater in high COD and low CoD details is not given.
  5. Recycling mechanism for waste water is not proposed and alongwith the details of provided infrastructure facilities for the same.
  6. Characteristic of stored chemicals and its safety measures are not mentioned in recommendation letter.
- Project proponent submitted reply vide email dated 17.10.2022 with supporting documents.
- The case was reconsidered in the SEAC meeting dated 18.10.2022.
- Project proponent (PP) and Technical expert from M/s. Aqua Air Environmental Engineering Pvt. Ltd. remain present during video conference meeting.
- PP presented their case as under:

1. **Justification is not given regarding drastic reduction of Waste water generation of 939 KLD against water consumption 1746 KLD'**

**Reply:**

Water balance details:

	Water Consumption (KLD)	Waste Water Generation (KLD)		
		Waste Water	Loss	Remark
(A) Domestic	30	25	-	
(A) Gardening	30	00	-	
<b>(C) Industrial</b>				
Process	580	775	- 195	195 KLD is generated form the process is higher than consumption
Washing	20	19	1	Evaporation loss
Boiler	231	30	201	Evaporation loss

<b>Cooling</b>	900	100	800	Evaporation loss
<b>Other (DM &amp; Softening Regeneration)</b>	15	15	-	-
<b>Industrial Total</b>	<b>1746</b>	<b>939</b>	<b>807</b>	-
<b>Total (A + B + C)</b>	<b>1806</b>	<b>964</b>	-	-

**NOTE:** Total water requirement for industrial is 1746 KLD & waste water generation is 939 KLD and 807 KLD is total loss.

Total water requirement for industrial is 1746 KLD for 1<sup>st</sup> day only. From 2<sup>nd</sup> day it is reduced to 953 KLD. For industrial purpose, total water requirement is 1746 KLD.

Detailed bifurcation of industrial water requirement is as follows:

<b>Sr. No.</b>	<b>Particulars</b>	<b>Fresh Water Requirement for 1<sup>st</sup> day (KLD)</b>
1	Cooling tower	900
2	Boiler	231
3	Softner regeneration	15
4	Equipment & Floor washing	20
5	Process	580
<b>Total</b>		<b>1746</b>

After recycling the water from RO & MEE, fresh water requirement reduced to 953 KLD. Details are as follows:

<b>Sr. No.</b>	<b>Particulars</b>	<b>Fresh Water Requirement from 2<sup>nd</sup> day (KLD)</b>
1	Cooling tower	687
2	Boiler	231
3	Softner regeneration	15

4	Equipment & Floor washing	20
<b>Total</b>		<b>953</b>

From 2nd day, no any fresh water requirement from process purpose, as 580 KLD of water is recycled back to process.

**Note on adequacy of recycle water (580 KL/Day)**

Water generated from Amines will be used at TMA distillation stage for further processing. For TMA distillation, water addition is essential due to azeotropic distillation operation.

Recycle Feed composition at TMA distillation stage is as follows:

- Methanol = 1.5 %
- Water = 98.5 %
- COD = 10,000 to 15,000 ppm
- TSS = BDL (Below detection level)
- TDS = BDL (Below detection level)
- pH = Alkaline

To reduce the load of fresh water addition, the water generated & remaining after methanol distillation will be used at TMA distillation stage. This recycle water composition is adequate to use at this stage.

**Effluent Generation:**

Effluent generation of plant is 939 KLD, out of which 580 KLD of water is recycled back into the process as per adequacy. Detailed bifurcation is as follows:

Sr. No.	Particulars	Fresh Water Requirement from 2nd day (CMD)
1	Cooling tower	100
2	Boiler	30
3	Softner regeneration	15
4	Equipment & Floor washing	19
5	Process	775
Total		939

Effluent from cooling tower, boiler & softner is 145 KLD, which is to be treated in full-fledged ETP of 160 KLD capacity.

Effluent from equipment, floor wash & process water is 214 KLD, which is to be treated in adequate MEE & RO system.

2. **Whether the environment facilities proposed and pollution load worked out matches with the production capacity 8000 MT/Month'.**

**Reply:** Total plot area of our proposed unit is 59243 sq. meter, out of this area about 19550 sq.

meters (33%) area will be covered as greenbelt, after that 39693 sq. meter area available for plant activities & storage. Proposed unit is located in Saykha GIDC where all infrastructure facilities are available like water supply from the GIDC, treated effluent discharge in CETP, Easy availability of Raw Materials, etc. Unit will have proposed In-house ETP (Primary, Secondary, Tertiary units) for Low COD effluent & Stripper, MEE & RO units for high COD effluent. Unit will have proposed adequate APCM for flue gas emission are ESP + Scrubber, MCS + Bag Filter & Adequate stack height & Two stage scrubber system for process gas emissions. Unit have allocated 13993.25 Sq. meter area for PESO & NON PESO storage tank farm. Unit have allocated 175 Sq. meter area for Hazardous waste storage. Generated organic (39 MT/Annum) & Inorganic (576 MT/Annum) hazardous waste will be sent to common facility TSDF & CHWIF of M/s. RSPL for final disposal. Unit will install on line monitoring system i.e. TOC & TN analyzer, pH meter & flow meter for waste water discharge. production capacity per day will be approx. 266.67 MT/Day for that they have separate plants (4 Nos. of Production plants) for each groups.

### 3. Capacity of ETP & STP not given

**Reply:** PP has stated that they have two streams low COD (from Utilities) & high COD (from Process). We have separate ETP for low COD stream & Stripper + MEE & RO Unit for high COD stream. STP is provided for the domestic wastewater.

(1) ETP stream (Low COD) = 145 KL/Day (ETP Capacity = 150 KL/Day)

(2) Stripper & MEE stream (High COD) = 104 KL/Day (Stripper capacity = 110 KL/Day, MEE unit capacity = 120 KL/Day)

(3) RO Stream (High COD) = 131 KL/Day (RO unit capacity = 150 KL/Day)

(4) STP Stream = 25 KL/Day (STP Capacity = 30 KL/Day)

### 4. Segregation of wastewater in high COD and low COD details is not given.

**Reply:** Stream wise segregation of high & low COD details are given below:

Two streams low COD (from Utilities) & high COD (from Process). PP has separate ETP for low COD stream & Stripper + MEE & RO Unit for high COD stream.

- Total Water requirement is 1806 KLD (Fresh requirement 989 KLD & Total reuse is 817 KLD).
- 775 KLD waste water generated from the process in which 580 KLD from the process is directly reuse in the process remaining 131 KLD will be treated in RO Unit & RO permeate 110 KLD will reuse in Cooling tower & RO Reject 21 KLD will be treated in MEE & 64 KLD from another products & 19 KLD from washing will be treated in Stripper + MEE after that total MEE Condensate 102 KLD will reuse in the Cooling tower.
- Domestic waste water (25 KLD) will be treated in STP and treated domestic waste water will

be reused in flushing purpose and gardening purpose.

- **Stream-1 (Low COD) from Boiler (30 KL/Day) + Cooling Tower (100 KL/Day) + DM Plant (15 KLD) = 145 KL/Day.**
- **Stream-2 (High COD) from Process (83 KL/Day) + RO Reject (21 KL/Day) = 104 KL/Day**

The wastewater generation will be 964 KLD.

- The industrial effluent (939 KLD) will be segregated into low COD stream (145 KLD), High COD/High TDS stream (83 KLD) and TDS stream – (131 KLD), Process recycle water (580 KLD) & Low COD stream (145 KLD) will be sent to propose ETP consists of primary, secondary and tertiary treatment facility and treated effluent shall be send to CETP for further treatment.
- The High COD & High TDS effluent stream (83 KLD) will be stripped in solvent stripper then effluent (82 KLD) + RO Reject (21 KLD) evaporated in MEE and MEE condensate (102 KLD) will be reused in plant premises.
- TDS effluent stream (131 KLD) will be passed RO and RO Permeate (110 KLD) will be reused in plant premises and RO Reject (21 KLD) will be evaporated in MEE
- Domestic waste water (25 KLD) will be treated in STP and treated domestic waste water will be reused in flushing purpose and gardening purpose.

**5. Recycling mechanism for waste water is not proposed and alongwith the details of provided infrastructure facilities for the same.**

**Reply:** Unit will have proposed In-house ETP (Primary, Secondary, Tertiary units), Striper, MEE & RO units for treatments of the effluents.

- Unit has separate ETP for low COD stream & Striper + MEE & RO Unit for high COD stream.
- Total Water requirement is 1806 KLD (Fresh requirement 989 KLD & Total reuse is 817 KLD).
- 775 KLD waste water generated from the process in which 580 KLD from the process is directly reuse in the process remaining 131 KLD will be treated in RO Unit & RO permeate 110 KLD will reuse in Cooling tower & RO Reject 21 KLD will be treated in MEE & 64 KLD from another products & 19 KLD from washing will be treated in Striper + MEE after that total MEE Condensate 102 KLD will reuse in the Cooling tower.
- Domestic waste water (25 KLD) will be treated in STP and treated domestic waste water will be reused in flushing purpose and gardening purpose.

**Note on adequacy of recycle water (580 KL/Day)**

Water generated from Amines will be used at TMA distillation stage for further processing.

For TMA distillation, water addition is essential due to azeotropic distillation operation. Recycle Feed composition at TMA distillation stage is as follows:

- Methanol = 1.5 %
- Water = 98.5 %
- COD = 10,000 to 15,000 ppm
- TSS = BDL (Below detection level)
- TDS = BDL (Below detection level)
- pH = Alkaline

To reduce the load of fresh water addition, the water generated & remaining after methanol distillation will be used at TMA distillation stage. This recycle water composition is adequate to use at this stage.

**6. Characteristic of stored chemicals and its safety measures are not mentioned in recommendation letter.**

**Reply:** PP has submitted characteristics of stored chemicals and its safety measures are given below:

Sr. No.	Name of the Material	Nature of Material	Kind of Storage Tank/Bag etc	Tank Capacity	No. of Tanks	Max. Quantity to be stored (MT)	Characteristic	PESO / Non-PESO	Storage Condition i.e Temp. Pressure	Tank Dimensions in ( m )	Dyke Dimensions in ( m )
1	Ammonia	Liquid	Tank	65 KL	5 + 1 (Spare Tank)	251	Toxic/Corrosive	PESO	14 Kg/cm <sup>2</sup> pressure at Atmospheric temp	Dia. 3 m x L 9 m	-
2	Methanol	Liquid	Tank	500 KL	1	500	Flammable/Toxic	PESO	Atmospheric Pressure Atmospheric temperature	Dia. 8 m x L 10 m	20 x 20 x 2.25 (LWH)
3	30 % HCl	Liquid	Tank	100 KL	6	592	Toxic/Corrosive	Non-PESO	Atmospheric Pressure Atmospheric temperature	Dia. 4.7 m x L 6 m	20 x 13 x 2.25 (LWH)
4	Monomethylamine (MMA)	Liquid	Tank	65 KL	2	124	Flammable/Toxic	PESO	6 Kg/cm <sup>2</sup> pressure at Atmospheric temp	Dia. 3 m x L 9 m	-
5	Dimethylamine (DMA)	Liquid	Tank	65 KL	2	125	Flammable	PESO	6 Kg/cm <sup>2</sup> pressure at	Dia. 3 m x L 9 m	-



							/Toxic		Atmospheric temp		
6	Trimethylamine (TMA)	Liquid	Tank	65 KL	2	105	Flammable/Toxic	PESO	6 Kg/cm <sup>2</sup> pressure at Atmospheric temp	Dia. 3 m x L 9 m	-
7	Ethylene Oxide	Liquid	Tank	10 KL	1 + 1 (Spare Tank)	10	Flammable/Toxic	PESO	4.5 Kg/cm <sup>2</sup> pressure at 10 Deg. Cel. temperature under Chilling	Dia. 2.5 m x L 4.2 m	-
8	Choline Chloride	Liquid	Tank	75 KL	6	400	Toxic/Corrosive	Non-PESO	Atmospheric Pressure Atmospheric temperature	Dia. 4.2 m x L 5.3 m	-
OR	TMA. HCL	Liquid									

