Minutes of the 348th meeting of the State Level Expert Appraisal Committee held on 21th January 2022 through Video Conference (VC) on National Informatics Centre (NIC).

In the wake of recent crisis of COVID-19, lockdown situation, 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 21.01.2022 at 13.30 hrs.

The 348thmeeting of the State Level Expert Appraisal Committee (SEAC) was held online by Video conferencing 21th January 2022 at 13.30hrs. Following members joined the meeting:

1.	Shri Akshay Kumar Saxena, Chairman, SEAC
2.	Dr. S. C. Pant, Vice Chairman, SEAC
3.	Dr. M. N. Patel, Member, SEAC
4.	Shri D. C. Chaudhari, Member, SEAC
5.	Shri J. K. Vyas, Member, SEAC
6.	Shri Anand Zinzala, Member, SEAC
7.	Shri B.M. Tailor, Member, SEAC
8.	Shri A. V. Shah, 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 additional agenda of TOR/Scoping cases and Appraisal reconsideration was taken up. The applicants made presentations on the activities to be carried out along with other details furnished in the Form-1, PFR, EIA-EMP reports and other reports.

1.	SIA/GJ/IND2/237921/2021	**M/s. Asian Azoles Pvt. Ltd.** Plot No: 75/2, Phase-I, GIDC Estate, Vapi-396195, Tal: Pardi, Dist.: Valsad	Appraisal

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

Project status: Expansion

- Project proponent (PP) submitted online application vide no. SIA/GJ/IND2/237921/2021 on dated

10.11.2021 for obtaining Environmental Clearance.

- Project proponent has submitted Form – 1, Pre-Feasibility Report & Environment Management Plan as per Notification issued by MoEF&CC vide S.O. 1223(E) dated 27th March, 2020 regarding consideration of proposals or activities in respect of Active Pharmaceuticals Ingredients (API) as B2 category.
- This is an existing unit and proposes for expansion in manufacturing of synthetic organic chemicals [API and API Intermediates] as tabulated below,

Sr. no.	Name of the Products	CAS no.	Quantity (MT/Month)			End-use of product
			Existing	Proposed	Total	
1.	1:2:4 triazole	288-88-0	**30**	**0**	**30**	Antifungal, Neoplastic Disorders, Diabetes, Antibacterial
2.	Diethyl Ketone	96-22-0	**00**	**50**	**50**	Chemotherapeutic agents
3.	Propiophenone	93-55-0	**00**	**30**	**30**	Antiarrythymics, breast cancer,anticholinergic
4.	4 Methyl Propiophenone	5337-93-9	**00**	**30**	**30**	Muscular-skeletal disorders, muscle relaxants
5.	Cyclopentanone	120-92-3	**00**	**50**	**50**	Autoimmune disease, cycloplegics and mydriatics
6.	4 Methyl Acetophenone	122-00-9	**00**	**30**	**30**	Gastrointestinal, musculo-skeletal disorders
7.	4 Methyl Benzaldehyde	104-87-0	**00**	**30**	**30**	Hypnotics, gastrointestinal
8.	Hydroquinone	123-31-9	**00**	**100**	**100**	Diabetic retinopathy, gastric proton nutrition,vitamins analgesics and seborrhic treatment
9.	Dichlorobenzene Pure	25321-22-6	**00**	**50**	**50**	Anti hypertensive, Immunomodulators,
10.	2 Cynophenol	611-20-1	**00**	**50**	**50**	Antianginals, cardiovascular, peripheral vasodilators, analgesics and antipyretics,
11.	Anethol	104-46-1	**00**	**15**	**15**	Gastrointestinal tract
12.	3,5 Xylenol	108-68-9	**00**	**50**	**50**	Antifungal, antibacterial, muscle relaxants, antibacterial
13.	N Methyl Aniline	100-61-8	**00**	**50**	**50**	Neoplastic Disorders, Chemotherapeutic agents
14.	N Ethyl Aniline	103-69-5	**00**	**50**	**50**	Neurodegenerative diseases, muscular-skeletal disorders,NSAIDs
15.	Ortho Phenyl Phenol	90-43-7	**00**	**10**	**10**	Antibacterial and antifungal

16.	R & D of Pharma product	-	**00**	**0.05**	**0.05**	Research & Development of API and Pharmaceuticals Intermediates
	Total		**30**	**595.05**	**625.05**	

 # Brief Note of Product Profile:

1. **No of Manufacturing Plants: 4 nos.**

2. **Brief Note regarding number of Products to be manufactured considering plant capacity: Unit has proposed to continue existing products and expand the capacity by introducing new products under the category of "API Bulk drugs and intermediates". Unit will manufacture total 4 Nos. of products**

ENDUSE OF PRODUCTS

SrNo.	Name of the Product	CAS No. (Product)	Category of Product (API / Intermediate)	Name of API in which Intermediate Used/ End use of said Intermediate	Stage of Intermediate n-1, n-2, etc	CAS No. (API)	Said API is used for/End Use of said API
Existing Product:							
1	1:2:4 triazole	288-88-0	API Intermediate	Voriconazole	N-1	137234-62-9	Antifungal
				Letrozole	N-2	112809-51-5	Neoplastic Disorders
				Melogliptine	N-3	868771-57-7	Diabetes
				Itraconazole	N-3	84625-61-6	Antifungal, Antibacterial
Proposed Product:							
2	Diethyl Ketone	96-22-0	API Intermediate	Taxodione	N-3	19026-31-4	Chemotherapeutic agents
3	Propiophenone	93-55-0	API Intermediate	Methoin	N-2	50-12-4	Antiarrythymics

				Endoxifen	N-2	112093-25-4	Breast cancer
				Trimebutine	N-3	39133-31-8	Anticholinergics
4	4 Methyl Propiophenone	5337-93-9	API Intermediate	Tolperisone	N-3	728-88-1	Musculo-Skeletal Disorders,Muscle relaxants
5	Cyclopentanone	120-92-3	API Intermediate	Avacopan	N-3	1346623-17-3	Autoimmune Disease
				Cyclopentolate	N-3	512-15-5	Cycloplegics and mydriatics
6	4 Methyl Acetophenone	122-00-9	API Intermediate	Tocamphyl	N-3	5634-42-4	Gastrointestinal
				Celecoxib	N-2	169590-42-5	Musculo-Skeletal Disorders
7	4 Methyl Benzaldehyde	104-87-0	API Intermediate	Zolpidem	N-2	82626-48-0	Hypnotics
				Benexate	N-2	78718-52-2	Gastrointestinal
8	Hydroquinone	123-31-9	API Intermediate	Calcium Dobesilate	N-2	20123-80-2	Diabetic retinopathy
				Ufiprazole	N-3	73590-85-9	gastric proton
				Pyridoxine Hydrocloride	N-3	58-56-0	Nutrition,Vitamins
				Monobenzone	N-1	103-16-2	Seborrhic treatment
9	Dichlorobenzene Pure	25321-22-6	API Intermediate	Phentolamine Hydrochloride	N-1	73-05-2	Anti hypertensives
				Imiquimod	N-2	99011-02-6	Immunomodulators
10	2 Cyno Phenol	611-20-1	API Intermediate	Epanolol	N-1	86880-51-5	Antianginals
				Bunitrolol	N-2	34915-68-9	Cardiovascular

				Bucindolol hydrochloride	N-1	70369-47-0	Pheripheral vasodilators
				Salicylamide	N-1	65-45-2	Analgesics and antipyretics
11	Anethol	104-46-1	API Intermediate	Anethole trithione	N-1	532-11-6	Gastrointestinal Tract
12	3,5 Xylenol	108-68-9	API Intermediate	Dichloroxylenol	N-1	133-53-9	Antifungal, antibacterials
				Metaxalone	N-2	1665-48-1	Muscle relaxants
				Chloroxylenol	N-1	88-04-0	Antifungal, antibacterials
13	N Methyl Aniline	100-61-8	API Intermediate	Roquinimex	N-2	84088-42-6	Neoplastic Disorders
				Exemestane	N-2	107868-30-4	Chemotherapeutic agents
14	N Ethyl Aniline	103-69-5	API Intermediate	Laquinimod	N-1	248281-84-7	Neurodegenerative diseases
				Paquinimod	N-1	248282-01-1	Musculo-Skeletal Disorders,NSAIDs
15	Ortho Phenyl Phenol	90-43-7	API Intermediate	Biphenamine	N-1	3572-52-9	Antibacterial and antifungal

- The project falls under Category B2 of project activity 5(f) as per the schedule of EIA Notification 2006 and amendment dated 27th March, 2020.
- PP was called for Video conference meeting for presentation on dated 21.01.2022.
- PP submitted salient features of water, air and Hazardous waste management are as under,

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

Existing	Proposed	Total

7.013 Crores	5.501Crores	12.514 Crores

Break-up of proposed project Cost:

Details	Existing (Rs. In Crores)	Proposed (Rs. In Crores)	Total (Rs. In Crores)
Land (6271 m^2)	0.276	0.000	0.276
Building	1.278	2.000	3.278
Equipment & machineries	4.868	2.962	7.830
Environmental Management System	0.329	0.251	0.580
Occupational health & safety	0.262	0.288	0.550
Total	7.013	5.501	12.514

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

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Sr. No	Unit	Detail	Capital Cost (Rs. In Crores)	Operating Cost (Rs. In Crores)	Maintenance Cost (Rs. In Crores)	Total Recurring Cost (Rs. In Crores)
1	Waste Water	ETP, STP	0.21	0.0523	0.0074	0.0597
2	Air	APCM	0.24	0.0025	0.0065	0.009
3	Hazardous Management	TSDF membership	0.03	0.01	0	0.01
4	Fire & Safety	Fire hydrant system, PLC	0.25	0	0.002	0.002
5	Noise Control& AWH Monitoring	Monitoring	0.04	0.0045	0.002	0.0065
6	Green Belt Development	Green Belt Development	0.005	0.002	0.003	0.005
7	Occupational Health	OHC, PPE, medical check up	0.3	0.0135	0.001	0.0145
8	CER Activity	1% of additional capital investment	0.055	0	0	0
Total			1.13	0.0848	0.0219	0.1067

Comments:

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

A-3	Details of CER -

PP shall carry out CER activities as below:

- ✓ Provide drinking water (RO system) with AMC at Rata village

S. No.	Particulars	Description	Budget Rs. in Lakhs
1.	Environment	Provide drinking water (RO system) with AMC at Rata village	5.5
		Total	5.5

B	Land / Plot ownership details: The land bearing Plot No: 75/2 having area 6271m2 has been procured by M/s Asian Azoles Pvt Ltd from GIDC Vapi.
B-1	Plot area Existing: 6271 Sq. m. | Proposed: -- | Total: 6271 Sq. m. -
B-2	Area adequacy Unit has total 6271 Sq. m. plot area. Unit has proposed to continue existing products and expand the capacity by introducing new products under the category of "API Bulk drugs and intermediates". Existing production capacity is TPM and after expansion total production capacity will be 625.05 TPM. **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 (both for existing production as well as the proposed production). Sufficient area has been provided in the proposal and is satisfactory.
B-3	Green belt area Area in Sq. meter: Existing 1500 | Proposed (Sq. meter) 570 | Total (Sq. meter) 2070 % of total area: Existing 23.92% | Proposed 9.08% | Total 33.0% **Comments:** The condition shall be given that - 1. The PP shall develop green belt within premises (2070 Sq. m i.e. 33 % of the total plot area) as per the undertaking submitted before SEAC. Green

belt shall be developed with native plant species that are significant and used for the pollution abatement as per the CPCB guidelines. It shall be implemented within 3 years of operation phase in consultation with GPCB.

C — Employment generation

Existing	Proposed	Total
20	30	50

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D — WATER

D-1 — Source of Water Supply

- GIDC, Vapi
- Permission letter issued by GIDC Vapi vide letter No. DEE/WS/NAA/VPI/7345 Dated 14/10/2021

Comments:

Obtained

D-2 — Water consumption (KLD)

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	Existing (KLD)	Proposed (KLD)	Total after Expansion(KLD)	Remarks
Category				
(A) Domestic	1	5	6	
(B) Gardening	1	4.5	5.5	
(C) Industrial				
Process & product washing	0.1	0	0.1	
Floor/equipment Washing	1	0.4	1.4	Floor/equipment washing
Boiler	1.5	14.5	16	11.2 KLD condensate will be recycled
Cooling	5	25	30	
Scrubber	0.76	0	0.76	
Total Industrial	8.36	39.9	48.26	
Total (A+B+C)	10.36	49.4	59.76	

Brief Note on worst case scenario for water consumption:

- For worst case scenario, water consumption is calculated considering full production of all the products.