**SAFETY MEASURES FOR STORED CHEMICALS ARE AS BELOW:**

Sr. No.	Name of the chemical	Capacity of tank (KL)	PESO & NON-PESO	Possible type of Hazards	Storage And Handling Safety Measures
1	Ammonia	65	PESO	Toxic/Corrosive	<ul style="list-style-type: none"> <li>Adequate dyke walls (with acid proof coating) provided.</li> <li>Level indicator with high level alarm provided on the tank.</li> <li>Water curtain system installed on southern extreme of site in front of tank farm to avoid gas dispersing on general road traffic.</li> <li>Scrubber system installed for HCL storage tank &amp; used during road tanker unloading.</li> <li>Adequate flexible SS hose provided for tanker connection for unloading.</li> <li>Dedicated pumps are provided and located with its close proximity to the respective tank to avoid unintentional mistake of mixing of chemicals.</li> <li>Leakage / Spillage handling kit provided.</li> <li>To avoid chemical exposure, closed handling system is provided.</li> <li>Fire hydrant system provided including water curtain system.</li> <li>1 spare tank is provided for ammonia storage.</li> </ul>
2	30 % HCL	100	NON-PESO	Toxic/Corrosive	
3	Choline Chloride	75			
OR	TMA. HCL				
4	Methanol	500	PESO	Flammable/Toxic	
5	Monomethylamine (MMA)	65	PESO		

6	Dimethylamine (DMA)	65	PESO	<ul style="list-style-type: none"> <li>• Full-fledged fire hydrant system with fire water storage tank will be provided</li> <li>• Water sprinkler system/ hydrant system will be provided at all flammable material storage area.</li> <li>• Static dissipation points for control of static hazards will be provided.</li> <li>• Fire extinguishers and foam trolleys will be provided at strategic locations.</li> <li>• Online gas detectors system will be provided near tank farm area and underground tank farm.</li> <li>• Safety instruction boards will be displayed for handling &amp; emergency response.</li> <li>• Dyke walls will be provided for containment of liquid spills.</li> <li>• DCS based safety interlocks, control valves and emergency relief system will be provided.</li> <li>• Flame proof fitting will be installed at all areas as per Hazardous Area Classification.</li> <li>• Double earthing &amp; grounding to the system will be provided.</li> <li>• Earthing relays with interlock will be provided to stop transfer of material if earthing continuity is not there.</li> <li>• Lock &amp; key arrangements will be provided for critical chemicals pipeline valves.</li> </ul>
7	Trimethylamine (TMA)	65	PESO	
8	Ethylene Oxide	10	PESO	<ul style="list-style-type: none"> <li>• Observe all fire-fighting measures (no smoking, do not handle with naked flame and remove all possible sources of ignition).</li> </ul>

					<ul style="list-style-type: none"> <li>• Take precautionary measures against static discharges.</li> <li>• Wear recommended personal protective equipment and observe instructions to prevent possible contact of substance with skin and eyes and inhalation.</li> <li>• Avoid leak to environment. Vapors are heavier than air.</li> <li>• Store rooms should meet the requirements for the fire safety of constructions and electrical facilities and should be in conformity with valid regulations.</li> <li>• Store in cool, well-ventilated place with effective exhaust, away from heat and all sources of ignition.</li> <li>• Store in tightly closed container. Do not store together with oxidizing agents.</li> <li>• Take precautionary measures against static discharges.</li> <li>• Avoid leak to environment.</li> <li>• May polymerize exothermically if heated or contaminated. If the polymerization takes place inside a container, the container may rupture violently. Vapors may burn inside a container.</li> <li>• Spare tank is provided for Ethylene oxide storage.</li> </ul>
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- 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-IND2/4185 dated: 15/10/2022.**

4.	SIA/GJ/IND3/71901/2021	M/s. Galaxy Surfactants Ltd. Plot No. 902-3 r- 902-3p, Jhagadia Notified GIDC Industrial Estate, Ta. , Dist. Bharuch.	EC- Refer Back
<ul style="list-style-type: none"> <li>• Project proponent (PP) has submitted online application vide no. SIA/GJ/IND3/71901/2021 on dated 05/02/2022 for obtaining Environmental Clearance.</li> <li>• 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-IND2/4186 dated: 01.09.2022 for conditions as mentioned therein.</li> <li>• The case was referred back by the SEIAA, Gujarat vide Letter No. SEIAA/GUJ/EC/2318/2022 dated 15.10.2022 with the following point:             <ol style="list-style-type: none"> <li>1. Justification is not given regarding drastic reduction of Waste water generation of 825 KLD against water consumption 1945 KLD.</li> <li>2. Whether the environment facilities proposed and pollution load worked out matches with the production capacity 1008500 MT/Month.</li> <li>3. Detail of ETP with capacity is not given.</li> </ol> </li> <li>• Project proponent submitted reply vide email dated 15.10.2022 with supporting documents.</li> <li>• The case was reconsidered in the SEAC meeting dated 18.10.2022.</li> <li>• Project proponent (PP) and Technical expert from M/s. Siddhi Green Excellence Pvt. Ltd. remain present during video conference meeting.</li> <li>• PP presented their case as under:             <ol style="list-style-type: none"> <li>1. Justification is not given regarding drastic reduction of Waste water generation of 825 KLD against water consumption 1945 KLD.</li> </ol> <p><b>Reply:</b> Water consumption for manufacturing process purpose is @697 KLD. Mostly all products are liquid as their end uses are surfactants and cosmetics. Major water content goes along with the product. Hence, Wastewater generation from manufacturing process reduces to @376 KLD. Water consumption for washing purpose is @230 KLD and the wastewater generation is also @230 KLD. There is no reduction in this stream. Water consumption for APCM is @60 KLD and generated scrubbing solution is @129 KLD. The scrubbing solution shall be sold to actual user having valid CCA &amp; Rule-9 permission. Cooling tower and boiler blowdown @90 KLD is passed through cartridge filter and used for washing purpose. Hence, wastewater generation is less than the water consumption. Unit shall install RO &amp; MEE and company will be completely ZLD.</p> <ul style="list-style-type: none"> <li>➤ <b>Committee asked for Clarification regarding Water consumption and Scrubbing solution generated from APCM which PP lateron submitted details through email is as under:</b> <p>Water consumption for APCM is @60 KLD. Unit shall use Water + Alkali scrubber to scrub the</p> </li> </ul> </li> </ul>			

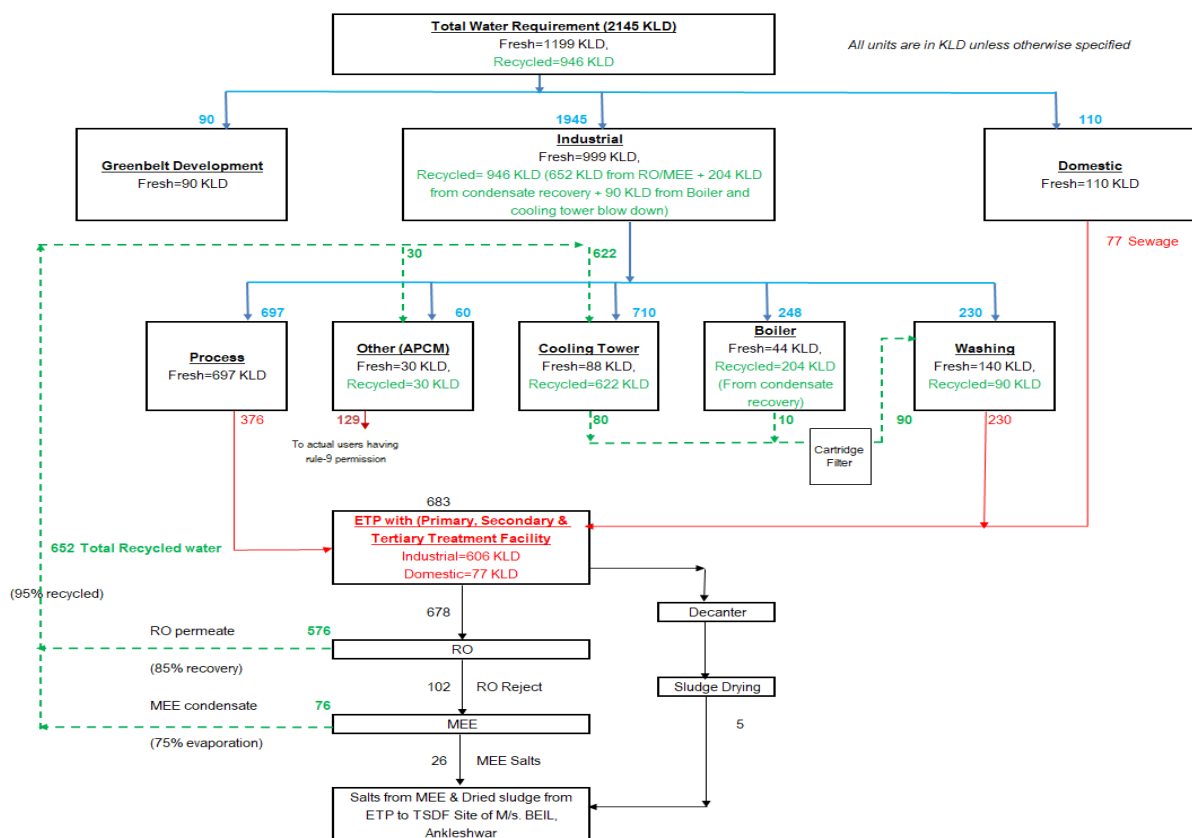
generated process gas. 129 KLD of scrubbing solution includes water 60 KLD, process gas 27 MTD and alkaline media 42 MTD. Hence, the quantity of water consumption gets increased. Generated scrubbing solution is @**129 KLD**. The scrubbing solution shall be sold to actual user having valid CCA & Rule-9 permission

Category	Total Water requirement (KLD)	Recycle Water (KLD)	Fresh Water requirement from GIDC(KLD)	Waste water generation (KLD)	Remarks (for water consumption quantities)	Remarks (Waste water Disposal scenario)
(A) Domestic	110	--	110	77	--	Sewage shall be treated along with industrial effluent in own ETP
(B) Gardening	90	--	90	--	Fresh water requirement: 90 KLD	--
<b>(C) Industrial</b>						
Process	697	--	697	376	Fresh water requirement: 697 KLD	Effluent shall be treated in own ETP/RO/MEE and treated effluent shall be recycled to APCM, Cooling tower make-up
Boiler	248	204	44	10	44 KLD Fresh + 204 KLD Recycled (condensate from boiler)	<b>Recycled: 90 KLD</b> Boiler blow down of 10 KLD & Cooling tower blow down of 80 KLD shall be used for washing purpose after passing through cartridge filter.
Cooling	710	622	88	80	88 KLD Fresh + 622 KLD Recycled	
Washing	230	90	140	230	Fresh water Requirement: 140KLD Recycled Quantity: 90 KLD. Boiler blow down of 10 KLD & Cooling tower blow	Effluent generated from washing shall be treated in own ETP/RO/MEE and treated effluent shall

						down of 80 KLD shall be used for washing purpose after passing through cartridge filter. So, the fresh water requirement shall be reduced.	be recycled to APCM, cooling tower make-up
	<b>Others (APCM)</b>	60	30	<b>30</b>	129	<b>30 KLD</b> Fresh water requirement+ <b>30 KLD</b> Recycled	<b>129 KLD</b> APCM scrubbing solution shall be sold to actual users having valid CTO and permission under Rule 9.
	<b>Industrial Total</b>	<b>1945</b>	<b>946</b>	<b>999</b>	<b>825</b>	<b>Fresh water: 999 KLD + Recycled water: 946 KLD</b>	<b>606 KLD to ETP/RO/MEE + 129 KLD scrubbing solution shall be sold to actual users having valid CTO &amp; permission under Rule 9 + 90 KLD boiler and cooling tower blow down</b>
	<b>Total (A + B + C)</b>	<b>2145</b>	<b>946</b>	<b>1199</b>	<b>902</b>	<b>Fresh water: 1199 KLD + Recycled water: 946 KLD</b>	<b>576 KLD RO permeate + 76 KLD MEE condensate shall be used in APCM, Cooling tower + 129 KLD scrubbing solution shall be sold to actual users having valid CTO &amp; permission under Rule 9 + 90 KLD boiler and cooling tower blow down</b>

- Mainly there are four streams of wastewater generation from industrial operations.
  - Water consumption for manufacturing process purpose is @**697 KLD**. Mostly all products are liquid as their end uses are surfactants and cosmetics. Major water content goes along with the product. Hence, Wastewater generation from manufacturing process reduces to @**376 KLD**.
  - Water consumption for washing purpose is @**230 KLD** and the wastewater generation is also @**230 KLD**. There is no reduction in this stream.
  - Water consumption for APCM is @**60 KLD**. Unit shall use Water + Alkali scrubber to scrub the generated process gas. 129 KLD of scrubbing solution includes water 60 KLD, process gas 27 MTD and alkaline media 42 MTD. Hence, the quantity of water consumption gets increased.

Generated scrubbing solution is @**129 KLD**. The scrubbing solution shall be sold to actual user having valid CCA & Rule-9 permission. Hence, wastewater generation is less than the water consumption. **Unit shall install RO & MEE and company will be completely ZLD.**



2. Whether the environment facilities proposed and pollution load worked out matches with the production capacity 1008500 MT/Month.

**Reply:** For 1008500 MT/Annum production capacity, total pollution load calculation sheet including water consumption & waste water generation, Process gas emissions, Hazardous

waste generation is shown. Total plot area of the unit is 196795.95 Sq. m. and there shall be 11 nos. of Plant buildings having total area of 15002 sq. m. carpet area and will be expanded vertically also (Maximum up to G + 4). for manufacturing facility. PP has submitted Site layout plan showing various plant sections with area statement is given.

**Area adequacy**

**Plot area**

Total Plot area
196795.95 Sq. m.

- Production capacity: 1008500 MT/Annum.
- Company will store its raw material in Tanks, Drums, Carboys, IBC, Bags (Unit shall procure Raw Materials from the local market. Hence, no excess quantity of raw materials will be stored).

**Area adequacy table:**

Storage	Period of storage	Maximum storage required (MT)	Type of storage	Required Space	Allocated space,	Area no. in site plan
				sq. m	sq. m	
Raw Material Store	3 days	992	~3968 Nos. of Drums (250 L each)	992	4500.00	14,25
		2646	~52920 Nos. of Bags (50 kg each-Stacked in 3 layers)	2646		
		36	~720 Nos. of Carboys (50 L each)	36		
Finished Goods store	3 days	4202	~28000 Nos. of Bags (50 kg each-Stacked in 7 racks) ~7000 Nos. of Drums (200 kg each), ~560 Nos. of Drums (250 kg)	2101	3500.00	24
Finished Goods & Raw Material Storage in Tank	3 days	11991	Tank storage	--	4139.36	10
Solvent Storage (Fresh & Recovered solvent)	3 days	266	Tank storage & Drum Storage in Solvent storage area	266	1682.55	4
HW Storage	30 days	1786	Drums and bags in stacking arrangement	595	754.00	35, 36
Utility area	--	--	--	180	3000.00	30

Note: Ethylene Oxide shall be stored in 3 Nos. Bullets of 50 kg each in separate EO Tank Farm Area admeasuring 8720 Sq. m. & Methyl chloride Gas shall be stored in 40 Nos. of Tonners of 500 kg each in separate storage Area admeasuring 456.69 Sq. m.

3. Detail of ETP with capacity is not given.

**Reply:** Sewage along with the effluent generated from industrial & other ancillary operations



shall be first treated in own ETP (capacity:1000 KLD). The treated effluent shall be sent to RO (2 nos. of 15 KL/h capacity) followed by MEE (1 no. of 5 m<sup>3</sup>/h capacity). RO permeate and MEE condensate shall be used in APCM, Cooling tower makeup. Thus the unit shall be a Zero Liquid Discharge.

Unit shall be a Zero Liquid Discharge (ZLD) unit by treating entire **industrial effluent @825 KLD in own ETP (Capacity: 1000 KLD)** so ETP capacity is sufficient. RO (2 nos. of 15 KL/h capacity) & MEE (1 no. of 5 m<sup>3</sup>/h capacity). RO permeate and MEE condensate shall be used in APCM, Cooling tower makeup.

- 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-IND2/4186 dated: 01/09/2022.**

5.	SIA/GJ/IND3/289018/2022	M/s. Bulk Drugs and Drugs Intermediates Krufren Pharma Plot No. C/251, GIDC Saykha, Ta. : Vagra, Dist: Bharuch	EC-Amendment
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Category of the unit: **5 (f)**

Project status: **EC Amendment**

- During SEAC VC meeting on dated 18-10.2022, the project proponent (PP) of the project did not remain present for the presentation, moreover did not informed about the same to the committee. They also not submitted any detail of their project.

**Hence, Committee decided to defer this proposal and consider this in one of the upcoming SEAC meeting.**

6.	SIA/GJ/IND3/291767/2022	M/s.Lion Color Plot No. C-125,Saykha Industrial Esate,Ta:Vagra, Dist: Bharuch,Gujarat.	EC-Amendment
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Category: **5(f)**

Project status: **EC-Amendment**

- 1) This is new proposed project for manufacturing of "Synthetic Organic Chemicals" for which was accorded Environmental Clearance vide letter no. SEIAA/GUJ/EC/5(f)/959/2019 dated: 19.06.2019.
- 2) Now, project proponent has applied online vide proposal no. SIA/GJ/IND3/291767/2022 for EC-Amendment in EC letter no. SEIAA/GUJ/EC/5(f)/959/2019 dated: 19.06.2019 for Change in Mode of Treated Effluent

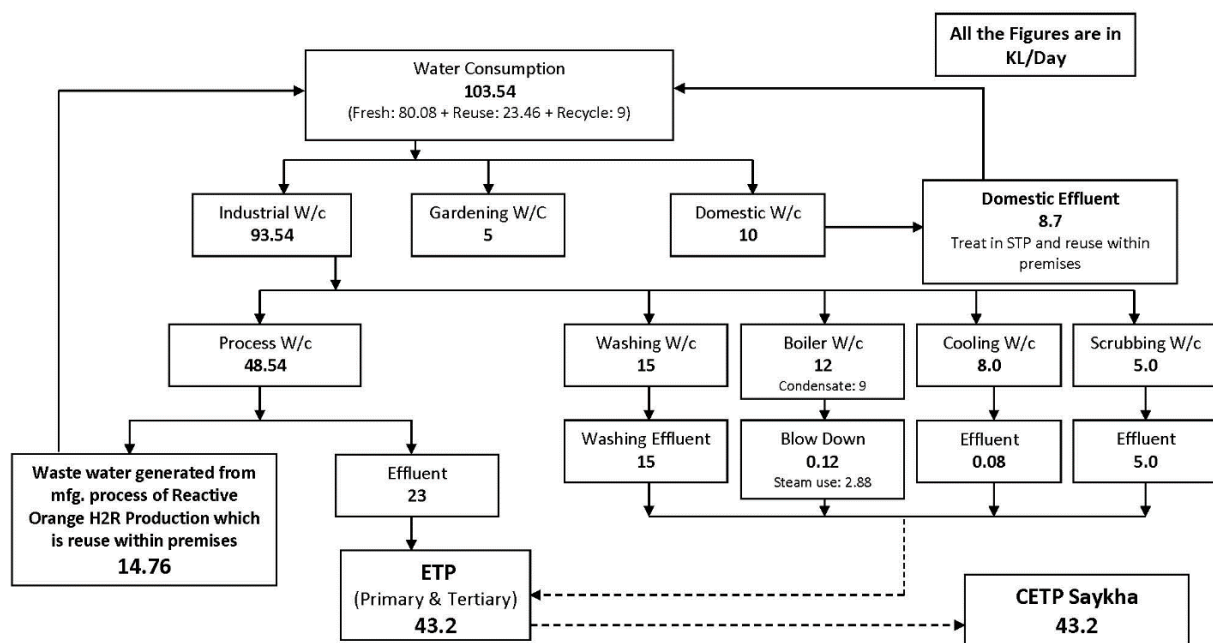
Discharge from In House Spray Drying to CETP Discharge & Provision of STP for Domestic Wastewater and Change in Type of Fuel. The details are as under:

Sr. no.	Condition no. in which Amendment is proposed.	As per EC	As per proposed amendment	Justification
1	1	Unit shall send effluent to in- house spray dryer only after provided adequate treatment within premises to ensure no adverse impact on Environment and Human Health.	Unit Shall send effluent to CETP Saykha only after provided adequate treatment within premises to ensure no adverse impact on Environment and Human Health.	Due to availability of CETP Saykha
2	2	Complete Zero liquid discharge [ZLD] status shall be maintained all the time and there shall be no drainage connection from the premises.	Treated effluent shall send to CETP Saykha and there shall be no drainage connection from the premises.	Due to availability of CETP Saykha
3	7	Total water requirement for the project shall not exceed 103.54 KLD. Unit shall reuse/recycle 14.76 KLD industrial effluent in washing activity within premises. Hence, fresh water requirement shall not exceed 88.78 KLD. Fresh water requirement shall be met through GIDC supply only.	Total water requirement for the project shall not exceed 103.54 KLD. Unit shall reuse/recycle 23.46 KLD industrial effluent in washing activity within premises. Hence, fresh water requirement shall not exceed 80.08 KLD. Fresh water requirement shall be met through GIDC supply only.	Due to the installation of STP, domestic wastewater will be treated in STP and reuse within premises.
4	10	Industrial effluent 43.2 KLD (Process: 23 KLD, Washing: 15 KLD, Boiler Blow Down: 0.12 KLD, Cooling Bleed Off: 0.88 KLD, Exhausted Scrubbing Media : 5 KLD) shall be treated in adequate ETP consists of primary treatment units and then sent to in- House spray dryer for spray drying.	Industrial effluent 43.2 KLD (Process: 23 KLD, washing: 15 KLD, Boiler Blow Down: 0.12 KLD, Cooling Bleed Off: 0.88 KLD, Exhausted Scrubbing Media: 5 KLD) shall be treated in adequate ETP consists of primary & tertiary treatment units and then sent to CETP-Saykha for further treatment.	Due to availability of CETP Saykha

5	11	Unit shall provide adequate buffer storage facility to store effluent before sending it to in-house spray dryer for spray drying.	Unit shall provide adequate buffer storage facility to store effluent before sending it to CETP-Saykha	Due to availability of CETP Saykha
6	12	Domestic wastewater generation shall not exceed 8.7 KLD and it shall be disposed to soak pit via septic tank.	Domestic wastewater generation shall not exceed 8.7 KLD and it shall be treated in STP and treated water will be reused in gardening and cooling purpose within premises.	For increase reuse water
7	13	Unit shall provide metering facility at the inlet and outlets of the ETP, effluent reuse line, inlet line of in-house spray dryer and maintain records for the same.	Unit shall provide metering facility at the inlet and outlets of the ETP, effluent reuse line, outlet line of CETP discharge and maintain records for the same.	Due to availability of CETP Saykha
8	14	Proper logbooks of ETP, quantity and quality of effluent send to in-house spray dryer, chemical consumption, reuse industrial effluent, power consumption, spray dryer salt generation etc. shall be maintained and shall be furnished to the GPCB from time to time.	Proper logbooks of ETP, quantity and quality of effluent send to CETP Saykha, chemical consumption, reuse industrial effluent, power consumption etc. shall be maintained and shall be furnished to the GPCB from time to time.	Due to availability of CETP Saykha
9	15	Unit shall not exceed fuel consumption for Steam Boiler HAG TFH and DG Set as mentioned in EC Copy.	Unit shall not exceed fuel consumption for Steam Boiler HAG TFH and DG Set as mentioned in Addendum to EIA.	Due to the dismantle of HAG-2 because of Availability of CETP in Saykha Industrial Estate.
10	17	Unit shall provide adequate APCM and stack height with process gas generation sources as mentioned in EC copy.	Unit shall provide adequate APCM and stack height with process gas generation sources as mentioned in Addendum to EIA.	Due to the dismantle of Spray Dryer-2 because of Availability of CETP in Saykha Industrial Estate.
11	23	All the hazardous waste management shall be taken care as mentioned in EC copy.	All the hazardous waste management shall be taken care as mentioned in Addendum to EIA.	Due to the dismantle of Spray Dryer-2.