Summary of water	Existing	Proposed	Total after	Remarks

requirement	KLD	(Additional) KLD	Expansion KLD	
Total water requirement for the project (A)	10.36	49.4	59.76	
Quantity to be recycled (B)	0.76	18.1	18.86	
Total fresh water requirement (C)	9.6	31.3	40.90	
Ensure Total water requirement = Fresh water + Recycled water i.e. A = B + C				

Reuse/Recycle details (KLD) with feasibility.
[Source of reuse & application area]

Source of waste water for reuse in KLD (From where it is coming)	Application area with quantity in KLD (Where it is used)	Characteristics of waste water to be reused (COD, BOD, TDS etc.)	Remarks regarding feasibility to reuse
0.76 KLD- existing process water	0.76 KLD- utilized for ammonia scrubber	COD:100-150 mg/l	-
1.4 KLD – Boiler & cooling tower blow down	1.4 KLD – for floor/equipment washing	TDS: 1000 – 1200 mg/l	-
11.2 KLD – Boiler condensate	30.0 KLD – for Boiler	TDS: < 100 mg/l	-
5.5 KLD – STP treated water	11.0 KLD – for gardening	BOD: < 20 mg/l TSS: < 30 mg/l Residual Chlorine: > 0.5 mg/l	-

In case of no reuse/recycle of waste water, Give brief note on justification as why no reuse/recycle.

- Not applicable

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Comments:

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

D-3 Waste water generation (KLD)

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	Existing (KLD)	Proposed (KLD)	Total after Expansion (KLD)	Remarks
Category				
(A) Domestic	0.8	4.7	5.5	5.5 KLD will be treated into STP and recycled for gardening

(B) Industrial				
Process & product washing	0.76	3.32	4.08	0.76 KLD of water of reaction (distilled water) which is utilized for ammonia scrubber & 3.32 KLD water of reaction will be treated in primary ETP & send to CMEE/CSD of VGEL,Vapi.
Floor/equipment Washing	1	0.4	1.4	
Boiler	0.2	0.5	0.7	1.4 KLD will be recycled for floor / container washing
Cooling	0.2	0.5	0.7	
Scrubber	0	0.00	0	
Total Industrial waste water	2.16	4.72	6.88	
Total (A+B)	2.96	9.42	12.38	

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Brief Note on worst case scenario for waste water generation (Qualitative and Quantitative):
For worst case scenario, wastewater generation is calculated considering full production of all the products.

Comments:

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

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

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

Comments:

1) Domestic wastewater generation shall not exceed 7 KL/day for proposed project and it shall be treated in STP and will be utilized for plantation/ gardening and irrigation purposes within the premises.

2) PP shall provide STP of adequate capacity.

D-5	Break-up of waste water disposal & facility (For Industrialafter proposed expansion)

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Sr. no.	Quantity KLD	Facility

1	1.4	CETP, Vapi
2	3.32	Common MEE of M/S VGEL,Vapi
Total	4.72	

Comments:

1. 3.32 KLD, High COD industrial effluent from process shall be treated in primary ETP and then shall be sent to CMEE of M/s. VGEL through GPS fitted tanker for evaporation.
2. 0.76KLD distilled water from process shall be directly reused back in process.
3. 1.40 KLD low COD effluent shall be treated in ETP and then treated effluent shall be sent to CETP of M/s. VGEL for further treatment and disposal.

E	AIR
E-1	Power (Electricity) requirement :370 KVA
E-2	Flue gas emission details

- Existing & 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 Pollutants	Air Pollution Control Measures (APCM)
Existing						
1	Boiler (800 kgs/hr)	20.0	Natural Gas	35 SCM/hr	PM SOx NOx	Adequate stack height
2	Thermic fluid heater (6 lac kcal/hr)		Natural Gas	50 SCM/hr		
3	D G Set – Stand by (500 KVA)	11.0	Natural Gas	40 lit/hr		Adequate stack height
Total Proposed After Expansion :						
1	Boiler (800 kgs/hr)	20.0	Natural Gas	35 SCM/hr	PM SOx NOx	Adequate stack height
2	Thermic fluid heater (6 lac kcal/hr)		Natural Gas	50 SCM/hr		
3	D G Set – Stand by	11.0	Natural Gas	40 lit/hr		Adequate stack

	(500 KVA)					height
4	Thermic fluid heater (6 lac kcal/hr)	20	Natural Gas	50 SCM/hr		Adequate stack height
5	Thermic fluid heater (6 lac kcal/hr)		Natural Gas	50 SCM/hr		
6	Thermic fluid heater (6 lac kcal/hr)		Natural Gas	50 SCM/hr		

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E-3	Process gas

- Existing & Proposed

Sr. no.	Specific Source of emission (Name of the Product & Process)	Type of emissions i.e. Air Pollutants (SO2, HCl, Cl etc.)	Stack/Vent Height (meter)	Air Pollution Control Measures (APCM)
Existing				
1	Reactor of 1:2:4 Triazole	NH_3	20.0	Water & acid scrubber
Total Proposed After Expansion :				
1	Reactor of 1:2:4 Triazole	NH_3	20.0	Water & acid scrubber

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E-4	Fugitive emission details with its mitigation measures.

- Manufacturing activity will be carried out in closed reactors/vessels.
- Regular checking and maintenance will be carried out to avoid any leakages.
- All the raw materials will be stored in closed containers and in sealed bags and will be handled through closed system to avoid the handling losses.
- Concrete road developed within plot premises to avoid fugitive dust due to vehicle movement.

Comments for E2, E3 & E4:

1. The fuel to be used is approved fuel for the requirement of the heat energy and has been proposed the Air pollution Control measures so as to achieve the emission norms prescribed by the competent authorities.

2. The air pollution control measures, has been proposed by PP for checking flue gas emission, Process gas emission, fugitive gas emission, with adequate systems of reaction/ reaction condensers, thermic fluid heaters, boilers, and scrubbing systems as per the requirements, to achieve the emission norms prescribed by the competent authorities.

F	Hazardous waste

F-1 | Hazardous waste management matrix

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Sl. no.	Type / Name of Hazardous waste	Specific Source of generation (Name of the Activity, Product etc.)	Category and Schedule as per HW Rules.	Quantity (MT/Annum)			Management of HW
				Existing	Proposed	Total	
1	ETP Waste	Neutralization of ETP and Biomass	Sch: I/ (35.3)	0.6	1.4	2.0	Collection, storage, transportation, disposal at TSDF VGEL, Vapi.
2	Used oil	Gearbox, D G set & Boiler, TFH & Machineries	Sch: I/ (5.1)	0.012	0.012	0.024	Collection, storage, transportation, disposal by selling to registered re-processors.
3	Discarded containers/Bags/Liners	Empty containers of Raw materials	Sch: I/ (33.1)	1.0	5.0	5.0	Collection, storage, transportation, disposal by selling to Authorized recycler
4	Process Residue	Process (Product: 1:2:4 triazole)	Sch: I/ (26.1)	1.56	0.0	1.56	Collection, storage, transportation, disposal at RSPL for co-processing
5	Distillation residue	Distillation	Sch:I / (28.1)	0	179	179	Collection, storage, transportation and disposal at RSPL for co-processing.
6	Spent Catalyst	Process	Sch: I/ (28.2)	0.0	3.40	3.40	Collection, storage, transportation, disposal at RSPL for co-processing.
7	Spent solvent	Distillation process	Sch: I/ (28.6)	0.0	875	875	Collection, storage Recycle in the process after distillation.
8	Off Specification Products	From mfg. Process (Batch failure) & R& D product	Sch-I/ 28.4	0.0	0.7	0.7	Collection, Storage, Transportation and at RSPL for co-processing.
9	Liquor Ammonia (20%)	Scrubber	Sch: I/ (28.1)	294	00	294	Collection, Storage, Transportation and Sell to registered recycler having Rule 9 permission under hazardous waste rules 2016.
10	Phenol	Process (Hydroquinone)	Sch: I/ (28.1)	0.0	1020	1020	Collection, Storage, Transportation and Sell to actual end users having Rule 9

							permission under hazardous waste rules 2016.
11	Acetone	Process (Hydroquinone)	Sch: I/ (28.1)	0.0	624	624	Collection, Storage, Transportation and Sell to actual end users having Rule 9 permission under hazardous waste rules 2016.

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Comments:

1. Waste management includes hazardous waste management and other solid waste management. Hazardous waste-management comprises of collection, storage, transportation, disposal, incineration, and recycle of waste. SEAC examined the details provided and found it as per requirement.

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

F-2	Non- Hazardous waste management matrix

1. STP sludge generation will be 2.6 MTPA

Comments:

1) STP sludge will be used as manure within plant.

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

Sr. No.	Product	Solvent to be used	Total Consumption	Recovery	%
			TPM	TPM	Recovery
1	Dichlorobenzene Pure	DMSO(Dimethyl sulfoxide)	17.24	16.72	97.00
2	N Methyl Aniline	Methanol	16.04	15.57	97.06
3	N Ethyl Aniline	Ethanol	20.00	19.58	97.92

G-2 LDAR proposed:

Solvent	Source	Mitigation measures
All solvents	Transfer from tanker to storage tank	- Unloading of solvents from Tanker to Storage Tank through appropriate Transferring system. - Closed loop sampling for sampling of Relative materials. - Condenser and scrubber system with proper cooling arrangement

			- Leak Free Pumps for transfer of solvents - MSW Gaskets in solvent pipelines to prevent leakage from flanges - Provide LEL meter/VOC meter
	All solvents	Transfer storage tank to day tank	- Ensure proper cleaning of Day tank/reactor and Provide Nitrogen purging for at least 30 minutes before charging any flammable solvents inside the reactor. - Ensure isolation valves near receiver and near Reactor. - Ensure Double earthing to receiver/reactors (Tantalum plug in case of GLR) and bonding continuity on solvent transfer fix lines. - Solvent shall be charged through Deep pipe with vacuum breaker. - Ensure quantity in receiver before charging into reactor. - Check condition of tank, receiver, level indicators, valves, flange joints etc.
	All solvents	Transfer day tank to reactor	
	All solvents	Solvent recovery plant (Solvent Distillation plant)	- Closed solvent recovery system provided. - Double condenser with chilled brine circulation provided - Sufficient HTA and residence time provided - Mechanical seal and breather valve provided. - Storage tank shall be vented through trap receiver and condenser operated on cooling water

G-3	VOC emission sources and its mitigation measures

Measures for achieving maximum solvent recovery and minimize VOC generation:

Source:

- Process Reactor
- Raw material Storage & Handling

Mitigation Measures:

- The raw materials will be stored in closed containers and will be handled through closed system to avoid the handling losses
- Reactor and solvent handling pumps will have mechanical seals to prevent leakages. Reactors shall also be provided with breather valve to prevent losses.

Comments:

1. Measures for achieving maximum solvent recovery and minimize VOC generation, inclusive of VOC detectors, pumps, maintenance of pipelines, proper ventilation etc., provided are as per requirement.
2. Spent solvents shall be recovered by in-house distillation in such a manner that recovery shall not be achieved to the maximum extent and recovered solvent shall be reused in the process. Solvent recovery system with adequate reflux condensers shall be provided for controlling escape of low boiling solvents (VOCs).

H	SAFETY details after proposed expansion
H-1	Details regarding storage of Hazardous chemicals

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Sr. No.	Name of Chemical	Capacity of Tank	Number of Tanks	Hazardous Characteristics of Chemical
1	Aniline	10 KL	1	Flammable/Toxic
2	Dimethyl sulfoxide (DMSO)	5 KL	1	Flammable/Toxic
3	Ethanol	5 KL	1	Flammable
4	Formamide	5 KL	1	Toxic
5	Hydrogen Peroxide	10 KL	1	Corrosive
6	Isophorone	5 KL	1	Flammable/Toxic
7	Methanol	5 KL	1	Flammable

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Storage of Hazardous chemicals in Tanks

- Proper selection of material of construction shall be carried for storage of chemicals.
- Adequate firefighting equipments shall be placed nears storage area.
- Regular inspection and maintenance of tank shall be carried out.
- The level indicators shall be placed on all storage tanks.
- Dyke will be provided with tank to collect spill / leakage.

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

- Drums will be properly labeled.
- Proper ventilation will be provided in storage area.
- Manual handling of chemicals will be avoided.
- Materials will be stored as per its compatibility.
- Drums will be capped properly.

Safety details of Hazardous Chemicals:

Type of Hazardous Chemicals	Safety measures
FLAMMABLE & EXPLOSIVE	Storage in compatible storage unit with flame proof fitting, also provide firefighting measures. Only trained person allowed to handle.
CORROSIVE & CHEMICALS	Storage in compatible storage unit with safe distance with other chemicals. Only trained person allowed to handle.

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

Comments:

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

H-2	Types of hazardous Processes involved and its safety measures:

Hydrogenation process-Not applicable

Nitration process- Not applicable

Chlorination process- Not applicable

Exothermic Reaction- Not applicable

H-3	Details of Fire Load Calculation

Total Plot Area:	6271 m^2
Area utilized for plant activity:	2050m^2
Area utilized for Hazardous Chemicals Storage:	885 m^2
Number of Floors:	G+2
Water requirement for firefighting in KLD :	69.48 KL
Water storage tank provided for firefighting in KLD:	100 KL
Details of Hydrant Pumps:	Jockey pump operated on diesel), Head: 30 mtr, capacity (flow):- 25 m3 / Hr, KW/HP:- 3.7 KW / 7.5 HP and 3 numbers trolley pump of 25 kgs foam capacity)
Details of Fire Extinguishers:	

Type of Fire Extinguisher	Nos.
ABC (9 kgs)	4
ABC (50 kgs)	3
CO2 (6.5 kgs)	3
SAND BUCKET	10
FOAM (9 liters)	4
FOAM (50 liters)	4
DCP (25 kgs)	10
Total	38

Nearest Fire Station :	Vapi GIDC Fire Station, Unite-1 – 1.18 km
Applicability of Off Site Emergency Plan:	-

Comments:

1. The project proponent has proposed fire safety plan which includes fire hydrant line, sprinkler system, fire extinguishers, fire suits, covering the project area and provides for fire water storage tank of 100 KL. SEAC found it as per the requirement.

H-4	Details of Fire NOC/Certificate:

Unit will obtain Fire NOC after receipt of EC and before getting CTO.

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

-

Number of permanent Employee :	50
Number of Contractual person/Labour :	00
provided for OHC:	100 m^2
Number of First Aid Boxes :	4
Nearest General Hospital :	HariaHospital,Vapi – 2.65 km
Name of Antidotes to be store in plant :	Milk of Magnesia, soda water, Lime juice etc.

-

Comments

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

- During the SEAC Video conference meeting dated 21.01.2022, Project Proponent (PP) and their technical expert and EIA consultant from M/s. Eco Chem Sales and Services remains present and made technical presentation before the Committee.
- Since the proposed project is located in notified industrial area, public consultation is not required as per paragraph 7(i) (III) (I) (b) of the Environment Impact Assessment Notification 2006.
- Deliberation of the Committee:
  - ✓ This is Brownfield project and existing unit is having valid CCA of the Board. Unit submitted self certified compliance report of existing plant CCA. PP submitted undertaking stating that there is no legal court case, public complaint and legal notice issued by GPCB in last three years. PP also informed that existing plant is closed since last two year due to existing product market situation.
  - ✓ Product profile with its end use discussed in depth.
  - ✓ Site Plan/ layout with fire plan & floor plans and provision of separate entry & exits, 6 m wide peripheral road, distillation area, OHC, tank farm, production areas, raw material & finished goods storage areas, ETP area, utility area, hazardous waste storage area, fresh & spent solvent storage areas, hazardous waste storage area, 33 % greenbelt within premises etc.
  - ✓ Source of water will be GIDC.
  - ✓ Domestic Waste water will be treated in ETP.

- ✓ Total effluent will be segregated and then 3.32 KLD, high COD stream will be treated in ETP and then sent to CMEE of M/s. VGEL.0.76 KLD, effluent from process i.e distilled water shall be directly reused back in process and low COD stream will be sent to CETP of M/s. VGEL.
- ✓ Natural gas is proposed as fuel in boiler and TFH.
- ✓ Two Stage Scrubber system is proposed for control of process gas emission.
- ✓ PP submitted hazardous waste matrix mentioning source of generation, quantity and Mode of disposal and committed to comply the Hazardous and Other Wastes (Management and Trans boundary Movement) Rules 2016.
- ✓ Fire hydrant plan, fire load calculation, Water balance diagram, Risk assessment, storage of Hazardous chemicals and its safety and Area adequacy was discussed.
- ✓ CER fund allocation, EMP, Green belt area was discussed. 2070 sq. meter i.e. 33 % within premises.

- PP submitted an undertaking ensuring proposed product profile is in line with MoEF&CC's Notification vide S.O. 1223 (E) dated 27/03/2020 in respect of Active Pharmaceutical Ingredients (API) as category B2 projects. Undertaking as proposal of said product are eligible to consider under B2 category as per the notification of MoEF&CC dated 27.03.2020.

After detailed discussion, Committee unanimously decided to recommend the project to SEIAA, Gujarat for grant of Environment Clearance with the following specific condition:

SPECIFIC CONDITIONS:

1. Project Proponent (PP) shall strictly abide by the outcome/decision of Hon'ble Supreme Court of India in Civil Appeal no. 8478/2020 regarding operation of the Hon'ble NGT orders dated 10/07/2019 & 14/11/2019.
2. PP shall comply conditions of any subsequent amendment or expansion or change in product mix, after the 30th September 2020, considered as per the provisions in force at that time as mentioned in the Notification vide S.O. 1223 (E) dated 27/03/2020.
3. PP shall carry out proposed project/activities in respect of Active Pharmaceutical Ingredients (API) as per the amended EIA Notification vide S.O. 1223 (E) dated 27/03/2020 and any subsequent amendments.
4. PP shall not manufacture more than four products from proposed product list at a given point of time, as per details submitted by PP.

5. PP shall submit six monthly compliance report of Environmental Clearance without fail and the same shall be critically assessed by the regulatory authority.

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

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

8. All measure shall be taken to avoid soil and ground water contamination within premises.

9. Project proponent (PP) shall adopt appropriate methods for segregation of waste water streams based on characteristics at source and its sound management keeping in view direction under section 18 (1) (b) of the Water (Prevention and Control of Pollution) act, 1974 issued by CPCB regarding compliance of CETP.

WATER

10. Total water requirement for the project shall not exceed 59.76 KLD. Unit shall reuse 18.86 KLD of treated industrial effluent and boiler condensate within premises. Hence, fresh water requirement shall not exceed 40.90 KLD and it shall be met through GIDC water supply only. Prior permission from concerned authority shall be obtained for withdrawal of water.

11. The industrial effluent generation from the project shall not exceed 6.88 KLD after expansion.

12. 3.32 KLD, High COD industrial effluent from process shall be treated in primary ETP and then shall be sent to CMEE of M/s. VGEL through GPS fitted tanker for evaporation.

13. 0.76KLD distilled water from process shall be directly reused back in process.

14. 1.40 KLD low COD effluent shall be treated in ETP and then treated effluent shall be sent to CETP of M/s. VGEL for further treatment and disposal.

15. Domestic wastewater generation shall not exceed 5.50 KL/day for proposed project and it shall be treated in STP. It shall not be disposed off through soak pit/ septic tank.

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

17. Unit shall sent wastewater to CMEE only after ensuring content of effluent for COD/VOC so as not to get air borne during evaporation in order to achieve no adverse impacts on Environment and Human Health.

18. Unit shall provide buffer water storage tank of adequate capacity for storage of treated waste water during ant shut down of CMEE.

19. Unit shall provide ETP with adequate capacity.

20. The PP shall ensure to dispose off Waste water to the Common Facilities having valid CTO of GPCB.

AIR

21. Unit shall not exceed fuel consumption and provide APCM and Stack height as mentioned in flue gas matrix.

22. Unit shall provide APCM and stack height as mentioned in process gas matrix.

HAZARDOUS & SOLID WASTE

23. All hazardous solid waste shall be managed as mentioned in hazardous waste matrix.

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

GREENBELT AREA

25. The PP shall develop green belt within premises (total 2070 Sq. m i.e. 33 % of total area) as per the undertaking submitted before SEAC. Green belt shall be developed with native plant species that are significant and used for the pollution abatement as per the CPCB guidelines. It shall be implemented within 3 years of operation phase in consultation with GPCB.

26. Safety & Health:

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

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

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

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

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

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

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

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

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

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

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

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

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

2.	SIA/GJ/IND2/244095/2021	**M/s. Krishna Impex** Plot No. 1920, GIDC- Ankleshwar, Tal.: Ankleshwar, Dist.: Bharuch-393001	Appraisal

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

Project status: New

- Project proponent (PP) submitted online application vide no. SIA/GJ/IND2/244095/2021 on dated 28.12.2021 for obtaining Environmental Clearance.
- Project proponent has submitted Form – 1, Pre-Feasibility Report & Environment Management Plan as per Notification issued by MoEF&CC vide S.O. 1223(E) dated 27th March, 2020 regarding consideration of proposals or activities in respect of Active Pharmaceuticals Ingredients (API) as B2 category.
- This is a new unit and proposes for manufacturing of synthetic organic chemicals [API and API Intermediates] as tabulated below,

SR. NO.	NAME OF PRODUCT	CAS No.	Quantity Tone/Month	Said API is used for/End Use of said API
1.	Benfotiamine	22457-89-2	30	API/ Alzheimer disease, arthritis

2.	Probenecid	57-66-9	TPM	API/ treat chronic gout and gouty arthritis
3.	Clofazimine	2030-63-9		API/ multibacillary (MB) leprosy and erythema nodosumleprosum
4.	3-Hydroxy acetophenone	121-71-1		Rivastigmine /treat confusion (dementia) related to Alzheimer's disease
5.	4-Hydoxycarbazole	52602-39-8		API/ treat high blood pressure
6.	4-(3,4-Dichlorophenyl)-1-Tetralone	79560-19-3		API/treat depression, panic attacks
7.	Para chloro benzaldehyde	104-88-1		Lumefantrine /treat non-severe malaria
8.	2-Oxa-1,4 Butanediol Diacetate (OBDDA)	59278-00-1		Acyclovir/treat herpes infections
9.	7-Amino-8-Oxo-3-Vinyl-5-Thia-1-Azabicyclo (4,2,0) OCT 2 ENE 2 Carboxylic Acid	36923-17-8		Cefalexin/treat bacterial infections
10.	5-Chloro Aniline-2, 4-Disulphonamide	121-30-2		Hydrochlorothiazide /treat Edema
11.	ChloroHexanone (6 Chloro 2 Hexanone)	10226-30-9		Pentoxifylline / treat muscle pain
12.	2,4 Dichloro 5 Sulphamoyl Benzoic Acid	2736-23-4		Lasamide/ treatment of high blood pressure
13.	3-Nitro Phthalic Acid	603-11-2		Citalopram /treat depression
14.	2 Cyano 4 Bromomethyl Biphenyl	114772-54-2		Losartan/ treat high blood pressure (hypertension)
15.	2, 4 Dichloro Benzaldehyde	874-42-0		Felodipine/treat high blood pressure
16.	3-Amino-3-Azabicylo [3,3,0]Octane Hydrochloride	58108-05-7		Gliclazide/Treat hyperglycaemia
17.	Chlorhexidine Gluconate	55-56-1		API/treat gingivitis (swelling, redness, bleeding gums)
18.	Hydroxychloroquine	118-42-3		API/rheumatoid arthritis
19.	4, 7-Dichloroquinoline	86-98-6		Hydroxychloroquine/ rheumatoid arthritis
20.	Cis Bromo Benzoate	61397-56-6		Ketoconazole/ Anti-fungal
21.	Diphenyl Acetonitrile	86-29-3		Aminepentamide Sulphate/ to control vomiting, diarrhoea, and gastrointestinal (GI) pain
22.	N-[5-(bromo methyl)-4-(4-fluoro phenyl)-6-isopropyl pyrimidin-2-yl]-N-methyl methane sulfonamide.TPP salt	799842-07-2		Rosuvastatin/used along with a proper diet to help lower "bad" cholesterol and fats
23.	Methyl 4-butyramido-3-methylbenzoate) & (Methyl 4-butyramido-3-methyl-5-nitrobenzoate	152628-01-8		Telmisartan /treat high blood pressure
24.	(Methyl 7-methyl-2-propyl-1H-benzo[d]imidazole-5-carboxylate) & (7-methyl-2-propyl-1H-benzo[d]imidazole-5-carboxylic acid)	152628-03-0		Telmisartan /treat high blood pressure
25.	Phenylephrine HCl	61-76-7		API /stuffy nose, sinus, and ear symptoms
26.	3-acetylphenyl acetate	2454-35-5		Phenylepherine HCl /stuffy nose, sinus,