3) PP was called for presentation in the SEAC meeting dated 18.10.2022.

- 4) During the meeting dated 18.10.2022, Project proponent (PP) and Technical expert from M/s. M/s Bhagwati Enviro Care Pvt. Ltd. remain present during video conference meeting.
- 5) PP presented that they have applied for EC-Amendment for Change in Mode of Treated Effluent Discharge & Provision of STP for Domestic Wastewater and Change in Type of Fuel.
- 6) PP presented the following documents:
- ✓ Due to this changes, reuse quantity increase from 14.76 KLD to 23.46 KLD, Decrease freshwater consumption quantity from 88.78 KLD to 80.08 KLD, Decrease fuel consumption quantity @ 9 MTPD, Decrease one Flue gas and one Process gas stack, Decrease one Hazardous waste category and they will provide STP for treatment of Domestic wastewater and upgrade ETP from Primary treatment to Primary & Tertiary Treatment for Industrial wastewater.
  - ✓ Water balance diagram is as under:



- ✓ Submitted membership Membership Certificate of CETP Saykha issued vide letter No. GIDC/BRH/XEN/WD/706, dated: 21.07.2020 with Membership Quantity: 43.2 KLD.
- ✓ PP stated that as per obtained EC vide letter no. SEIAA/GUJ/EC/5(f)/959/2019, dated: 19.06.2019 they have obtained permission to use Coal as Fuel. Due to the unavailability of Coal, they choose LDO as a fuel because of local manufacturing fuel and they assure that, whenever Natural Gas line will be available, they will use Natural Gas as fuel. So, after EC Amendment they will use Imported Coal/LDO/Natural Gas as fuel and assured you that, their first priority of fuel will LDO.
- ✓ PP stated that the Project Cost (As per EC) is 450 Lac, Proposed Cost: 30 Lac. Total Project Cost After EC Amendment is 480 Lac.

- ✓ CER Cost: 0.6 Lac (This funds will be added in their existing CER funds and carried out CER activity i.e. they will provide solar panel in Saykha Primary School).
- ✓ Project cost will be increased due to the upgrade ETP with tertiary treatment facility & install new STP for domestic effluent. Capital & Recurring cost will be decreased due to dismantle HAG-2 & Spray Dryer -2 (for effluent). PP has submitted EMP details is as under:

Sr. No	Unit	Detail	Capital Cost (Rs. In Lac)		Total Recurring Cost (Rs. In Lac)	
			As per EC	After EC Amendment	As per EC	After EC Amendment
1	Waste Water	New STP Installation and upgrade ETP with tertiary treatment.	150	75	380.7	85
2	Air	No Change in Utility (accept dismantle Spray Dryer & HAG) but fuel will change	100	80	36	40
3	Hazardous Management	Reduce generation of sludge and no new waste category added	10	10	30	10
4	Fire & Safety	Fire Hydrant System	0.0	15	0.0	0.5
5	Green Belt Development	Develop greenbelt area and planted trees	2.0	2.0	1.5	1.5
6	Occupational Health	Health Check-up of employee	1.0	1.0	2.5	2.5
7	Noise Control	Acoustic cover for boiler	1.0	1.0	1.0	1.0
8	Environment Monitoring	Air, water and ambient monitoring by third party	1.0	1.0	2.0	2.0
10	CER Funds	CER Activity do in near village	9.0	9.6	0.0	0.0
<b>TOTAL</b>			<b>274</b>	<b>194.6</b>	<b>453.7</b>	<b>142.5</b>

7) Committee found submission of project proponent satisfactory.

**After detailed deliberation, Committee unanimously decided to recommend grant of EC – Amendment to SEIAA, Gujarat as mentioned below and change in “Condition No. 1, 2, 7, 10, 11, 12, 13, 14, 15, 17 & 23” as follows and with remaining condition unchanged in EC granted by SEIAA, Gujarat vide Letter No. SEIAA/GUJ/EC/5(f)/959/2019 dated: 19.06.2019.**

**Condition No. 1, 2, 7, 10, 11, 12, 13, 14, 15, 17 & 23 shall now be read as under:**

1. Unit shall send effluent to CETP Saykha only after provided adequate treatment within premises and after complying with the inlet norms of CETP prescribed by GPCB to ensure no adverse impact on Environment and Human Health.
2. Treated effluent shall be send to CETP Saykha after complying inlet norms of CETP.
7. Total water requirement for the project shall not exceed 103.54 KLD. Unit shall reuse/recycle 23.46 KLD industrial effluent in washing activity within premises. Hence, fresh water requirement shall not exceed 80.08 KLD. Fresh water requirement shall be met through GIDC supply only.
10. Industrial effluent 43.2 KLD (Process: 23 KLD, washing: 15 KLD, Boiler Blow Down: 0.12 KLD, Cooling Bleed Off: 0.88 KLD, Exhausted Scrubbing Media: 5 KLD) shall be treated in adequate ETP consists of primary & tertiary treatment units and then sent to CETP-Saykha for further treatment.
11. Unit shall provide adequate buffer storage facility to store effluent before sending it to CETP-Saykha.
12. Domestic wastewater generation shall not exceed 8.7 KLD and it shall be treated in STP and treated sewage shall be utilized for gardening and plantation purpose and cooling purpose within premises after achieving on-land discharge norms prescribed by the GPCB. It shall not be disposed off through soak pit/ septic tank.
13. Unit shall provide metering facility at the inlet and outlets of the ETP, effluent reuse line, outlet line of CETP discharge and maintain records for the same.
14. Proper logbooks of ETP, quantity and quality of effluent send to CETP Saykha, chemical consumption, reuse industrial effluent, power consumption etc. shall be maintained and shall be furnished to the GPCB from time to time.
15. Unit shall not exceed fuel consumption for Steam Boiler, HAG , TFH and DG Set 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	Steam Boiler (3 MT)	30	Imported Coal (or)	3 MT/Day	Particulate Matter SO <sub>2</sub> NO <sub>x</sub>	Multi Cyclone Dust collector and Bag Filter + Dry Scrubber
			LDO (or)	3.8 KL/Day		Dry Scrubber
			Natural Gas	3120 SCM/Day		Adequate Stack Height
2	Thermic Fluid Heater (10 Lacs Kcal)	15	Imported Coal (or)	1.2 MT/Day	Particulate Matter SO <sub>2</sub> NO <sub>x</sub>	Multi Cyclone Dust collector + Dry Scrubber
			LDO	2.3 KL/Day		Dry Scrubber

			(or)			
			Natural Gas	1920 SCM/Day		Adequate Stack Height
3	Hot Air Generator-1 (20 Lacs Kcal)	15	Imported Coal (or)	5 MT/Day	Particulate Matter SO <sub>2</sub> NO <sub>x</sub>	Multi Cyclone Dust collector & Bag Filter + Dry Scrubber
			LDO (or)	4.6 KL/Day		Dry Scrubber
			Natural Gas	3840 SCM/Day		Adequate Stack Height
4	Hot Air Generator-2 (20 Lacs Kcal) (Inbuilt with Spray Dryer-2 Cap- 2 KL/hr) <b>(Dismantle)</b>	Inbuilt with Spray Dryer-2	Coal	9	Particulate Matter SO <sub>2</sub> NO <sub>x</sub>	Inbuilt with Spray Dryer-2
5	D.G. Set (125 KVA)	11	HSD	20 Lit/Hr	SO <sub>2</sub>	Adequate Stack Height

**Unit shall dismantle HAG-2 after EC Amendment.**

17. Unit shall provide adequate APCM and stack height with process gas generation sources as mentioned in 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	Spray Dryer-1 (For Dyes) (2 KL/hr)	Particulate Matter	20	Multi Cyclone Dust Collector & Wet Scrubber
2	Spray Dryer-2 (For Effluent) (2 KL/hr) <b>(Dismantle)</b>	Particulate Matter	20	Multi Cyclone Dust Collector & Wet Scrubber

**Due to the change in treated effluent discharge Unit shall dismantle Spray Dryer-2 (For Effluent) after EC Amendment**

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

Sr. no.	Type/Name of Hazardous waste	Specific Source of generation	Category and Schedule as per HW Rules.	Quantity (MT/Annum)		Management of HW
				As per EC	After EC Amendment	
1	ETP Waste	Effluent Treatment Plant	35.3	30	30	Collection, Storage, Transportation & Disposal at Eco Care Infrastructures Pvt. Ltd.

2	Spent Oil/Used Oil	From Plant Machineries	5.1	10 Lit	10 Lit	Collection, Storage, Transportation & Disposed by selling to Registered refiners or reuse as lubricant.
3	Discarded Container	From Raw Material/Production Section	33.1	240	240	Collection, Storage, Transportation & Disposed by selling to authorized recycler.
4	Spray Dryer Sludge	From Spray Dryer (For effluent)	--	3000	00	Collection, Storage, Transportation & Disposal at Eco Care Infrastructures Pvt. Ltd.

7.	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 EC-Split case
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Category: **5(f)**

**Project status: Split EC**

- 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 18.6.2022 but due to technical error in their internet they could not able to join the meeting through VC.

**After deliberation, SEAC unanimously decided to consider the proposal in next upcoming meeting of SEAC.**

8.	SIA/GJ/IND3/81564/2022	M/s. Meghmani Finechem Limited. CH/1,CH/2,GIDC Industrial Esate, Dahej, Ta: Vagra, Dist: Bharuch.	ToR
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- 1) This project is scheduled in SEAC VC meeting on dated 18.10.2022.
- 2) Project Proponent vide their letter dated 11.10.2022 has informed that they have applied for TOR vide proposal no. SIA/GJ/IND3/81564/2022 for expansion in their proposed manufacturing unit. Due to change in the market scenario they desire to revise their product matrix. Therefore they requested to



withdraw their application. And their technical expert remains absent. PP has already submitted in Perivesh portal for withdrawal of this application.