				and ear symptoms
27.	3-(2-bromoacetyl) phenyl acetate or 2-(benzyl (methyl) amino-1-(3-hydroxyphenyl) ethane-1-one	71786-67-9		Phenylepherine HCl /stuffy nose, sinus, and ear symptoms
28.	3-(1-hydroxy-2-(methyl amino) ethyl) phenol	1477-63-0		Phenylepherine HCl /stuffy nose, sinus, and ear symptoms
29.	Bischloro ethyl amine	821-48-7		Aripiprazole/treat depression
30.	4-Bromo Aniline	106-40-1		Resorantel/Hydroxybenzanilidecestocide highly effective against Moniezia and Thysaniezia
31.	Methyl Bromide in Toluene	-		Homatropine/Used in eye drops as a cycloplegic (to temporarily paralyze accommodation), and as a mydriatic (to dilate the pupil).
32.	Pyridine hydrobromide	18820-82-1		Brinzolamide/Carbonic anhydrase inhibitor used to lower intraocular pressure in patients with open-angle glaucoma or ocular hypertension
33.	Methyl 3- Amino Crotonate	14205-39-1		API/hypertension coronary artery disease
34.	2,6 Dichloro Phenol	87-65-0		Diclofenac/ relieve pain, swelling (inflammation), and joint stiffness
35.	Chloro Acetyl Chloride	79-04-9		Diclofenac/ relieve pain, swelling (inflammation), and joint stiffness
36.	3-Ethyl-4-Methyl-2-Oxo-N-(2-Phenyl Ethyl)-2,5-Dihydro-1H-Pyrrol-1-Carboxiamide	247098-18-6		Glimepiride/ to control high blood sugar
37.	Methyl 1,2-Methoxy-5-Sulfamoylbenzolate	33045-52-2		Levosulpiride /Symptoms of Schizophrenia, Anxiety Disorders, And Dysthymia
38.	Levosulpiride	23672-07-3		API/ antipsychotic
39.	Rosuvastatin Calcium	147098-20-2		API/ along with a proper diet to help lower "bad" cholesterol and fats (such as LDL, triglycerides) and raise "good" cholesterol (HDL) in the blood
40.	N-[5-(Bromo Methyl)-4-(4-Fluoro Phenyl)-6-Isopropyl Pyrimidin-2-Yi]-N-Methyl Methane Sulfonamide(Rosuvastatin Calcium)	799842-07-2		Rosuvastatin Calcium/ along with a proper diet to help lower "bad" cholesterol and fats (such as LDL, triglycerides) and raise "good" cholesterol (HDL) in the blood
41.	4-(4- Fluoro-Phenyl)-6-Isopropyl-2-(Methyl Sulfonyl Methyl Amino)-Pyrimidine-5-Carboxylic Acid Ethyl Ester	147118-36-3		Rosuvastatin Calcium/ along with a proper diet to help lower "bad" cholesterol and fats (such as LDL, triglycerides) and raise "good" cholesterol (HDL) in the blood
42.	Tert-Butyl-Fluoro-Dimethyl-Silane	2357-76-8		Rosuvastatin Calcium/ along with a proper diet to help lower "bad" cholesterol and fats (such as LDL, triglycerides) and raise "good" cholesterol (HDL) in the blood

43.	N,N, Bis (2-Chloro Ethyl) Amine Hydrochloride	821-48-7		Ketoconazole/treat fungal and yeast infections
44.	4-(2-Chloroethyl)Morpholine Hydrochloride	3647-69-6		Nimorazol/ treatment of bacterial infections and parasitic infections
45.	3-(Cyclopropylmethoxy)-4-(Difluoromethoxy) Benzoylchloride	672883-68-0		Roflumilast/prevent worsening of chronic obstructive pulmonary disease
46.	(S)-4-(4-(5-Aminomethyl)-2oxooxa Zolidin-3-Yl) Phenyl)Phorpholin-3-One	898543-06-1		Rivaroxaban/ prevent blood clots from forming due to a certain irregular heartbeat
47.	2-((4-(2-Methoxyethyl)Phenoxy)Methyl)	56718-70-8		Metropolol/ Treat High Blood Pressure (Hypertension)
48.	2-(4-(4-Chlorobenzoyl)Phenoxy-2-Methylpropanoic Acid	42017-89-0		Fenofibric Acid /lower "Bad" Cholesterol And Fats Raise "Good" Cholesterol (HDL) In The Blood
49.	Tri Ethyl Benzyl Ammonium Chloride (TEBA)	56-37-1		Valsartan / To treat high blood pressure
50.	2-Benzyl Amino-1-6-Fluoro-3-4-Dihydro-2-H-Chromen-2-Yl-Ethanol	1030385-16-0		Nebivolol / improve blood flow and decrease blood pressure
51.	(3ar,7ar)-4-Benzo[A]Isothiazol-3-Yl)Octahydrospiro[Isoindole-2.1'piperazin]-2-Ium Methanesulfonate	186204-37-5		Lurasidone HCl /Anti-Psychotic
52.	(3ar,4S,7R,7as)-2-(((1R,2R)-2-((4-(Benzo[D]Isothiazol-3-Yl)Piperazin-1-Yl)Methyl)Cyclohexyl)Methyl)Hexahydro-1H-4,7-Methanoisoindole-1,3(2H)-Dione Hydrochloride	1644295-09-9		Lurasidone HCl /Anti-Psychotic
53.	R-(-)-1-(2,4-Dichloro-Phenyl)-2-Imidazol-L-Yl-Ethanol	24155-42-8		Sertaconazole nitrate/ medication on the skin only
54.	2-Chloro N,N-Diphenyl Acetamide	5428-43-3		Indoline / Anti-inflammatory
55.	1-(4-Bromo-3-Bromo Ethyl Phenyl) Ethanone	1844064-91-0		Velpatasvir /to treat chronic (long-lasting) hepatitis C, a viral infection of the liver
56.	(2R,3S)-2-(2,4-Difluorophenyl)-3-(5-Fluoropyrimidin-4-Yl)-1-(1H-1,2,4-Triazol-1-Yl)Butan-2-Ol (R)- Camsylate	2019-11-30		Velpatasvir /to treat chronic (long-lasting) hepatitis C, a viral infection of the liver
57.	5-{4-[(4-(5-Cyano-1H-Indol-3-Yl)-Butyl]-Piperazin-1-Yl}-Benzofuran-2-Carboxylate Methyl	163521-09-3		Vilazodone/ treat depression
58.	17β-N-[2,5-Bis(Trifluoromethyl)-Phenyl]Carbomoyl-L -Androst-4-En-3-One	164656-23-9		Dutasteride/ treat benign prostatic hyperplasia

59.	1-(2-Methoxy Phenyl) Piperazine HCl	5464-78-8		Fluanisone /Anti-Psychotic
60.	2-Chloroethylamine Hydrochloride	870-24-6		Ifosfamide/Anti-cancer
61.	4 (2- Chloro Ethyl) Morpholine HCl	3647-69-6		Morclofone /Cough suppressant
62.	Di Methyl Amino Isopropyl Chloride HCl	4584-49-0		Promethazehydrochlore /antipruritic
63.	Cyclo Propane Carboxylic Acid	1759-53-1		Prazepam/Anti anxiolytic
64.	Cyclo Propane Carbonyl Chloride	4023-34-1		Prazepam /Anti anxiolytic
65.	Cyclo Hexane Carbonyl Chloride	2719-27-9		Praziquantel /anti-worm
66.	Acetyl Salicoyl Chloride	5538-51-2		Nitazoxanie/Antiviral
67.	Di Methyl Amino Ethyl Chloride Hydrochloride	4584-46-7		Dibenzepin/Anti-depressant
68.	Di Ethyl Amino Ethyl Chloridehydrochloride	869-24-9		Dibenzepin /Anti-depressant
69.	2-Di Iso Propyl Amino Ethyl Chloridehydrochloride	4261-68-1		Disopyramide /antiarrhythmic
70.	Terbinafine HCl	78628-80-5		API /Anti- Fungal
71.	N-Methyl Naphthyl Methyl Amine Hydrochloride	65473-13-4		Terbinafine HCl /Anti- Fungal
72.	Pentoxyphylline	6493-05-6		Pentoxyphylline /Hemorrheologic agent
73.	Trazodone Hydrochloride	25332-39-2		API /Anti-depressant
74.	2-{3-[4-(3-Chlorophenyl)Piperazin-1-Yl]Propyl}[1,2,4]Triazolo[4,3-A]Pyridin-3(2H)-One	19794-93-5		Trazodone Hydrochloride /Anti-depressant
75.	2-{3-[4-(3-Chlorophenyl)Piperazin-1-Yl]Propyl}[1,2,4]Triazolo[4,3-A]Pyridin-3(2H)-One Hydrochloride	25332-39-2		Trazodone Hydrochloride /Anti-depressant
76.	1-(3-Chloro Phenyl) 4-(3 Chloro Propyl)Piperazine Hydrochloride	52605-52-4		Trazodone Hydrochloride /Anti-depressant
77.	Ranolazine	95635-56-6		API/Anti Anginal
78.	Aripiprazole Hydrochloride	1008531-60-9		API/ treatment of schizophrenia, bipolar I, major depressive disorder
79.	7-Hydroxy-3,4-Dihydroquinolin-2(1H)-One	22246-18-0		Aripiprazole Hydrochloride / treatment of schizophrenia, bipolar I, major depressive disorder
80.	Silodosin	160970-54-7		API/Anti -Inflammatory
81.	(R)-1-(3-Hydroxypropyl)-5-(2-((2-(2-(2,2,2-Trifluoroethoxy) Silodosin Technical	160970-54-7		Silodosin /Anti -Inflammatory
82.	1-Acetyl-5-(2-Aminopropyl) Indoline-7-Carbonitrile (A7)	175837-01-1		Silodosin /Anti -Inflammatory
83.	6-Hydroxy-3,4-Dihydroquinolin-2(1H)-One	54197-66-9		Cilastazol/ antiplatelet

84.	Mannich Hydrochloride	42036-65-7		Tramadol /pain reliever
85.	Duloxetin Hydrochloride	136434-34-9		API/Anti-depressant
86.	Pyrrolidine, 2-(2-Chloroethyl)-1methyl Hydrochloride	56824-22-7		Azelastine hydrochloride/ Anti histamine
87.	Phthaloyl Amlodipine	88150-62-3		Phthaloyl amlodipine/treat high blood pressure
88.	1-(2-Chloroacetyl)Pyrrolidine-2-Carboxamide	207557-35-5		Vilbagliptin/treatment of diabetes
89.	2-Amino-5-Methyl Thiozole	7305-71-7		Meloxicam /Anti -Inflammatory
90.	2-Chloron,N-Diphenyl Acetamide	5428-43-3		Indapamide/ reduce the risks of major vascular toxicities
91.	Sertraline Mandelate Salt (Sertraline HCl)	254731-40-3		Sertraline HCl / treat depression
92.	1-(4-Chlorobenzhydryl) Piperazine	303-26-4		Cetirizine / helps in muscle relaxation, Antispasmodic & local anesthesia.
93.	1, 2, 4 Triazole	288-88-0		Fluconazole/ antifungal drugs
94.	4-Chlorobenzhydrol	119-56-2		Cetirizine/ helps in muscle relaxation, Antispasmodic & local anesthesia.
95.	4-Amino 1, 2, 4 Triazole	584-13-4		Fluconazole/ antioxidant, and antimalarial drugs
96.	2 Chloroacetamide	79-07-2		Itraconazole/ to treat fungal infections
97.	4 Methyl Acetophenone	122-00-9		Celecoxib/ to relieve pain, tenderness, swelling and stiffness caused by osteoarthritis
98.	1-(2, 3 Di Chloro Phenyl) Piperazine Hydrochloride	119532-26-2		Aripiprazole/to treat the symptoms of schizophrenia
99.	4-Chlorobenzhydryl Chloride	134-83-8		Cetirizine/ helps in muscle relaxation, Antispasmodic & local anesthesia.
100.	Omeprazole Sulfide	73590-85-9		API/ Anti-Ulcer drug
101.	Pantoprazole Sulfide	102625-64-9		API/Anti-Ulcer drug
102.	3-Iodoaniline	626-01-7		3-pyridin-4-ylaniline /Anti diabetic agents
103.	5-ethyl pyridine 2-ethanol	5223-06-3		Pioglitazone HCl/ Antidiabetic
104.	Tri-Methoxy Benzene	621-23-8		Buflomedil HCl/An antispasmodic drug
	R&D*		0.1 TPM	
	TOTAL		30 TPM	

***Remark: Unit operation of R & D will remain same as per product.**

 # Brief Note of Product Profile:

1. **No of Manufacturing Plants: 1 No.**
2. **Brief Note regarding of No of Products to be manufactured considering plant capacity:**
   - **At a time 2-3 Unit Processes will be carried out. Plant Capacity as 1.2 Ton/Day Plant Capacity**