**In view of the above, Committee decided to recommend to permit project proponent for withdrawal of their application of EC and to delist the proposal from the list of pending applications & to close the file.**

9.	SIA/GJ/IND3/81220/2022	M/s.Pharmatiq Industries Pvt Ltd. Survey No.118, Indrad,Ta:Kadi,Dist: Mehsana-382715.	ToR
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Category: 5(f)

Project status: Expansion

- This office has received an application vide their online proposal no. SIA/GJ/IND3/81220/2022 dated 06.08.2022 made by project proponent (PP) regarding grant of Terms of Reference [ToR] for preparation of EIA/EMP report.
- Project proponent (PP) has submitted Form-1, PFR and relevant details/information.
- This is a expansion of existing project proposed for manufacturing of synthetic organic chemicals as tabulated below:

SR. NO.	PRODUCT NAME	CAS No.	QUANTITY (MT/Month)			END-USE			
			As per CTE	Proposed	Total				
1	Distillation Of Spent Solvent	---	250	0	250	---			
2	Pregabalin	148553-50-8	0	3	3	To treat epilepsy, neuropathic pain, fibromyalgia, restless leg syndrome			
3	R-CMH	181289-33-8				It is used in mfg. of Pregabalin.			
4	CMH	181289-15-6				It is used in mfg. of Pregabalin.			
5	Diclofenac Sodium	15307-79-6				It is an Anti-inflammatory. Used to relieve pain, swelling and Joint Stiffness.			
6	Indolinone	15362-40-0				It is used in mfg. of Diclofenac Sodium.			
7	2-Amino-3,5-dibromobenzaldehyde	50910-55-9				0	4	4	It is used in mfg of Ambroxol. Ambroxol is indicated as "secretolytic therapy in Broncho pulmonary diseases associated with abnormal mucus secretion and impaired

						mucus transport. It promotes mucus clearance, facilitates expectoration and eases productive cough, allowing patients to breathe freely and deeply".
8	2 Nitro 4 ThiocynoAniline (TCN)	54029-45-7				It is used in Mfg. of Albendazole. Albendazole is an anthelmintic or anti-worm medication.
9	Amisulpride	71675-85-9				It is a Neuroleptic Agent, used at lower doses intravenously to prevent and treat postoperative nausea and vomiting.
10	Iron Sucrose	8047-67-4				Used to treat iron deficiency anemia in people with kidney disease.
11	Levosulpiride	23672-07-3				It is Antiemetic Agent, used to treat symptoms of schizophrenia, anxiety disorders, and dysthymia.
12	Bis 2 Chloro Ethyl Amine Hydro Chloride	821-48-7				Used in mfg. of Ketoconazole. It is used to treat skin infections.
13	Triamcinolone	124-94-7				Medicine - glucocorticoid used to treat certain skin diseases, allergies, and rheumatic disorders among others. It is also used to prevent worsening of asthma and COPD.
14	Betamethasone	378-44-9	0	2	2	Medical uses.- corticosteroid. Betamethasone topical is used to treat the itching, redness, dryness, crusting, scaling, inflammation, and discomfort of various skin conditions.
15	Prednisolone	50-24-8				Medicine as an anti-inflammatory or an

						immunosuppressant medication.
16	2-Iso Propoxy Ethanol	109-59-1				2-Isopropoxyethanol is used as a multipurpose intermediate. It used as a solvents for many resins, oils, waxes, fats and dyestuff.
17	Dimethyl Formamide Di Tertbutyl Acetal	36805-97-7				Used In Pharmaceutical Industry.
18	1,2 Dimethoxy Ethane	110-71-4	0	5	5	It is used as a solvent, especially in batteries
19	3 Methoxy, 4 Hydroxy Benzaldehyde (Vanillin)	121-33-5				It is used in flavorings, foods, perfumes, and pharmaceuticals. Vanillin is used as a chemical intermediate in the manufacture of several important drugs and other products.
<b>Total</b>			<b>250</b>	<b>14</b>	<b>264</b>	

- The project falls under Category B1 of project activity 5(f) as per the schedule of EIA Notification 2006.
- This case was considered in the SEAC meeting dated 18.10.2022.
- Salient features of the project including Water, Air and Hazardous waste management are as under:

Sr. no.	Particulars	Details																		
<b>A</b>	<p>Total <b>cost of Proposed Project</b> (Rs. in Crores):</p> <table border="1"> <thead> <tr> <th>As per CTE</th> <th>Proposed</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td><b>4.95 Crores</b></td> <td><b>1.20 Crores</b></td> <td><b>6.15 Crores</b></td> </tr> </tbody> </table> <p>Break-up of proposed project Cost:</p> <table border="1"> <thead> <tr> <th>Details</th> <th>Project Cost (Rs. In Crores)</th> </tr> </thead> <tbody> <tr> <td>Land</td> <td>2.00</td> </tr> <tr> <td>Building</td> <td>0.95</td> </tr> <tr> <td>Machinery</td> <td>3.05</td> </tr> <tr> <td>Miscellaneous</td> <td>0.15</td> </tr> <tr> <td><b>Total</b></td> <td><b>6.15</b></td> </tr> </tbody> </table>		As per CTE	Proposed	Total	<b>4.95 Crores</b>	<b>1.20 Crores</b>	<b>6.15 Crores</b>	Details	Project Cost (Rs. In Crores)	Land	2.00	Building	0.95	Machinery	3.05	Miscellaneous	0.15	<b>Total</b>	<b>6.15</b>
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<b>B</b>	<b>Land / Plot ownership details:</b>																			

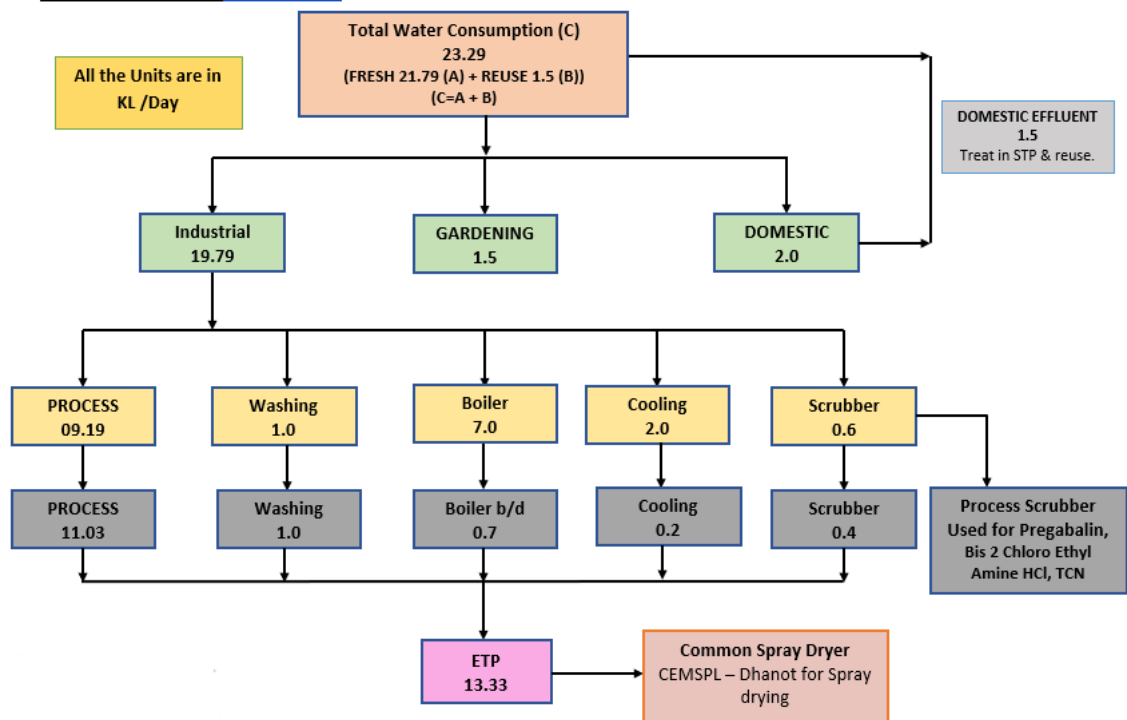
	(Linking between Land ownership and PP is required.)			
	<ul style="list-style-type: none"> <li>➤ We have Sales Deed between Previous Owner and Mr. Kundanbhai Patel who is the current owner of M/s Pharamtiq Industries Pvt. Ltd.</li> <li>➤ Index Copy is in the Favour of M/s Pharamtiq Industries Pvt. Ltd.</li> </ul>			
<b>B-1</b>	<b>In case of outside GIDC only -</b>			
	<b>Siting Criteria</b>			
	<b>Sr. no.</b>	<b>Environmental Sensitivity</b>	<b>Name/Specific details</b>	<b>Aerial Distance in Km</b>
	1	Habitat (Residential Area)	No Any Habitat within 500 m radius from the Project site.	Nearest Habitat – Indrad – 1 Km
	2	Eco sensitive zones	No Any Eco sensitive zone within 15 km radius from the Project site.	
	3	Wild life sanctuaries/National Parks	No Any Wildlife sanctuaries and National Park within 15 km radius from the Project site.	
	4	Water Bodies	--	--
		River	Sabarmati River	28.42 Km
		Natural Nallah/Drain	--	--
		Lake/Pond/Wetlands	Thol	15.09 km
		Water supply Tanks/Reservoirs	Water Supply by Tanker	--
		Canal	Narmada Canal	5.94 Km
	5	Protected Monuments/Heritage sites/Public Buildings etc.	No Any Protected Monuments/Heritage sites/Public Buildings etc. Within 15 km radius from the Project site.	--
	6	National/State Highway OR Express way	Amdavad Patan Highway SH-41	2.52 km
	7	Coastal Regulation Zone (CRZ) (In case of Coastal area projects)	No Any Coastal Regulation Zone (CRZ) Within 15 km radius from the Project site.	--
	8.	Ground water table in meter	--	--

	9.	Railway Line	Kalol Railway Station	12.4 km																																																																																																																																					
	10.	Air Port	Ahmedabad	34 km																																																																																																																																					
<b>B-2</b>	<p><b>Area adequacy</b></p> <p><b>Area Adequacy table:</b></p> <table border="1"> <thead> <tr> <th>SR NO.</th> <th>LAND BREAK UP FOR</th> <th>GROUND FLOOR</th> <th>FIRST FLOOR</th> <th>SECOND FLOOR</th> <th>AREA</th> <th>% AREA</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>OFFICE</td> <td>152.85</td> <td>-</td> <td>-</td> <td>152.85</td> <td>4.58</td> </tr> <tr> <td>2</td> <td>LAB</td> <td>-</td> <td>152.85</td> <td>-</td> <td>152.85</td> <td></td> </tr> <tr> <td>3</td> <td>OHC</td> <td>16.75</td> <td>-</td> <td>-</td> <td>16.75</td> <td>0.50</td> </tr> <tr> <td>4</td> <td>SECURITY CABIN</td> <td>11.3</td> <td>-</td> <td>-</td> <td>11.3</td> <td>0.33</td> </tr> <tr> <td>5</td> <td>FINISHED GOODS STORAGE (AS PER CTE)</td> <td>149.58</td> <td>-</td> <td>-</td> <td>149.58</td> <td>4.48</td> </tr> <tr> <td>6</td> <td>FINISHED GOODS STORAGE (PROPOSED)</td> <td>106.74</td> <td>-</td> <td>-</td> <td>106.74</td> <td>3.20</td> </tr> <tr> <td>7</td> <td>PRODUCTION AREA</td> <td>-</td> <td>517.61</td> <td>517.61</td> <td>1035.22</td> <td>-</td> </tr> <tr> <td>8</td> <td>DISTILLATION PLANT</td> <td>163.23</td> <td>-</td> <td>-</td> <td>163.23</td> <td>4.89</td> </tr> <tr> <td>9</td> <td>RM STORAGE LIQUID (PROPOSED)</td> <td>130.64</td> <td>-</td> <td>-</td> <td>130.64</td> <td>3.91</td> </tr> <tr> <td>10</td> <td>RM STORAGE SOLID (PROPOSED)</td> <td>130.64</td> <td>-</td> <td>-</td> <td>130.64</td> <td>3.91</td> </tr> <tr> <td>11</td> <td>CHLORINE STORAGE</td> <td>25</td> <td>-</td> <td>-</td> <td>25</td> <td>0.74</td> </tr> <tr> <td>12</td> <td>BROMINE STORAGE</td> <td>9</td> <td>-</td> <td>-</td> <td>9</td> <td>0.26</td> </tr> <tr> <td>13</td> <td>TANK FARM</td> <td>165.3</td> <td>-</td> <td>-</td> <td>165.3</td> <td>4.95</td> </tr> <tr> <td>14</td> <td>ETP &amp; SWSA</td> <td>67.5</td> <td>-</td> <td>-</td> <td>67.5</td> <td>2.02</td> </tr> <tr> <td>15</td> <td>UTILITY AREA</td> <td>95.34</td> <td>-</td> <td>-</td> <td>95.34</td> <td>2.85</td> </tr> <tr> <td>16</td> <td>ROADS (OPEN AREA)</td> <td>1000.13</td> <td>-</td> <td>-</td> <td>1000.13</td> <td>29.99</td> </tr> <tr> <td>17</td> <td>GREEN BELT</td> <td>1110</td> <td>-</td> <td>-</td> <td>1110</td> <td>33.29</td> </tr> <tr> <td></td> <td><b>TOTAL (SQ.MT)</b></td> <td><b>3334</b></td> <td><b>670.46</b></td> <td><b>517.61</b></td> <td><b>4522.07</b></td> <td><b>100</b></td> </tr> </tbody> </table> <p><b>Hence Area is Adequate for Proposed Project.</b></p>				SR NO.	LAND BREAK UP FOR	GROUND FLOOR	FIRST FLOOR	SECOND FLOOR	AREA	% AREA	1	OFFICE	152.85	-	-	152.85	4.58	2	LAB	-	152.85	-	152.85		3	OHC	16.75	-	-	16.75	0.50	4	SECURITY CABIN	11.3	-	-	11.3	0.33	5	FINISHED GOODS STORAGE (AS PER CTE)	149.58	-	-	149.58	4.48	6	FINISHED GOODS STORAGE (PROPOSED)	106.74	-	-	106.74	3.20	7	PRODUCTION AREA	-	517.61	517.61	1035.22	-	8	DISTILLATION PLANT	163.23	-	-	163.23	4.89	9	RM STORAGE LIQUID (PROPOSED)	130.64	-	-	130.64	3.91	10	RM STORAGE SOLID (PROPOSED)	130.64	-	-	130.64	3.91	11	CHLORINE STORAGE	25	-	-	25	0.74	12	BROMINE STORAGE	9	-	-	9	0.26	13	TANK FARM	165.3	-	-	165.3	4.95	14	ETP & SWSA	67.5	-	-	67.5	2.02	15	UTILITY AREA	95.34	-	-	95.34	2.85	16	ROADS (OPEN AREA)	1000.13	-	-	1000.13	29.99	17	GREEN BELT	1110	-	-	1110	33.29		<b>TOTAL (SQ.MT)</b>	<b>3334</b>	<b>670.46</b>	<b>517.61</b>	<b>4522.07</b>	<b>100</b>
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	% of total area	33.29%	0	33.29%	
<b>C</b>					
<b>Employment generation</b>					
	As per CTE	Proposed	Total		
	12	08	20		
-					
<b>D</b>					
<b>WATER</b>					
<b>D-1</b>					
<b>Source of Water Supply</b>					
• Tanker					
<b>D-2</b>					
<b>Water consumption (KLD)</b>					
	<b>-Sr. No.</b>	<b>Particulate</b>	<b>Water Consumption (KLD)</b>		
			<b>As per CTE</b>	<b>Proposed</b>	<b>Total</b>
	<b>A</b>	<b>Domestic</b>	2	---	2
	<b>B</b>	<b>Gardening</b>	0.5	1	1.5
	<b>C</b>	<b>Industrial</b>			
	<b>1</b>	Process	---	9.19	9.19
	<b>2</b>	Washing	---	1	1
	<b>3</b>	Boiler	---	7	7
	<b>4</b>	Cooling	2	---	2
	<b>5</b>	Scrubber	0.2	0.4	0.6
		<b>Total (Industrial) (C)</b>	<b>2.2</b>	<b>17.59</b>	<b>19.79</b>
		<b>Total (A+B+C)</b>	<b>4.7</b>	<b>18.59</b>	<b>23.29</b>
-					
<b>D-3</b>					
<b>Waste water generation (KLD)</b>					
	<b>-Sr. No.</b>	<b>Particulate</b>	<b>Waste Water Generation (KLD)</b>		