ENDUSE OF PRODUCTS

SR. NO.			Type/	In case of Intermediate stage of API	

	NAME OF PRODUCT	CAS No.	Category of Product (API/ Intermediate)	Stage i.e. n-1, n-2, etc.	Name of API in which Intermediate Used/ End use of said Intermediate	CAS No. (API)	Said API is used for/End Use of said API
1.	Benfotiamine	22457-89-2	API	n	-	-	API/Alzheimer disease, arthritis
2.	Probenecid	57-66-9	API	n	-	-	API/treat chronic gout and gouty arthritis
3.	Clofazimine	2030-63-9	API	n	-	-	API/multibacillary (MB) leprosy and erythema nodosumleprosum
4.	3-Hydroxy acetophenone	121-71-1	Intermediate	n-1	Rivastigmine	123441-03-2	Rivastigmine /treat confusion (dementia) related to Alzheimer's disease
5.	4-Hydoxycarbazole	52602-39-8	Intermediate	n-1	Carvedilol	72956-09-3	Carvedilol /treat high blood pressure
6.	4-(3,4-Dichlorophenyl)-1-Tetralone	79560-19-3	Intermediate	n-1	Sertraline Hydrochloride	79617-96-2	Sertraline Hydrochloride /treat depression, panic attacks
7.	Para chloro benzaldehyde	104-88-1	Intermediate	n-1	Lumefantrine	82186-77-4	Lumefantrine/treat non-severe malaria
8.	2-Oxa-1,4 Butanediol Diacetate (OBDDA)	59278-00-1	Intermediate	n-1	Acyclovir	59277-89-3	Acyclovir/treat herpes infections
9.	7-Amino-8-Oxo-3-Vinyl-5-Thia-1-Azabicyclo (4,2,0) Oct 2 ENE 2 Carboxylic Acid	36923-17-8	Intermediate	n-1	Cefalexin	15686-71-2	Cefalexin/treat bacterial infections
10.	5-Chloro Aniline-2, 4-Disulphonamide	121-30-2	Intermediate	n-1	Hydrochlorothiazide	58-93-5	Hydrochlorothiazide/treat Edema
11.	Chloro Hexanone (6 Chloro 2 Hexanone)	10226-30-9	Intermediate	n-1	Pentoxifylline	6493-05-6	Pentoxifylline/ treat muscle pain
12.	2,4 Dichloro 5 Sulphamoyl Benzoic Acid	2736-23-4	Intermediate	n-1	Lasamide	2736-23-4	Lasamide/ treatment of high blood pressure
13.	3-Nitro Phthalic Acid	603-11-2	Intermediate	n-1	Citalopram	59729-33-8	Citalopram /treat depression
14.	2 Cyano 4 Bromomethyl Biphenyl	114772-54-2	Intermediate	n-1	Losartan	114798-26-4	Losartan/ treat high blood pressure (hypertension)
15.	2, 4 Dichloro Benzaldehyde	874-42-0	Intermediate	n-1	Felodipine	72509-76-3	Felodipine/treat high blood pressure

16.	3-Amino-3-Azabicylo [3,3,0]Octane Hydrochloride	58108-05-7	Intermediate	n-1	Gliclazide	21187-98-4	Gliclazide/Treat hyperglycaemia
17.	Chlorhexidine Gluconate	55-56-1	API	n	-	-	API/treat gingivitis (swelling, redness, bleeding gums)
18.	Hydroxychloroquine	118-42-3	API	n	-	-	API/rheumatoid arthritis
19.	4, 7-Dichloroquinoline	86-98-6	Intermediate	n-1	Hydroxychloroquine	118-42-3	Hydroxychloroquine/ rheumatoid arthritis
20.	Cis Bromo Benzoate	61397-56-6	Intermediate	n-1	Ketoconazole	65277-42-1	Ketoconazole/ Anti-fungal
21.	Diphenyl Acetonitrile	86-29-3	Intermediate	n-1	AminepentamideSulphate	598-10-7	AminepentamideSulphate/ to control vomiting, diarrhea, and gastrointestinal (GI) pain
22.	N-[5-(bromo methyl)-4-(4-fluoro phenyl)-6-isopropyl pyrimidin-2-yl]-N-methyl methane sulfonamide.TPP salt	799842-07-2	Intermediate	n-1	Rosuvastatin	287714-41-4	Rosuvastatin/used along with a proper diet to help lower "bad" cholesterol and fats
23.	Methyl 4-butyramido-3-methylbenzoate) & (Methyl 4-butyramido-3-methyl-5-nitrobenzoate	152628-01-8	Intermediate	n-1	Telmisartan	144701-48-4	Telmisartan /treat high blood pressure
24.	(Methyl 7-methyl-2-propyl-1H-benzo[d]imidazole-5-carboxylate) & (7-methyl-2-propyl-1H-benzo[d]imidazole-5-carboxylic acid)	152628-03-0	Intermediate	n-2	Telmisartan	144701-48-4	Telmisartan/treat high blood pressure
25.	Phenylephrine HCl	61-76-7	API	n	-	-	API /stuffy nose, sinus, and ear symptoms
26.	3-acetylphenyl acetate	2454-35-5	Intermediate	n-1	Phenylepherine HCl	61-76-7	Phenylepherine HCl /stuffy nose, sinus, and ear symptoms
27.	3-(2-bromoacetyl) phenyl acetate or 2-(benzyl (methyl) amino-1-(3-hydroxyphenyl) ethane-1-one	71786-67-9	Intermediate	n-2	Phenylepherine HCl	61-76-7	Phenylepherine HCl /stuffy nose, sinus, and ear symptoms
28.	3-(1-hydroxy-2-(methyl amino) ethyl) phenol	1477-63-0	Intermediate	n-3	Phenylepherine HCl	61-76-7	Phenylepherine HCl /stuffy nose, sinus, and ear symptoms

29.	Bis chloro ethyl amine	821-48-7	Intermediate	n-1	Aripiprazole	129722-12-9	Aripiprazole/treat depression
30.	4-Bromo Aniline	106-40-1	Intermediate	n-1	Resorantel	20788-07-2	Resorantel/Hydroxybenzanilide cestocide highly effective against Moniezia and Thysaniezia
31.	Methyl Bromide In Toluene	-	Intermediate	n-1	Homatropine	80-49-9	Homatropine/Used in eye drops as a cycloplegic (to temporarily paralyze accommodation), and as a mydriatic (to dilate the pupil).
32.	Pyridine hydrobromide	18820-82-1	Intermediate	n-1	Brinzolamide	138890-62-7	Brinzolamide/Carbonic anhydrase inhibitor used to lower intraocular pressure in patients with open-angle glaucoma or ocular hypertension
33.	Methyl 3- Amino Crotonate	14205-39-1	API	n	-	-	API/hypertension coronary artery disease
34.	2,6 Dichloro Phenol	87-65-0	Intermediate	n-1	Diclofenac	15307-86-5	Intermediate of Diclofenac/ relieve pain, swelling (inflammation), and joint stiffness
35.	Chloro Acetyl Chloride	79-04-9	Intermediate	n-1	Diclofenac	15307-86-5	Diclofenac/ relieve pain, swelling (inflammation), and joint stiffness
36.	3-Ethyl-4-Methyl-2-Oxo-N-(2-Phenyl Ethyl)-2,5-Dihydro-1H-Pyrrol-1-Carboxiamide	247098-18-6	Intermediate	n-1	Glimepiride	93479-97-1	Glimepiride/ to control high blood sugar
37.	Methyl 1,2-Methoxy-5-Sulfamoylbenzolate	33045-52-2	Intermediate	n-1	Levosulpiride	23672-07-3	Levosulpiride /Symptoms Of Schizophrenia, Anxiety Disorders, And Dysthymia
38.	Levosulpiride	23672-07-3	API	n	-	-	API/ antipsychotic

39.	Rosuvastatin Calcium	147098-20-2	API	n	-	-	API/ along with a proper diet to help lower "bad" cholesterol and fats (such as LDL, triglycerides) and raise "good" cholesterol (HDL) in the blood
40.	N-[5-(Bromo Methyl)-4-(4-Fluoro Phenyl)-6-Isopropyl Pyrimidin-2-Yi]-N-Methyl Methane Sulfonamide(Rosuvastatin Calcium)	799842-07-2	Intermediate	n-1	Rosuvastatin Calcium	147098-20-2	Rosuvastatin Calcium/ along with a proper diet to help lower "bad" cholesterol and fats (such as LDL, triglycerides) and raise "good" cholesterol (HDL) in the blood
41.	4-(4- Fluoro-Phenyl)-6-Isopropyl-2-(Methyl Sulfonyl Methyl Amino)-Pyrimidine-5-Carboxylic Acid Ethyl Ester	147118-36-3	Intermediate	n-1	Rosuvastatin Calcium	147098-20-2	Rosuvastatin Calcium/ along with a proper diet to help lower "bad" cholesterol and fats (such as LDL, triglycerides) and raise "good" cholesterol (HDL) in the blood
42.	Tert-Butyl-Fluoro-Dimethyl-Silane	2357-76-8	Intermediate	n-1	Rosuvastatin Calcium	147098-20-2	Rosuvastatin Calcium/ along with a proper diet to help lower "bad" cholesterol and fats (such as LDL, triglycerides) and raise "good" cholesterol (HDL) in the blood
43.	N,N, Bis (2-Chloro Ethyl) Amine Hydrochloride	821-48-7	Intermediate	n-1	Ketoconazole	65277-42-1	Ketoconazole/treat fungal and yeast infections
44.	4-(2-Chloroethyl)Morpholine Hydrochloride	3647-69-6	Intermediate	n-1	Nimorazol	6506-37-2	Nimorazol/ treatment of bacterial infections and parasitic infections
45.	3-(Cyclopropylmethoxy)-4-(Difluoromethoxy) Benzoylchloride	672883-68-0	Intermediate	n-1	Roflumilast	162401-32-3	Roflumilast/prevent worsening of chronic obstructive pulmonary disease

46.	(S)-4-(4-(5-Aminomethyl)-2oxooxa Zolidin-3-Yl) Phenyl)Phorpholin-3-One	898543-06-1	Intermediate	n-1	Rivaroxaban	366789-02-8	Rivaroxaban/ prevent blood clots from forming due to a certain irregular heartbeat
47.	2-((4-(2-Methoxyethyl)Phenoxy)Methyl)	56718-70-8	Intermediate	n-1	Metropolol	37350-58-6	Metropolol/ Treat High Blood Pressure (Hypertension)
48.	2-(4-(4-Chlorobenzoyl)Phenoxy-2-Methylpropanoic Acid	42017-89-0	Intermediate	n-1	Fenofibric Acid	49562-28-9	Fenofibric Acid /lower "Bad" Cholesterol And Fats Raise "Good" Cholesterol (HDL) In The Blood
49.	Tri Ethyl Benzyl Ammonium Chloride (TEBA)	56-37-1	Intermediate	n-1	Valsartan	137862-53-4	Valsartan / To treat high blood pressure
50.	2-Benzyl Amino-1-6-Fluoro-3-4-Dihydro-2-H-Chromen-2-Yl-Ethanol	1030385-16-0	Intermediate	n-1	Nebivolol	99200-09-6	Nebivolol / improve blood flow and decrease blood pressure
51.	(3ar,7ar)-4-Benzo[A]Isothiazol-3-Yl)Octahydrospiro[Isoindole-2.1'piperazin]-2-Ium Methanesulfonate	186204-37-5	Intermediate	n-1	Lurasidone HCl	367514-88-3	Lurasidone HCl /Anti-Psychotic
52.	(3ar,4S,7R,7as)-2-(((1R,2R)-2-((4-(Benzo[D]Isothiazol-3-Yl)Piperazin-1-Yl)Methyl)Cyclohexyl)Methyl)Hexahydro-1H-4,7-Methanoisoindole-1,3(2H)-Dione Hydrochloride	1644295-09-9	Intermediate	n-2	Lurasidone HCl	367514-88-3	Lurasidone HCl /Anti-Psychotic
53.	R-(-)-1-(2,4-Dichloro-Phenyl)-2-Imidazol-L-Yl-Ethanol	24155-42-8	Intermediate	n-1	Sertaconazole nitrate	99592-39-9	Sertaconazole nitrate/ medication on the skin only
54.	2-Chloro N,N-Diphenyl Acetamide	5428-43-3	Intermediate	n-1	Indoline	496-15-1	Indoline / Anti-inflammatory
55.	1-(4-Bromo-3-Bromo Ethyl Phenyl) Ethanone	1844064-91-0	Intermediate	n-1	Velpatasvir	1377049-84-7	Velpatasvir /to treat chronic (long-lasting) hepatitis C, a viral infection of the liver