		As per CTE	Proposed	Total						
<b>A</b>	<b>Domestic</b>	1.5	---	1.5						
<b>B</b>	<b>Gardening</b>	---	---	---						
<b>C</b>	<b>Industrial</b>									
<b>1</b>	Process	---	11.03	11.03						
<b>2</b>	Washing	---	1	1						
<b>3</b>	Boiler	---	0.7	0.7						
<b>4</b>	Cooling	0.2	---	0.2						
<b>5</b>	Scrubber	0.2	0.2	0.4						
	<b>Total (Industrial) (C)</b>	<b>0.4</b>	<b>12.93</b>	<b>13.33</b>						
	<b>Total (A+B+C)</b>	<b>1.9</b>	<b>12.93</b>	<b>14.83</b>						
-										
<b>D-4</b>	<b>Break-up of waste water disposal &amp; facility (For Domestic)</b>									
<b>1.5 KLD Domestic Waste Water will be treated in STP &amp; treated wastewater will be reused in gardening.</b>										
<b>D-5</b>	<b>Break-up of waste water disposal &amp; facility (For Industrial)</b>									
-										
	<table border="1"> <thead> <tr> <th>Sr. no.</th> <th>Quantity KLD</th> <th>Facility</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>13.33</td> <td>Will be Primary Treated in ETP then send to Common Spray Dryer at Chhatral Environment Management System Pvt. Ltd. - Dhanot for Spray Drying.</td> </tr> </tbody> </table>				Sr. no.	Quantity KLD	Facility	1.	13.33	Will be Primary Treated in ETP then send to Common Spray Dryer at Chhatral Environment Management System Pvt. Ltd. - Dhanot for Spray Drying.
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<b>Total Industrial Wastewater Generation: 13.33 KLD</b>										
<b>13.33 KLD</b> – Generated from Process, Washing, Boiler Blow-down, Cooling and Scrubber will be Primary Treated in ETP then send to Common Spray Dryer at Chhatral Environment Management System Pvt. Ltd. - Dhanot for Spray Drying.										
<b>D-6</b>	<b>Simplified water balance diagram</b>									

• **Water Balance Diagram:-**



D-7

Summary

Summary of water requirement	Quantity KLD	Remarks
<b>Total water requirement for the project (A)</b>	23.29	-
Quantity to be <b>recycled (B)</b>	1.5	Treat in STP & Reuse
<b>Total fresh water requirement (C)</b>	21.79	-
Ensure <b>Total water requirement = Recycled water + Fresh water</b> i.e. <b>A = B + C</b>		

E AIR

E-1 Power (Electricity) requirement : 300 hp

E-2 Flue gas emission details

- As per CTE&amp; Proposed

Sr. no.	Source of emission With Capacity	Stack Height (meter )	Type of Fuel	Quantity of Fuel MT/ Day	Type of emissions i.e.	Air Pollution Control Measures (APCM)
---------	----------------------------------	-----------------------	--------------	--------------------------	------------------------	---------------------------------------



						<b>Air Pollutants</b>	
1.	Thermic fluid Heater (4 LKcal) <b>As per CTE</b>	30	Natural Gas/Coal/Bio Coal	900 SCM/Day OR 1.5 MT/Day	SPM SO <sub>x</sub> NO <sub>x</sub>	Multi Cyclone Separator followed by Alkali Scrubber	
2.	D.G Set (80 KVA) <b>As per CTE</b>	12	HSD	20 Lit/Hr.	SO <sub>2</sub>	Acoustic Enclosure	
3.	Steam Boiler (1.5 TPH) <b>Proposed</b>	20	Agro Waste/Imported Coal/Natural Gas	4.32 MT/Day, 3.6 MT/Day, 1310 SCM/Day	SPM SO <sub>x</sub> NO <sub>x</sub>	Multi Cyclone + Dry Scrubber	

**E-3 Process gas**

- As per CTE&amp; Proposed

- There will be no any Process Gas Emission in Existing Manufacturing Activities.

SR. NO.	STACK ATTACHED TO	STACK HEIGHT	TYPE OF EMISSION	APCM
1	Reaction Vessel-1	12	NH <sub>3</sub>	Two Stage Water Scrubber
2	Reaction Vessel-2	12	SO <sub>2</sub>	Water Scrubber followed by alkali Scrubber
			Cl <sub>2</sub>	

**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) Carry out work place area monitoring to find out concentration level in ambient air Close handling system. ii) Provision of breather valve cum flame arrester.

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

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

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

SR. NO.	PRODUCT NAME	SOLVENT NAME	INPUT	RECOVER	Solvent Losses in Air	Distillation Residue	Total Losses	% RECOVERY
			MT	MT				
1	Pregabalin	CHLOROFORM	1.247	1.222	1.223000	0.02	1.199	98.00
		TOLUENE	0.1	0.097	0.10	0.00	0.096	97.00
		PHNYLE ETHYL	0.062	0.059	0.06	0.00	0.0596	96.00

		AMINE		52				
4	DICLOFENAC SODIUM	METHANOL	0.109 2	0.105	0.11	0.00	0.1028	96.15
		ETHOXY ETHANOL	0.22	0.213	0.21	0.01	0.2068	96.82
		ETHYL CHLORO ACETATE	0.043 52	0.042	0.04	0.00	0.0417 8	96.51
6	2-Amino-3,5-dibromobenzaldehyde	METHANOL	0.029 22	0.028 051	0.028 350	0.0009	0.0274 8	96.00
		THF	0.004 64	0.004 45	0.004 510	0.0001	0.0043 8	95.91
		EDC	0.005 93	0.005 72	0.005 760	0.0002	0.0055 9	96.46
7	2 Nitro 4 ThiocynoAniline(TCN)	METHANOL	3.43	3.362	3.362 000	0.0680	3.294	98.02
8	Amisulpride	ETHYL CHLORO FORMATE	0.15	0.146	0.147 000	0.0030	0.144	97.33
9	Iron Sucrose	ACETONE	0.1	0.098	0.099 000	0.0010	0.098	98.00
10	Levosulpiride	ETHLYNE GLYCOL	0.25	0.243	0.245 000	0.0050	0.24	97.20
11	Bis 2 Chloro Ethyl Amine Hydro Chloride	EDC	0.135	0.13	0.130 000	0.0050	0.125	96.30
12	Triamcinolone	ACETONE	0.032	0.031	0.031 040	0.0010	0.0300 8	96.88
		DMF	0.134	0.13	0.132 350	0.0017	0.1307	97.01
13	Betamethasone	THF	0.003	0.002 89	0.002 890	0.0001	0.0027 8	96.33
		METHANOL	0.002 5	0.002 4	0.002 425	0.0001	0.0023 5	96.00
		CHLOROFORM	0.001 5	0.001 44	0.001 455	0.0000	0.00	96.00
14	Prednisolone	METHANOL	0.004 5	0.004 33	0.004 370	0.0001	0.0042 4	96.22
		CHLOROFORM	0.001 5	0.001 45	0.001 455	0.0000	0.00	96.67
15	2-ISO PROPOXY ETHANOL	ETHLYNE GLYCOL	0.6	0.582	0.59	0.01	0.576	97.00
16	Dimethyl Formamide Di Tertbutyl Acetal	T-BUTANOL	1	0.97	0.98	0.02	0.96	97.00
17	1,2 Dimethoxy Ethane	MONO ETHLYNE GLYCOL	1.2	1.164	1.18	0.024	1.152	97.00
18	3 Methoxy, 4 Hydroxy Benzaldehyde (Vanillin)	METHANOL	0.3	0.291	0.29	0.006	0.288	97.00
<b>F-2</b>	<b>VOC emission sources and its mitigation measures for achieving maximum solvent</b>							

**recovery and minimize VOC generation:****F-2 VOC emission Sources and its Mitigation Measures.**

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

**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 dripping	Weekly	Immediately
9.	Any component with visible leaks	Weekly	Immediately
10.	Any component after repair / replacement	Within a week	-

The Following methodology to be adopted during LDAR study:

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

### Leak Definition

- A leak is detected whenever the measured concentration exceeds the threshold standard (i.e., leak definition) for the applicable regulation.
- Leak definitions vary by regulation, component type, service (e.g., light liquid, heavy liquid, gas/vapor), and monitoring interval.
- Many equipment leak regulations also define a leak based on visual inspections and observations (such as fluids dripping, spraying, misting or clouding from or around components), sound (such as hissing), and smell.