56.	(2R,3S)-2-(2,4-Difluorophenyl)-3-(5-Fluoropyrimidin-4-Yl)-1-(1H-1,2,4-Triazol-1-Yl)Butan-2-Ol (R)- Camsylate	2019-11-30	Intermediate	n-1	Velpatasvir	1377049-84-7	Velpatasvir/ treat chronic hepatitis C, a viral infection of the liver
57.	5-{4-[(4-(5-Cyano-1H-Indol-3-Yl)-Butyl]-Piperazin-1-Yl}-Benzofuran-2-Carboxylate Methyl	163521-09-3	Intermediate	n-1	Vilazodone	163521-08-2	Vilazodone/ treat depression
58.	17β-N-[2,5-Bis(Trifluoromethyl)-Phenyl]Carbomoyl-L -Androst-4-En-3-One	164656-23-9	Intermediate	n-1	Dutasteride	164656-23-9	Dutasteride/ treat benign prostatic hyperplasia
59.	1-(2-Methoxy Phenyl) Piperazine HCl	5464-78-8	Intermediate	n-1	Fluanisone	1480-19-9	Fluanisone /Anti-Psychotic
60.	2-Chloroethylamine Hydrochloride	870-24-6	Intermediate	n-1	Ifosfamide	3778-73-2	Ifosfamide /Anti-cancer
61.	4 (2- Chloro Ethyl) Morpholine HCl	3647-69-6	Intermediate	n-1	Morclofone	31848-01-8	Morclofone /Cough suppressant
62.	Di Methyl Amino Isopropyl Chloride HCl	4584-49-0	Intermediate	n-1	Promethaze hydrochlore	58-33-3	Promethaze hydrochlore /antipruritic
63.	Cyclo Propane Carboxylic Acid	1759-53-1	Intermediate	n-1	Prazepam	2955-38-6	Prazepam /Anti anxiolytic
64.	Cyclo Propane Carbonyl Chloride	4023-34-1	Intermediate	n-2	Prazepam	2955-38-6	Prazepam /Anti anxiolytic
65.	Cyclo Hexane Carbonyl Chloride	2719-27-9	Intermediate	n-1	Praziquantel	55268-74-1	Praziquantel /anti-worm
66.	Acetyl Salicoyl Chloride	5538-51-2	Intermediate	n-1	Nitazoxanie	55981-09-4	Nitazoxanie /Anti viral
67.	Di Methyl Amino Ethyl Chloride Hydrochloride	4584-46-7	Intermediate	n-1	Dibenzepin	4498-32-2	Dibenzepin/Anti-depressant
68.	Di Ethyl Amino Ethyl Chloridehydrochloride	4584-46-7	Intermediate	n-1	Dibenzepin	4498-32-2	Dibenzepin/Anti-depressant
69.	2-Di Iso Propyl Amino Ethyl Chloridehydrochloride	4261-68-1	Intermediate	n-1	Disopyrame	4498-32-2	Disopyrame /antiarrhythmic
70.	Terbinafine HCl	78628-80-5	API	n	--	--	API/Anti- Fungal

71.	N-Methyl Naphthyl Methyl Amine Hydrochloride	65473-13-4	Intermediate	n-1	Terbinafine HCl	91161-71-6	Terbinafine HCl /Anti-Fungal
72.	Pentoxyphylline	6493-05-6	API	n	-	-	API /Hemorrheologic agent
73.	Trazodone Hydrochloride	25332-39-2	API	n	-	-	API /Anti-depressant
74.	2-{3-[4-(3-Chlorophenyl)Piperazin-1-Yl]Propyl}[1,2,4]Triazolo[4,3-A]Pyridin-3(2H)-One	19794-93-5	Intermediate	n-2	Trazodone Hydrochloride	25332-39-2	Trazodone Hydrochloride /Anti-depressant
75.	2-{3-[4-(3-Chlorophenyl)Piperazin-1-Yl]Propyl}[1,2,4]Triazolo[4,3-A]Pyridin-3(2H)-One Hydrochloride	25332-39-2	Intermediate	n-1	Trazodone Hydrochloride	25332-39-2	Trazodone Hydrochloride /Anti-depressant
76.	1-(3-Chloro Phenyl) 4-(3 Chloro Propyl)Piperazine Hydrochloride	52605-52-4	Intermediate	n-1	Trazodone Hydrochloride	91161-71-6	Trazodone Hydrochloride /Anti-depressant
77.	Ranolazine	95635-56-6	API	n	-	-	API/Anti Anginal
78.	Aripiperazole Hydrochloride	1008531-60-9	API	n	-	-	API/ treatment of schizophrenia, bipolar I, major depressive disorder
79.	7-Hydroxy-3,4-Dihydroquinolin-2(1H)-One	22246-18-0	Intermediate	n-1	Aripiprazole	129722-12-9	Aripiprazole/ Anti-Psychotic
80.	Silodosin	160970-54-7	API	n	-	-	API/Anti - Inflammatory
81.	(R)-1-(3-Hydroxypropyl)-5-(2-((2-(2-(2,2,2-Trifluoroethoxy) Silodosin Technical	160970-54-7	Intermediate	n-1	Silodosin	160970-54-7	Silodosin /Anti - Inflammatory
82.	1-Acetyl-5-(2-Aminopropyl) Indoline-7-Carbonitrile (A7)	175837-01-1	Intermediate	n-1	Silodosin	160970-54-7	Silodosin /Anti - Inflammatory
83.	6-Hydroxy-3,4-Dihydroquinolin-2(1H)-One	54197-66-9	Intermediate	n-1	Cilastazol	73963-72-1	Cilastazol/ antiplatelet
84.	Mannich Hydrochloride	42036-65-7	Intermediate	n-1	Tramadol	27203-92-5	Tramadol /pain reliever
85.	Duloxetin Hydrochloride	136434-34-9	API	n	-	-	API /Anti-depressant

86.	Pyrrolidine, 2-(2-Chloroethyl)-1methyl Hydrochloride	56824-22-7	Intermediate	n-1	Azelastine hydrochloride	79307-93-0	Azelastine hydrochloride/ Anti histamine
87.	Phthaloyl Amlodipine	88150-62-3	API	n	-	-	API/treat high blood pressure
88.	1-(2-Chloroacetyl)Pyrrolidine-2-Carboxamide	207557-35-5	Intermediate	n-1	Vilbagliptin	274901-16-5	Vilbagliptin/treatment of diabetes
89.	2-Amino-5-Methyl Thiozole	7305-71-7	Intermediate	n-1	Meloxicam	71125-38-7	Meloxicam /Anti - Inflammatory
90.	2-Chloron,N-Diphenyl Acetamide (Indapamide)	5428-43-3	Intermediate	n-1	Indapamide	26807-65-8	Indapamide/ reduce the risks of major vascular toxicities
91.	Sertraline Mandelate Salt (Sertraline HCl)	254731-40-3	Intermediate	n-1	Sertraline HCl	79617-96-2	Sertraline HCl / treat depression
92.	1-(4-Chlorobenzhydryl) Piperazine	303-26-4	Intermediate	n-1	Cetirizine	83881-51-0	Cetirizine / helps in muscle relaxation, Antispasmodic & local anesthesia.
93.	1, 2, 4 Triazole	288-88-0	Intermediate	n-1	Fluconazole	86386-73-4	Fluconazole/ antifungal drugs
94.	4-Chlorobenzhydrol	119-56-2	Intermediate	n-1	Cetirizine	83881-51-0	Citrazine / helps in muscle relaxation, Antispasmodic & local anesthesia.
95.	4-Amino 1, 2, 4 Triazole	584-13-4	Intermediate	n-1	Fluconazole	86386-73-4	Fluconazole/ antioxidant, and antimalarial drugs
96.	2 Chloroacetamide	79-07-2	Intermediate	n-1	Itraconazole	84625-61-6	Itraconazole/ to treat fungal infections
97.	4 Methyl Acetophenone	122-00-9	Intermediate	n-1	Celecoxib	169590-42-5	Celecoxib/ to relieve pain, tenderness, swelling and stiffness caused by osteoarthritis
98.	1-(2, 3 Di Chloro Phenyl) Piperazine Hydrochloride	119532-26-2	Intermediate	n-1	Aripiprazole	129722-12-9	Aripiprazole/to treat the symptoms of schizophrenia
99.	4-Chlorobenzhydryl Chloride	134-83-8	Intermediate	n-1	Cetirizine	83881-51-0	Cetirizine/ helps in muscle relaxation, Antispasmodic & local anesthesia.
100.	Omeprazole Sulfide	73590-85-9	API	n	-	-	API/Anti-Ulcer drug
101.	Pantoprazole Sulfide	102625-64-9	API	n	-	-	API/ Stomach acid suppressing/ Anti-Ulcer drug

102.	3-Iodoaniline	626-01-7	Intermediate	n-1	3-pyridin-4-ylaniline	40034-44-4	3-pyridin-4-ylaniline/Anti diabetic agents
103.	5-ethyl pyridine 2-ethanol	5223-06-3	Intermediate	n-1	Pioglitazone HCl	112529-15-4	Pioglitazone HCl/ Antidiabetic
104.	Tri-Methoxy Benzene	621-23-8	Intermediate	n-1	Buflomedil HCl	35543-24-9	Buflomedil HCl/An antispasmodic drug

- The project falls under Category B2 of project activity 5(f) as per the schedule of EIA Notification 2006 and amendment dated 27th March, 2020.
- PP was called for Video conference meeting for presentation on dated 21.01.2022.
- PP submitted salient features of water, air and Hazardous waste management are as under,

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

Total Project
4.5 Crores

Break-up of proposed project Cost:

Details	Project Cost (Rs. In Crores)
Land	1.00
Building	1.00
Machinery	1.50
Env. & Safety	0.48
Miscellaneous	0.52
Total	**4.50**

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

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Sr. No	Unit	Detail	Capital Cost (Rs. In Lakhs)	Operating Cost/ Month (Rs. In Lakhs)	Maintenance Cost / Month (Rs. In Lakhs)	Total Recurring Cost / Month (Rs. In Lakhs)
1	Waste Water	Primary ETP: 12 KLD + Stripper: 6 KLD	13.20	2.55	0.26	2.81
		CMEE Membership	1.00	13.65		13.65
2	Air & LDAR	1 No. Water Scrubber+ 2 Nos. Two stage scrubber+ 1 No. MCS &1 Nos. Bag Filter	19.60	0.49	0.25	0.74

3	Hazardous Management	Membership & Disposal + Incineration	1.00	12.28		12.28
		Transportation		0.08		0.08
4	Fire & Safety	Fire Hydrant & pipeline System	12.50	0.12	0.06	0.18
		Safety equipment/PPES	5.50	0.05	0.03	0.08
		Fire Extinguisher & Foam Trolley	2.60	0.03	0.01	0.04
		Integrated DCS	20.00	1.00	1.00	2.00
		Foam Flooding System	6.00	0.2	0.1	0.3
		Electrical Fitting Flameproof	5.00	0.10	0.05	0.15
5	AWH Monitoring	In House Monitoring	1.50	0.20	0.05	0.25
6	Green Belt Development	Trees	0.66	0.07	0.03	0.10
7	Occupational Health	OHC, Training & Medical Checkup	2.00	0.20	0.10	0.30
8	Noise Control	Acoustic enclosure & mufflers, silencers at the air inlet/outlet & Anti-Vibration pads & Noise PPEs	2.00	0.03	0.02	0.05
9	CER Activities	2 % as per OM dated 01/05/2018	10.00	0.06	0.04	0.10
		Total	**102.56**			**33.11**

Comments:

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

A-3 **Details of CER** -

PP shall carry out CER activities as below:

Activities (On basis of Needs Assessment)	Phase Wise Budget		
	1st Year	2nd Year	TOTAL
Sanitation (Public Toilet Block) • Toilet Block with self-sustainable treatment and reuse facility (2 Nos.)at- **Villages – JunaDiwa, Avadar(Rs. 80000 each)**	1.6	1.6	3.2

Plantation / Greenbelt in Community Area– • Plantation Around the various location at **– Villages – Kondh** Cost of 1 plant – 500/- with maintenance. (360 plants)	0.9	0.9	1.8
Rain water recharge • (Percolated borewell -2 Nos.) (Rs. 2.5 lakh each)**- Amboli&Kharod**	-	5.0	5.0
Total Cost	**Approx. INR**	**10.0 Lakhs**	

B **Land / Plot ownership details:**

GIDC/RM/ANK/CO/PRO/ANK1/7 Dated:01/12/2021

B-1 **Plot area :**

Total Plot area
1708.0Sq. m

-

B-2

Area adequacy

- Production capacity: 30 MT/Month.
- 120.0 m² area (G+2) will be provided for the manufacturing of the proposed products.
- Area required for ETP 36.0 m²
- 24.0 m² area provided for the Boiler, 9.0 m^2area provided for Bio-coal storage & 9.0 m^2 area provided for Fly Ash Storage.

Sr. No	Particulars	Criteria for Storage	No of Drums/Tanks	Inventory Required (MT)(KL)	Area Required m2	Area Provided m2
1	Finished product storage area (2 week inventory)	0.5 MT/ 1m^2	Max. 75 Nos. of Drums/Bags	15.0	30.0	56.0
2	Raw Material Store area (2 week inventory)	0.5 MT/ 1m^3	Max. 300 Nos. Drums/Bags	60.0	120.0	288.0
3	Drum Storage Area	0.5 KL/1 m2	75 Nos. of Drums	15.0	30.0	72.0
4	Tank farm Area (Non-PESO)	-	5 KL × 3 Nos.	15.0	20.0	24.0
5	Cylinder Storage Area (Ammonia Gas, Nitrogen gas, Chlorine Gas, HCl Gas, Methyl bromide Gas)	-	-	1.5	3.6	20.0
6	Hazardous Waste Storage Area (90 Day Inventory)	-	-	311.3	155.6	216.0
	Total			**417.8**	**359.2**	**676.0**

Note: *Above storage area calculation has been done considering worst case of*

production.

Company will store its raw material in Drums & Tanks (**Procure Raw Materials from the local market. 90% of these raw materials are easily available from this market. Hence, no excess quantity of raw materials will be stored**).

Based on area proposed (column no 6) against area required (column no 5) is much higher. Hence, it is envisaged that area is adequate.