Following steps shall be followed for effective implementation of LDAR Program:

1. Process Controls
2. Emissions control program
3. Selection of appropriate method for leak detection
4. Scheduling and checklist for Leak Detection
5. Methods for rectification of identified leaks
6. Frequency of Monitoring
7. Record keeping of LDAR Program

#### 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	CHLOROFORM	Drum	By Pump & Fix Pipeline	Direct Vessel	<ul style="list-style-type: none"> <li>• Leak from Valve (failure of the valve packing &amp; O-ring)</li> <li>• Leak from pump (Occur at seal)</li> <li>• Leak from tank</li> <li>• Leak from Connectors</li> <li>• Leak from open ended lines</li> </ul>	<ul style="list-style-type: none"> <li>• For using Gas Detector by PID Sensor technology.</li> </ul>	<ul style="list-style-type: none"> <li>• If valve shall be leak stop pumping system and replace with new valve.</li> <li>When pump seal shall be leak immediately stop solvent transfer</li> </ul>	<ul style="list-style-type: none"> <li>• Check Thickness of tank</li> <li>• Using fix pipeline for solvent transfer</li> <li>• Minimum use of Connectors &amp; Joins</li> <li>• Provided sufficient Space (Solvent Unloading area) for Solvent Tanker</li> </ul>
2	TOLUENE							
3	PHENYL ETHYL AMINE							
4	METHANOL							
5	ETHOXY ETHANOL							
6	ETHYL CHLOR							

	O ACETA TE						and immediatel y repair or replace with new seal.	
7	ETHLY NE GLYCO L							
8	THF							
9	EDC							
10	ETHYL CHLOR O FORM ATE							
11	ACETO NE							
12	DMF							
13	T- BUTAN OL							

**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			Management of HW
				As per CTE	Proposed	Total	
1	Distillation Residue	From Solvent Recovery	20.3	90 MT/Year	20 MT/Year	110 MT/Year	Collection, Storage, transportation & will be sent for incineration at CHWIF site OR sent for Co-Processing Facility.
2	Used Oil	Plant & Machinery	5.1	0.2 KL/Year	0.05 KL/Year	0.25 KL/Year	Used Oil will be reused as a lubricant in plant machineries. Spent oil sell to authorized recycler.
3	Empty Barrels/Containers/Liners contaminated with	Raw Material	33.1	10 MT/year	5 MT/year	15 MT/year	Collection, Storage, Transportation

	Hazardous Waste						& sell to authorized Decontamination Facility.
4	Evaporation Residue	From Distillation	37.3	0.4 MT/year	---	0.4 MT/year	Collection, Storage, Transportation & disposal at Active TSDF Site.
5	ETP Sludge	From ETP	35.3	0.2 MT/year	8 MT/year	8.2 MT/year	Collection, Storage, Transportation & disposal at Active TSDF Site.
6	Charcoal & Activated Carbon	From Process of Prednisolone	28.3	---	2.66 KL/Year	2.66 KL/Year	Collection, Storage, transportation & Disposal to TSDF Site.
7	NH <sub>4</sub> Cl	From Process of 2 Nitro 4 Thiocyno Aniline (TCN)	---	---	24 KL/Year	24 KL/Year	Collection, Storage, Transportation & sell to Actual User.
8	Hyflow	From Process of Triamcinolone	28.3	---	4.8 MT/Year	4.8 MT/Year	Collection, Storage, transportation & Disposal to TSDF Site.
9	Process/Organic Residue	From Process of Dimethyl Formamide Di Tertbutyl Acetal	28.1	---	10.58 KL/Year	10.58 KL/Year	Collection, Storage, Transportation & Disposal to CHWIF.
10	Spent Solvent	From Distillation	28.6	---	168.20 KL/Month	168.20 KL/Month	Collection, Storage, Recovered through in-house Distillation and Reuse in Process within Premises.
11	NaHSO <sub>4</sub> Salt	From Process of 3 Methoxy, 4 Hydroxy Benzaldehyde (Vanillin)	---	---	173.25 KL/Year	173.25 KL/Year	Collection, Storage, Transportation & sell to Actual User.
12	MnO	From Process of 2-Amino-3,5-dibromobenzaldehyde	---	---	21.93 KL/Year	21.93 KL/Year	Collection, Storage, transportation & sell to Actual

							user.
13	Boiler Ash	From Boiler Fuel	--	---	96 MT/Year	96 MT/Year	Collection, Storage, Transportation and sent to Brick Manufacturing Unit.
14	Spent NH <sub>4</sub> OH Solution	From the Scrubbing of NH <sub>3</sub>	---	---	0.60 KL/Month	0.60 KL/Month	Collection, Storage, transportation & sell to Actual User.
15	Spent NaOCl Solution	From the Scrubbing of Cl <sub>2</sub>	---	---	0.66 KL/Month	0.66 KL/Month	Collection, Storage, transportation & sell to Actual User.
16	Spent NaHSO <sub>3</sub> Solution	From the Scrubbing of SO <sub>2</sub>	---	---	3.38 KL/Month	3.38 KL/Month	Collection, Storage, transportation & sell to Actual User.

**G-2** Non- Hazardous waste management matrix

1. Fly Ash generation will be 96 MTPA (**send to brick manufacturer**)
2. STP sludge generation will be 1.5 MTPA (**used as manure in gardening activity**)

**H** SAFETY details

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

➤ **Storage of Hazardous chemicals in Tank**

There is No Any Provision of Tank for Proposed Activity.

➤ **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 (Lit)	Number of Drum/Bag/ Cylinder/ Glass Bottle	Hazardous Characteristics of Chemical
1	1-(1-ethylpyrrolidin-2-yl) methan amine	200	2	Flammable
2	2 – Bromo Propane	200	6	Toxic
3	50 % H <sub>2</sub> SO <sub>4</sub>	200	20	Corrosive
4	Acetone	200	1	Flammable
5	Aniline	200	2	Combustible
6	Chloro Acetyl Chloride	200	3	Toxic



7	Chloroform	200	3	Toxic
8	Di Ethanol Amine	200	2	Toxic
9	Dimethyl Sulphate	250	3	Combustible
10	DMF	200	1	Flammable
11	Ethoxy Ethanol	200	1	Flammable
12	Ethyl Chloro Acetate	200	1	Flammable
13	Ethyl chloroformate	200	1	Toxic
14	Ethylene Di Chloride (EDC)	200	1	Flammable
15	Ethylene glycol	200	8	Toxic
16	Glyoxylic Acid (50 %)	200	6	Toxic
17	Guaiacol	225	3	Toxic
18	Hydroflouric Acid	50	6	Toxic
19	Hydrochloric acid	50	37	Corrosive
20	Hydrogen Peroxide	30	67	Toxic
21	Isovaleraldehyde	200	2	Flammable
22	Methanol	200	12	Flammable
23	Methyl Anthra Aniline	25	32	Toxic
24	N,N DimethylFormimade	200	33	Flammable
25	Potassium Tertbuoxide	50	2	Flammable
26	R(+)-Phenyl Ethyl Amine	200	1	Flammable
27	Sodium Hypochlorite	50	14	-
28	Sodium Methoxide Solution- 25%	200	6	Flammable
29	T-Butanol	200	6	Flammable
30	THF	200	1	Flammable
31	Thionyl Chloride	200	2	Toxic
32	Toluene	200	1	Flammable
33	Bromine	3	276	Toxic

- Drums will be stored at designated location or secured in a safety storage cabinet.
- Proper ventilation will be provided in Godown.
- Proper label and identification board /stickers will be provided in the storage area.
- Drum handling trolley / stackers/fork lift will be used for drum handling.
- Separate dispensing room with local exhaust and static earthing provision will be made.
- Materials will be transferred by pumping through pipeline or by vacuum, from drums.
- Drums for flammable liquids will have proper closures that can withstand the expected handling conditions without leaking.
- FLP type light fittings will be provided.

➤ **Safety details of Hazardous Chemicals:**

Type of Hazardous Chemicals	Safety measures
-----------------------------	-----------------

<b>FLAMMABLE &amp; EXPLOSIVE</b>	<ul style="list-style-type: none"> <li>• Separate Isolated Storage Area is constructed as per explosive department requirement and separation distance will be maintained, accordingly.</li> <li>• Workers and Operators handling such materials will be trained for the hazards (fire/explosion, health, and chemical reactivity) associated with them.</li> <li>• Lightning arrestor will be provided on the top of tallest structure.</li> <li>• NFPA label (hazard identification) capacity and content will be displayed on respective barrels.</li> <li>• Every time it will be ensured that barrels are cleaned and no chemicals are as a residue to avoid mixing and causing explosion or any mishap</li> <li>• While decanting chemicals proper earthing arrangement will be ensured to avoid static charge</li> <li>• Good housekeeping will be maintained.</li> <li>• Work Instructions shall be prepared and followed.</li> <li>• Proper ventilation will be provided in storage room.</li> <li>• Proper label and identification board /stickers will be provided in the storage area.</li> <li>• Area shall be marked as “Hazardous Chemical Storage”, “No Smoking”, “Hot work Restricted”. No cell phones</li> <li>• MSDS of chemicals stored will be available in storage area</li> </ul>
<b>CORROSIVE&amp; CHEMICALS</b>	<ul style="list-style-type: none"> <li>• Preventing or minimizing contact between corrosive substances and skin, mucous membranes and eyes.</li> <li>• Corrosive substances should not be allowed to come in contact with materials that may react.</li> <li>• 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.</li> <li>• All containers or receptacles should be clearly labelled to indicate their contents and should bear the danger symbol for corrosives.</li> <li>• Adequate ventilation and exhaust arrangement whether general or local, should be provided whenever corrosive toxic gases or dust are present.</li> <li>• Personal protective devices shall be used</li> <li>• First aid treatment facilities shall be provided and all concerned should be instructed to follow safe practices such as (a) Prolonged washing with water (b) Removing contaminated clothing (c) Seeking immediate medical help.</li> <li>• Safety showers and eye washers is provided.</li> </ul>
<b>TOXIC CHEMICALS</b>	<ul style="list-style-type: none"> <li>• Ventilation must be sufficient to prevent accumulation of vapor pockets. All fan switches should be outside the storage area.</li> <li>• Self-breathing apparatus, gas mask and 'emergency kits' should be located at strategic points under working condition and to be easily accessible in the event of emergency.</li> <li>• Appropriate minimum safety distances as stipulated in the above mentioned rules have to be maintained from buildings or group of buildings or adjacent property.</li> </ul>

<b>REACTIVE CHEMICALS</b>	<ul style="list-style-type: none"> <li>• Store minimum quantities</li> <li>• Segregate chemicals, e.g. from water, air, incompatible chemicals, sources of heat, ignition sources</li> <li>• Spillage control; bund, spray, blanket, containment. Drain to collection pit</li> <li>• Decontamination and first-aid provisions, e.g. neutralize/destroy, fire-fighting <ul style="list-style-type: none"> <li>• Contain/vent pressure generated to a safe area</li> </ul> </li> <li>• Split-up stocks into manageable lots, e.g. with reference to fire loading/spillage control.</li> <li>• Ensure appropriate levels of security, hazard warning notices, fences, patrols. Control access including vehicles</li> <li>• Appropriate gas/vapour/fume/pressure venting, e.g. flame arrestors, scrubbers, absorbers, stacks</li> <li>• Ensure adequate natural or forced general ventilation of the storage area Provide adequate, safe lighting</li> <li>• Label (name and number); identify loading/unloading/transfer couplings</li> <li>• Provide appropriate fire protection (sprinkler, dry powder, gas)</li> <li>• Ensure adequate access for both normal and emergency purposes with alternative routes</li> </ul>
<ul style="list-style-type: none"> <li>• <b>Applicability of PESO:</b> Not Applicable due to Less Quantity.</li> </ul>	
<b>H-2</b>	<b>Types of hazardous Processes involved and its safety measures:</b>
<b>Type of Process</b>	<b>Safety measures including Automation</b>
<b>Bromination</b>	<ul style="list-style-type: none"> <li>• DCS(Distributed Control System) base process controls and operation of plant will be installed.</li> <li>• All end nozzles in bromine charging hose will be blinded after use. Structure of bromine bottle area will be periodically inspected to ensure stability.</li> <li>• Personnel employed with bromine handling are made aware of potential hazards of bromine and of appropriate first-aid measure.</li> <li>• Hypo solution, lime water slurry or soda ash solutions will be available so as to pour them over a liquid bromine spill on the floor. The bromine and neutralizer is then washed to the sump with cold water hose.</li> <li>• Chemical safety goggles face shields, SCBA sets, Aprons, rubber gloves, etc.</li> </ul>