Comments:

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

B-3 **Green belt area**

	Total(Sq. meter)
Area in Sq. meter	Total=595.0 Sq. meter (245.0 Sq. meter within plant premises(14%) + 350.0 sq. meter in GIDC Colony(21%))
% of total area	35%

Comments:

The condition shall be given that –

The PP shall develop green belt within premises (245.0 Sq. meter within plant premises (14%) + 350.0 sq. meter in GIDC Colony(21%) i.e. 33 % of the total plot area) as per the undertaking submitted before SEAC. Green belt shall be developed with native plant species that are significant and used for the pollution abatement as per the CPCB guidelines. It shall be implemented within 3 years of operation phase in consultation with GPCB.

C **Employment generation**

Total
25 Nos. (Direct Employees= 10 Nos. Indirect Employees= 15 Nos.)

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D **WATER**

D-1 **Source of Water Supply**

	➢ GIDC Water Supply Authority (Permission Letter No.: NTA/ANK/DEE(WS)/1658 Dated: 06/12/2021)
	Comments: 1) obtained
D-2	**Water consumption (KLD)**

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Sr. No.	Category	Total Fresh Water Consumption (KL/Day)			Remarks
		Total Water	Recycled	Fresh Water	
1.	**Domestic**	1.0	-	1.0	Source: GIDC Water Supply Authority
2.	**Gardening**	2.0	-	2.0	
3.	**Industrial**				
	Process	5.5	-	5.5	**WC: 3-(1-hydroxy-2-(methylamino)ethyl)phenol**
	Boiler	48.0	38.0	10.0	Total Water requirement: 48.0KLD Condensate Recovery: 38.0 KLD Make up Water: 10.0KLD
	Cooling	6.0	-	6.0	
	Washing	1.5	-	1.5	
	Scrubber	4.5	1.2	3.3	
	Total Industrial	**65.5**	**39.2**	**26.3**	
	Total (1 + 2 + 3)	**68.5**	**39.2**	**29.3**	

Comments:

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

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

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	Category	Proposed (KL/Day)	Remarks
1.	**Domestic**	**0.8**	**Will be treated in ETP**
2.	**Industrial**		
	Process	5.0	**3-(1-hydroxy-2-(methylamino)ethyl)phenol**
	Boiler	0.6	Reused For Scrubbing
	Cooling	0.6	
	Washing	1.50	
	Scrubbing Solution (10-15% $NaNO_2$)	1.00	Will be treated in ETP
	Scrubbing Solution	1.00	

	(25-30%NaCl/NaOCl)		
	Scrubbing Solution (25-30% Liq. ammonia)	0.5	Reuse within premises
	Scrubbing Solution (18-20% HBr/NaBr)	1.00	End User
	Scrubbing Solution (25-30% Na_2SO_3)	1.00	
	Total Ind.	**12.2**	
	Total (1 + 2)	**13.0**	

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Comments:

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

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

Sr. no.	Quantity KLD	Facility
1	0.8 KLD	Waste Water will be subjected to Primary ETP & send to Common MEE of M/s. BEIL, Ankleshwar.

0.8 KL/Day Domestic Waste Water will be subjected to Primary ETP & send to Common MEE of M/s. BEIL, Ankleshwar.

Comments:

1. Domestic wastewater generation shall not exceed 72 KL/day for proposed project and it shall be treated in ETP. It shall not be disposed off through soak pit/ septic tank.

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

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Sr. no.	Quantity KLD	Facility
1.	8.25 KLD	Common Evaporation Facility of **M/s. BEIL, Ankleshwar.**
2.	2.00 KLD	Scrubbing Solution send to end users
3.	0.50 KLD	Scrubbing Solution reuse within premises
4.	1.20 KLD	Boiler & cooling blowdown Reuse within premises
5.	0.25 KLD	0.1 KLD striped out solvent & 0.15 KLD Sludge to TSDF
Total	**12.2 KLD**	

Note: 9.05~9.5 KLD (8.25 Industrial + 0.8 KLD Domestic) treated wastewater will be sent to Common Evaporation Facility of M/s. BEIL, Ankleshwar.

1. 8.50 KLD industrial effluent shall be treated in primary ETP followed by solvent stripper and then shall be sent to CMEE of M/s. BEIL through GPS fitted tanker for evaporation.

2. 2.50 KLD, exhausted scrubbing media shall be sold to endusers and/or shall be reused

back in process as per Hazardous waste Rules'2016.

3. 1.20 KLD effluent from utility shall be directly reused back in process.

E	**AIR**
E-1	Power (Electricity) requirement : 250 KVA
E-2	**Flue gas emission details**

Sr. no.	Source of emission With Capacity	Stack Height (meter)	Type of Fuel	Quantity of Fuel MT/Day	Air Pollution Control Measures (APCM)	Type of emissions i.e. Air Pollutants
1	Steam Boiler (2.0 TPH)	30/0.5	Natural Gas OR Bio-Coal	4518.00 SCM/Day OR 9.0 MT/Day	MCS + Bag Filter + Water Scrubber & Adequate Stack Height	PM<150 mg/Nm^3 SO_2<100 ppm NO_x<50 ppm
2	D.G. Set Stand by (125 KVA)	11/0.2	Diesel	15 lit/Hr.	Adequate Stack Height	

E-3	**Process gas**

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Sr. no.	Specific Source of emission (Name of the Product & Process)	Stack/ Vent Height (meter)	DIA (meter)	Type of emission	Air Pollution Control Measures (APCM)
1	Reaction Vessel **(Nitrification)**	18	0.2	NOx: 20 mg/Nm3 Cl_2: 9 mg/Nm^3 HCl: 16 mg/Nm3 SO_2:32mg/Nm3	Two Stage Alkali Scrubber
2	Reaction Vessel **(Chlorination)**				
3	Reaction Vessel **(sulfonation)**				
4	Reaction Vessel **(Bromination)**	18	0.2	HBr:24mg/Nm3 NH3: 175 mg/Nm3	Two Stage Water/Alkali Scrubber
5	Reaction Vessel **(Amination)**				

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

Fugitive emission details with its mitigation measures.

1. Airborne dust at all transfers operations/ points will be controlled either by spraying water or providing enclosures.
2. Raw materials loading and unloading will be done in covered area
3. Care will be taken to store construction material properly to prevent fugitive emissions, if

any.
4. Regular maintenance of valves, pumps, flanges, joints and other equipment will be done to prevent leakages and thus minimizing the fugitive emissions of VOCs.
5. Entire process will be carried out in the closed reactors with proper maintenance of pressure and temperature.
6. Periodic monitoring of work area will be carried out to check the fugitive emission.
7. To eliminate chances of leakages from glands of pumps, mechanical seal will be provided at all solvent pumps.
8. Minimum number of flanges, joints and valves in pipelines.
9. Enclosures to chemical storage area, collection of emission from loading of raw materials in particular solvents through hoods and ducts by induced draft, and control by scrubber / dust collector to be ensured.
10. Adequate ventilation will be provided.
11. Periodic monitoring of work area will be carried out to check the fugitive emission as per the norms of Gujarat Factory Rules.

Comments for E2, E3 & E4:

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

F	**Hazardous waste**
F-1	**Hazardous waste management matrix**

-(Total Hazardous waste category: 17)

Sr. no.	Type/Name of Hazardous waste	Specific Source of generation (Name of the Activity, Product etc.)	Category and Schedule as per HW Rules.	Quantity (MT/ Annum)	Management of HW
1.	ETP Sludge	ETP	35.3/SCH-I	55.0	Collection, Storage, Transportation, disposal at nearest TSDF site.
2.	Process Waste (Inorganic)	Mfg. Process	28.1/SCH-I	865.0	
3.	Used Oil/ Spent Oil	Maintenance Activities	5.1/SCH-I	0.2	Collection, Storage, Transportation; reuse as lubricant or by selling to Authorized re-

					refiners.
4.	Discarded Containers/ Bags/Liners	Raw Material Supplier	33.1/SCH-I	30 (1800 Nos.Container) (6000 Nos. Bags/Liners)	Collection, Storage, Transportation; Decontamination and Reuse or Sale to Authorized Vendor.
5.	Distillation Residue	Distillation. Process	20.3/SCH-I	62.0	Collection, Storage, Transportation & Disposal by send to pre/co processing unit (Cement Industries) OR by incineration at CHWIF.
6.	Process Waste (Organic)	Mfg. Process	28.1/SCH-I	2110.0	
7.	Spent Carbon/ Hyflow	Purification Process	28.3/SCH-I	13.0	
8.	Spent Catalyst	Mfg. Process	28.2/SCH-I	252.0	
9.	Spent Solvent	Distillation process	28.6/SCH-I	*2280.0	Collection, Storage, Handling recover & reused by subjecting to distillation assembly within the Premises OR sent to Authorized distillation unit having Rule-9.
		Solvent Stripper		36.5	Collection, Storage, Transportation & sent to pre/co-processing (cement industries) or disposal by incineration at CHWIF
10.	Scrubbing Solution 10-15% $NaNO_2$	From Scrubber (Nitrification Process)	28.1/SCH-I	365.0 KL	Collection, Storage & treated in ETP.
11.	Scrubbing Solution 25-30% NaCl	From Scrubber (Chlorination Process)	28.1/SCH-I	182.5 KL	

12.	Scrubbing Solution 25-30% NaOCl			182.5 KL	
13.	Scrubbing Solution 25-30% Liq. Ammonia	From Scrubber (Ammination Process)	28.1/SC H-I	182.5 KL	Collection, Storage & Reuse within premises. (In the Mfg. process of 2,4 Dichloro 5 Sulphamoyl Benzoic Acid- 991.2 MT/Annum)
14.	Scrubbing Solution 25-30% HBr/NaBr	From Scrubber (Bromination Process)	28.1/SC H-I	365.0 KL	Collection, Storage, Transportation & Sell to End Users having permission under Rule-9.
15.	Scrubbing Solution 18-20% Na_2SO_3	From Scrubber (Sulphonation Process)	28.1/SC H-I	365.0 KL	
16.	Aluminum Chloride Sol.(AlCl3) (20-25%)	Mfg. Process	28.1/SC H-I	360.0 KL	Collection, Storage & Reuse within premises. (In the Mfg. process of 6-hydroxy-3,4-dihydroquinolin-2(1H)-one OR 7-hydroxy-3,4-dihydroquinolin-2(1H)-one -1198.8 MT/Year) OR Sell to End Users having permission under Rule-9.
17.	Off Specification	Mfg. Process (Batch Failure)	28.4/SC H-I	1.0	Collection, Storage, Transportation &send to pre/co processing unit (Cement Industries) OR send to CHWIF.

*** Process Waste (Inorganic Salt):**
worse case from 5-Chloro Aniline-2, 4-Disulphonamide

***Process Waste (Organic Waste):**
Worse case from (4-(3,4-Dichlorophenyl)-1-Tetralone)
***Spent Catalyst:**
Worse case from 4-Hydoxycarbazole
*** Scrubbing Solution 25-30% HBr/NaBr:**
Worse case from (3-(2-bromoacetyl)phenyl acetate or 2-(benzyl(methyl)amino-1-(3-hydroxyphenyl) ethane-1-one)
*** Scrubbing Solution 18-20% Na_2SO_3:**
Worse case from Bis chloro ethyl amine
***Scrubbing Solution 25-30% NaCl/ NaOCl**

Worse case from 3-Hydroxy Acetophenone
***Scrubbing Solution 10-15% $NaNO_2$:**
Worse case from Para Chloro Benzaldehyde
***Scrubbing Solution 25-30% Liq. Ammonia**

Worse case from Methyl 3- AminoCrotonate

*** Aluminum Chloride Sol.(AlCl3) (20-25%)**

Source of Generation (4-(3,4-Dichlorophenyl)-1-Tetralone)

* **Justification for spent solvent generation & Captive reused**

Product Name	Solvent	Fresh Qty. Used MT/DAY	Qty. Recovered MT/DAY	Qty. Used MT/DAY	Storage At a Time
2-Benzyl Amino-1-6-Fluoro-3-4-Dihydro-2-H-Chromen-2-Yl-Ethanol	IPA	0.26	6.24	6.5	Drum- 6.5 KL (200 Lit. X 33 Nos.)
Total MT/Day		**0.26**	**6.24**	**6.50**	
Total MT/Year		**94.90**	**2277.60~ 2280.00**	**2372.50**	

Comments:

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

F-2	Non- Hazardous waste management matrix

1. Fly Ash generation will be 325MTPA

Comments:

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

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

Product	Solvent	F.P. °C	B.P. °C	Qty MT/ MT	Recovery	Distillation Residue	Total Losses	% Recovery
2-Benzyl Amino-1-6-Fluoro-3-4-Dihydro-2-H-Chromen-2-Yl-Ethanol	IPA	11.7	82.5	6.5	6.24	0.1625	0.26	96

G-2 LDAR proposed:

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

Leakage/ Component	Source of equipment leak	Detection Method
Valves	Flange leakage	Visual Check
Pump	From pump seal	Visual Check
Open vents from the tank top	Overflow of tank	High level alarm
High pressure leak	-	Audible Method
Connectors	Gasket failure and improperly torqued bolts on flanges.	For welded flanges place the probe at the outer edge of the flange-gasket interface and sample the circumference of the flange. If the source is rotating shaft, position the probe within 1 cm of the shaft seal interface for the survey.
Open ended line	At the point of line Incorrect implementation of block and bleed procedure	Place the probe inlet at approximately the entry of the opening to the atmosphere.