<b>Chlorination</b>	<ul style="list-style-type: none"> <li>● DCS (Distributed Control System) base Process control and operation of plant will be Installed.</li> <li>● Toxic Gas detector will be installed.</li> <li>● Required PPEs like full body Protection PVC apron, Hand Gloves, gumboots, Respiratory Mask will be provided.</li> <li>● Use Water Spray to Reduce Vapours.</li> <li>● Safety showers and eye wash will be provided near process area.</li> <li>● Chlorine hood with blower will be provided with scrubbing arrangement.</li> <li>● Chlorine absorption system will be provided. In case of chlorine leakage in chlorine shed it will be suck through blower and it will be scrubber in Caustic Scrubber.</li> <li>● Flame proof light fittings will be installed in the plant.</li> <li>● Materials will be transferred by pumping through pipeline or by vacuum.</li> <li>● Safety valve &amp; Pressure Gauge will be provided on the reactor.</li> </ul>
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<b>H-3</b>	<b>Details of Fire Load Calculation</b>																			
	<table border="1"> <tr> <td>Total Plot Area:</td> <td>3334 Sq. m.</td> </tr> <tr> <td>Area utilized for plant activity:</td> <td>1223.27 Sq. m.</td> </tr> <tr> <td>Area utilized for Hazardous Chemicals Storage:</td> <td>460.58 Sq. m.</td> </tr> <tr> <td>Number of Floors:</td> <td>G+2</td> </tr> <tr> <td>Water requirement for firefighting in KLD:</td> <td>152 L/min</td> </tr> <tr> <td>Water storage tank provided for firefighting in KLD:</td> <td>150 KL</td> </tr> <tr> <td>Details of Hydrant Pumps:</td> <td>Main Pump Diesel Pump Jockey Pump</td> </tr> <tr> <td>Nearest Fire Station :</td> <td>Kalol Fire Station 8.6 KM</td> </tr> <tr> <td>Applicability of Off Site Emergency Plan:</td> <td>Yes</td> </tr> </table>	Total Plot Area:	3334 Sq. m.	Area utilized for plant activity:	1223.27 Sq. m.	Area utilized for Hazardous Chemicals Storage:	460.58 Sq. m.	Number of Floors:	G+2	Water requirement for firefighting in KLD:	152 L/min	Water storage tank provided for firefighting in KLD:	150 KL	Details of Hydrant Pumps:	Main Pump Diesel Pump Jockey Pump	Nearest Fire Station :	Kalol Fire Station 8.6 KM	Applicability of Off Site Emergency Plan:	Yes	
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Details of Hydrant Pumps:	Main Pump Diesel Pump Jockey Pump																			
Nearest Fire Station :	Kalol Fire Station 8.6 KM																			
Applicability of Off Site Emergency Plan:	Yes																			
<b>H-4</b>	<b>Details of Fire NOC/Certificate:</b>																			
	Unit will obtain Fire NOC after receipt of EC and before getting CTO.																			
<b>H-5</b>	<b>Details of Occupational Health Centre (OHC):</b>																			
-	<table border="1"> <tr> <td>Number of permanent Employee:</td> <td>10</td> </tr> <tr> <td>Number of Contractual person/Labour:</td> <td>5</td> </tr> </table>	Number of permanent Employee:	10	Number of Contractual person/Labour:	5															
Number of permanent Employee:	10																			
Number of Contractual person/Labour:	5																			



		Water				
<b>( c ) Recycle</b>						
	Sr. No.	Item	Quantity	%	percentage	
<b>K EMP Details</b>						
Sr. No	Unit	Detail	Capital Cost (Rs. In Lakhs)	Operating Cost (Rs. In Lakhs)	Maintenance Cost (Rs. In Lakhs)	Total Recurring Cost (Rs. In Lakhs)
1	Waste Water	ETP & STP	7	2	2	4
		Evaporation	0	260	0	260
2	Air	Steam Boiler & HAG	2.5	0.5	0.3	0.8
3	Hazardous Management	Membership fees of TSDF & Disposal	1	1	0	1
		Prepare Storage Area	1.5	0	0.3	0.3
4	Fire & Safety	Fire Hydrant System & Fire Extinguisher	13	0	1	1
		Provision of Safety Equipment	2	0	0.3	0.3
5	AWH Monitoring	Monitoring by Authorized Agency	1	0	1	1
6	Green Belt Development	For Development of Gardening & Tree Plantation	1	0.5	0.5	1
7	Occupational Health	OHC & Health Check-up of Workers	2	2.5	0.5	3
8	Noise Control	Acoustic Cover for Boiler	0.5	0.0	0.5	0.5

9	Process Automation	Providing Process Automation for Process Control	15	1	1	2
10	CER Activity		12.3	0	0	0
<b>Total</b>			<b>58.8</b>	<b>267.5</b>	<b>7.4</b>	<b>274.9</b>

**L Details of CER -**

PP shall carry out CER activities as below:

<b>M/s. Pharmatiq Industries Pvt. Ltd.</b>		
<b>CER Budget: 12.3 Lacs (For Three Year)</b>		
<b>Propose Planning for CER Activity (2023-2025)</b>		
<b>Cost in Lacs/Yr</b>		
<b>2023</b>	<b>2024</b>	<b>2025</b>
4.1 Lacs for Drinking water RO system at primary school of Indrad Village.	4.1 Lacs for Developing Library at Primary Village School of Indrad.	4.1 Lacs for Providing New Books & Providing School Dress for Children at Primary Village School Of Indrad.
<b>Total: 4.1 Lacs</b>	<b>Total: 4.1 Lacs</b>	<b>Total: 4.1 Lacs</b>

- During the meeting dated 18.10.2022, the project was appraised based on the information furnished in Form-1, Pre-Feasibility Report, Environment Management Plan and details submitted by e-mail.
- Project proponent (PP) and Technical expert from M/s Bhagwati Enviro Care Pvt. Ltd. remain present during video conference meeting.
- The project falls under Category B of project activity 5(f) as per the schedule of EIA Notification 2006.
- Committee noted as under:
  - At Present unit has obtained CTE for the Distillation of Solvents from GPCB having CTE Order No:120098 Granted on 14/07/2022 Valid upto: 03/05/2029.
  - Unit has now proposed for manufacturing of synthetic organic chemicals manufacturing plant at Survey No: 118, Indrad, Ta: Kadi, Dist: Mehsana. Total plot area is **3334.0** Sq m. Product profile is discussed in depth.
  - 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 Indrad is @ 1.0 Km, SSW. 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. As project is located outside GIDC so public consultation is applicable.
- Committee deliberated on Site Plan/ layout, water balance, air matrix, hazardous waste matrix, greenbelt development plan, CER, EMP, safety measures for hazardous chemicals & processes.

- Committee asked PP to submit the following details:
  - Submit Revised Plant Layout with proper Mention of Dimension
  - To include Fire Load Calculations in Presentation Slides.
  - To Include Noise Control in Environment Management Plan & also include Environment Management Plan in Presentation Slides.
  - To Include Process Safety Measures in Presentation Slides.
- Later PP has submitted details through email as under:
  - PP has changed the layout as per the Suggestions. They have also revised the details in SEAC Word Format (Refer Section B-2, Area Adequacy Table of Format).
  - PP has included mentioned the Details of Fire Load Calculations in salient features (Refer Section H-3, Details of Fire Load Calculation of format).
  - PP has included details in salient features (Refer Section K, EMP Details of format).
  - PP has included all the Process Safety Measures in salient features (Refer Section H-2, Types of Hazardous Processes Involved and its safety measures of format).
  - PP has included all above details in Revised PPT.
- **After detailed discussion, Committee decided to recommend the project to SEIAA, Gujarat for grant of Terms of Reference.**
- **Considering the above project details, after detailed discussion, the terms of reference (ToR) were prescribed as below and as per the standard TOR for the Synthetic Organic Chemical projects recommended by SEAC vide letter no. EIA-10-GEN-21/1480 dated 14/09/2017 and approved by SEIAA in its 12th meeting dated 16/09/2017 for the EIA study to be done covering 10 Km radial distance from the project boundary of the proposed site including Public Hearing:**
  1. Submit certified compliance report (CCR) from concerned authority for existing unit as per OM dated 08/06/2022 of MoEF & CC.
  2. A tabular chart for the issues raised and addressed during public hearing/consultation and commitment of the project proponent on the same should be provided. An action plan to address the issues raised during public hearing and the necessary allocation of funds for the same should be provided.
  3. Ensure participation of people during Public Hearing with equality in gender so as to encourage woman participation in Public hearing & at the same time their issues shall also be given weightage.
  4. Details with respect to justification for proposed expansion: (1) To address proportionate availability of space for production plant. (2) To address proportionate availability of storage area for raw materials finished goods, utilities considering fire-safety norms & PESO standards and goods carrier movement within premises. (3) To address proportionate captive/common infrastructure available to accommodate additional load due to proposed expansion. (4) Environment impact and its mitigation measures for common/ captive infrastructure due to proposed production.
  5. Fund allocation for Corporate Environment Responsibility (CER) for various activities therein.



The details of fund allocation and activities for CER shall be incorporated in EIA/EMP report.

6. Explore the use of renewable energy to the maximum extent possible. Details of provisions to make the project energy-efficient through energy efficient devices and adoption of modes of alternative eco-friendly sources of energy like solar water heater, solar lighting etc. Measures proposed for energy conservation.
  7. Status of all the applicable Rules, Acts, Regulation, Clearances in a tabular form.
  8. Membership certificate of Common facility (Common Spray dryer, Common MEE, Common Incinerator etc.) with booking quantity in KLD along with other details/information like Spare capacity of Common Facility (CF), quality of waste water by member industry and assurance by CF that there is no adverse impact on Environment and Human Health due to treatment of waste water received from your industrial effluent.
  9. MoU / LoI with actual end-users for sending Hazardous waste streams under Rule 9 as per the HW Rules 2016.
  10. Details of process and vessels hazards & its control.
  11. Adoption of automization process like DCS/PLC including emergency response to eliminate risk associated with the hazardous processes, 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 and provision of Occupational health Centre(OHC) within premises.
  12. Details of three year greenbelt development program including annual budget, types & number of trees to be planted, area under green belt development [with map], budgetary outlay; along with commitment of the management to carry out the tree plantation activities outside the premises at appropriate places in surrounding area. Notarized undertaking regarding development of green belt within premises (Minimum 33.33 % of the total plot area) as per the commitment 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.
  13. Domestic waste water disposal proposal other than soak pit and septic tank.
  14. Revised layout plan with mentioning adequate size peripheral and internal road for easy movement of fire tender and emergency vehicle with separate entry and exit, fire hydrant network with water sprinkler, Hazardous chemical and compatibility chart, greenbelt, process plant, utility area etc.
- The TOR prescribed as above and as per the standard TOR approved by SEIAA and the model ToRs available in the MoEF&CC's sector specific EIA Manual for 'Synthetic Organic Chemical Industry' shall be considered as generic TORs for preparation of the EIA report in addition to all the relevant information as per the generic structure of EIA given in Appendix III in the EIA Notification, 2006.
  - The draft EIA report shall be submitted to the Gujarat Pollution Control Board for conducting the public consultation process as per the provisions of the EIA Notification, 2006.
  - Further Project Proponent may be advised to submit final EIA Report with EC application within 100 days from the date of issuance of this ToR to expedite processing of Environment Clearance

application.

- The project proponent shall have to apply for Environmental clearance through online portal <http://environmentclearance.nic.in/> along with final EIA report.

**Validity of ToR:**

- The ToRs prescribed for the project shall be valid for a period of four years for submission of EIA & EMP report accordingly, ToR will lapse after 4 years from the date of issue.

**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	
7.	Shri D.M.Thaker, Secretary, SEAC	

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Chairman  
SEAC, Gujarat