G-3 VOC emission sources and its mitigation measures

Measures for achieving maximum solvent recovery and minimize VOC generation:

- The entire manufacturing activities & distillation process will be carried out in a totally closed system.
- Maintenance of the pipeline and valves & fittings will be carried out regularly to avoid any leakages.
- Reactor will be connected with three numbers of condensers where in the first condenser chilled water will be used whereas in second and third condenser brine solution will be used as media and it will be also equipped with vacuum system as per requirement.
- The condenser will be provided with sufficient HTA and residence time to achieve more than 90% recovery.
- All the Flange joints of the pipe lines which carry solvents will be covered with flange guards.
- VOC detectors will be installed at various places to identify any fugitive emissions.
- Minimum number of flanges, joints and valves in pipelines shall be provided.

Comments:

1. Measures for achieving maximum solvent recovery and minimize VOC generation, inclusive of VOC detectors, pumps, maintenance of pipelines, proper ventilation etc., provided are as per requirement.
2. Spent solvents shall be recovered by in-house distillation in such a manner that recovery shall not be achieved to the maximum extent and recovered solvent shall be reused in the process. Solvent recovery system with adequate reflux condensers shall be provided for controlling escape of low boiling solvents (VOCs).

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

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S.N.	Name of chemical	Quantity (Nos.)	Total (Nos.)	Total Qty. to be store (KL)
Non PESO- 3 Nos.				
1	Hydrochloric acid	5 KL	1 No.	5 KL
2	H_2SO_4	5 KL	1 No.	5 KL
3	Nitric acid	5 KL	1 No.	5 KL

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Storage of Hazardous chemicals in Tanks

Non PESO Tank-3 Nos.

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

Type of Storage	Safety Measures
Acid storage Tank	✓ Storage tank will be stored away from the process plant. ✓ Tanker unloading procedure will be prepared and implemented. ✓ Caution note and emergency handling procedure will be displayed at unloading area and trained all operators. ✓ NFPA label will be provided. ✓ Required PPEs like full body protection PVC apron, Hand gloves, gumboot, Respiratory mask etc. will be provided to operator. ✓ Neutralizing agent will be kept ready for tackle any emergency spillage. ✓ Safety shower, eye wash with quenching unit will be provided in acid storage area. ✓ Material will be handled in close condition in pipe line. ✓ Dyke wall will be provided to all storage tanks, collection pit with valve provision. ✓ Double drain valve will provided. ✓ Level gauge will be provided on all storage tanks. ✓ Safety permit for loading unloading of hazardous material will be prepared and implemented. TREM CARD will be provided to all transporters and will be trained for transportation Emergency of Hazardous chemicals. ✓ Fire hydrant system with jockey pump as per TAC norms will be installed.
Non-PESO Tanks	✓ Leakage / spillage mitigation plan ✓ Tank shall be rubber lined to prevent the corrosion ✓ Dyke wall shall be provided for containment ✓ Rubber type hand gloves and chemical splash goggles and full-face cartridge type mask and PVC apron shall be used while manual handling

	✓ Lime shall be readily available during leak to neutralize the spill material ✓ Safety shower, eye wash with quenching unit will be provided in acid storage area. ✓ Material will be handled in close condition in pipe line. ✓ Double drain valve will provided. ✓ Level gauge will be provided on all storage tanks. ✓ Fire hydrant system with jockey pump as per TAC norms will be installed
Drum Storage	✓ Some chemicals will be received at plant in drums by road truck and stored in a separate drum storage area. ✓ FLP type light fittings will be provided. ✓ Proper ventilation will be provided in go down. ✓ Proper label and identification board /stickers will be provided in the storage area. ✓ Conductive drum pallets will be provided. ✓ Drum handling trolley / stackers/fork lift will be used for drum handling. Separate dispensing room with local exhaust and static earthing provision will be made. ✓ Materials will be stored as per its compatibility study and separate area will be made for flammable, corrosive and toxic chemical drums storage. ✓ Smoking and other spark, flame generating item will be banned from the Gate.

Safety details of Hazardous Chemicals:

Type of Hazardous Chemicals	Safety measures
FLAMMABLE & EXPLOSIVE	➢ Separate Isolated Storage Area is constructed as per explosive department requirement and separation distance will be maintained, accordingly. ➢ Store/groups of chemicals as per Incompatibility. ➢ Workers and Operators handling such materials will be trained for the hazards (fire/explosion, health, and chemical reactivity) associated with them. ➢ Lightening arrestor will be provided on the top of tallest structure. ➢ NFPA label (hazard identification) capacity and content will be displayed on respective barrels. ➢ Every time it will be ensured that barrels are cleaned and no chemicals are as a residue to avoid mixing and causing explosion or any mishap ➢ While decanting chemicals proper earthing arrangement will be ensured to avoid static charge ➢ Good housekeeping will be maintained. ➢ Work Instructions shall be prepared and followed. ➢ Proper ventilation will be provided in storage room. ➢ Proper label and identification board /stickers will be provided in the storage area. ➢ Area shall be marked as “Hazardous Chemical Storage”, “No Smoking”, “Hot work Restricted”. No cell phones ➢ MSDS of chemicals stored will be available in storage area ➢ Static earthing provision will be made for storage area.

		➢ Fire load calculation will be done and as per fire load hydrant system will be provided as per NFPA std. and fire extinguishers will be provided as per fire load calculation. ➢ Flame proof type construction, equipment and lighting will be provided. ➢ Electrical wiring and equipment shall be installed in accordance with the National Electric Code (NEC). In areas where flammables are stored, electrical equipment and wiring shall be approved for Class I, Division 1, hazardous locations. ➢ Required PPEs like full body protection PVC apron, Hand gloves, gumboot, Respiratory mask, SCABA, Airline Respiratory system, Fire suit etc. will be provided to operator. ➢ Smoking should never be allowed near flammable material storage areas. ➢ Chemicals store in storage cabinet as per guidelines & Storage cabinets shall be labeled as "FLAMMABLE".
	CORROSIVEC HEMICALS	➢ Preventing or minimizing contact between corrosive substances and skin, mucous membranes and eyes. ➢ Corrosive substances should not be allowed to come in contact with materials that may react. ➢ All the containers, pipes, apparatus, installations and structures used for the manufacture, storage, transport or use of these substances may be protected by suitable coatings, impervious to and unaffected by corrosives. ➢ All containers or receptacles should be clearly labelled to indicate their contents and should bear the danger symbol for corrosives. ➢ Adequate ventilation and exhaust arrangement whether general or local, should be provided whenever corrosive toxic gases or dust are present. ➢ Personal protective devices shall be used ➢ First aid treatment facilities shall be provided and all concerned should be instructed to follow safe practices such as (a) Prolonged washing with water (b) Removing contaminated clothing (c) Seeking immediate medical help. ➢ Safety showers and eye washers is provided. ➢ Chemicals store in storage cabinet as per guidelines & Storage cabinets shall be labeled as "CORROSIVE".
	TOXIC CHEMICALS	➢ Ventilation must be sufficient to prevent accumulation of vapor pockets. All fan switches should be outside the storage area. ➢ Self-breathing apparatus, gas mask and 'emergency kits' should be located at strategic points under working condition and to be easily accessible in the event of emergency. ➢ Appropriate minimum safety distances as stipulated in the above-mentioned rules have to be maintained from buildings or group of buildings or adjacent property. ➢ Neutralizing agent will be kept ready for tackle any emergency spillage. ➢ Fire hydrant system with jockey pump as per TAC norms will be installed. ➢ Chemicals store in storage cabinet as per guidelines & Storage cabinets shall be labeled as "TOXIC".
	REACTIVE CHEMICALS	➢ Store minimum quantities ➢ Segregate chemicals, e.g. from water, air, incompatible chemicals, sources of heat, ignition sources ➢ Spillage control; bund, spray, blanket, containment. Drain to collection pit ➢ Decontamination and first-aid provisions, e.g. neutralize/destroy, fire-fighting • Contain/vent pressure generated to a safe area ➢ Split-up stocks into manageable lots, e.g. with reference to fire

	loading/spillage control. ➢ Ensure appropriate levels of security, hazard warning notices, fences, patrols. Control access including vehicles ➢ Appropriate gas/vapour/fume/pressure venting, e.g. flame arrestors, scrubbers, absorbers, stacks ➢ Ensure adequate natural or forced general ventilation of the storage area Provide adequate, safe lighting ➢ Label (name and number); identify loading/unloading/transfer couplings ➢ Provide appropriate fire protection (sprinkler, dry powder, gas) ➢ Ensure adequate access for both normal and emergency purposes with alternative routes

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

Comments:

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

H-2	**Types of hazardous Processes involved and its safety measures:**

Type of Process	**Safety measures including Automation** **Provision of integrated DCS shall be made**
Hydrogenation process	➢ Provisions of safety valve & rupture disk on reactor. ➢ Provisions of auto dumping Vessel. ➢ **DCS base process controls and operation of plant will be installed.** ➢ All electrical equipment's shall be installed as per Hazardous Area Classification. ➢ **Total enclosed process system.** ➢ Instrument & Plant Air System. ➢ **Nitrogen blanketing in Hydrogenation reactor.** ➢ Cooling, Chilling and alternate power arrangement have been made on reactor. ➢ Process area and Hydrogen cylinder shall be far away as per standards practice. ➢ PRV station ith shut off valve, safety valve provision will be made for hydrogenation reaction safety. ➢ Standard Operating procedure shall be followed during operation of Hydrogen Gas charging in to reactor and after completion of reaction Nitrogen purging will be done. ➢ Flame arrestor will be provided on vent line of reactor and it will be extended above the roof level. ➢ Safe Catalyst charging method will be adopted. ➢ SOP will be prepared and operators will be trained for the same. ➢ Static earthing and electric earthing (Double) will be provided. ➢ Jumpers for static earthing on pipeline flanges of flammable chemical will be provided. **Hydrogen gas detector will be installed for early detection of gas leak.**
Sulphonation&	➢ Provisions of safety Valve &rupture disk on reactor. ➢ Provisions of auto dumping Vessel. ➢ **DCS base process controls and operation of plant will be installed.**

	Chlorination (Through Thionyl Chloride)	➢ Required PPEs like full body protection PVC apron, Hand gloves, gumboot, Respiratory mask etc. will be provided to operator. ➢ **To avoid runaway reaction, TC charging will be done gradually & slowly.** ➢ **Charging will be done only through closed line and system. Scrubber attached with closed system.** ➢ **Make sure the absorber unit (two stage Alkali scrubber) is working and capable of handling vented SO2 / HCl fumes.** ➢ **Neutralizing agent will be kept ready for tackle any emergency spillage.** ➢ 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. ➢ Emergency siren and wind sock will be provided. ➢ Tele Communication system and mobile phone will be used in case of emergency situations for communication. ➢ Total close process will be adopted for Thionyl chloride charging. ➢ Caution note and emergency first aid will be displayed and train for the same to all employees. ➢ First Aid Boxes will be available in process area. ➢ Emergency organization and team will be prepared as per on site-Off site emergency planning. ➢ Emergency team will be prepared and trained for scenario base emergency. Like Toxic control team, Fire control team, First aid team, communication and general administration team, Medical team etc. ➢ Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. ➢ Use water spray to reduce vapors; do not put water directly on leak, spill area or inside container. Keep combustibles (wood, paper, oil, etc.) away from spilled material. ➢ Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain.		
	Nitration process	➢ SOP will be displayed for safe charging of Nitric acid for nitration process. ➢ Required PPEs like full body protection PVC apron, Hand gloves, gumboot, Respiratory mask etc. will be provided to operator at time of nitric acid charging. ➢ **Make sure the absorber unit (two stage Alkali scrubber) will be working and capable of handling vented NO2 fumes.** ➢ Neutralizing agent will be kept ready for tackle any emergency spillage. ➢ Safety Shower and eye wash will be provided near process area. ➢ **Total close process will be adopted (from storage tank to measured vessel & then to reactor) for Nitric Acid charging.** ➢ Caution note and emergency first aid will be displayed and train for the same to all employees. ➢ First Aid Boxes will be available in process area. ➢ **Prevention measures for runaway reaction of nitration reaction.** • **Instrumentation control –**Interlock, Rotameter, DCS, Level alarms • TIC –Temp Indicator Controller- of jacketed reactor **(Gradually Charging material to maintain rate of rise of temperature,-**		

		Temperature sensor – Chilling Plant, Temp Range of Reaction: 25 to 30 degree centigrade Pressure : Atmospheric) • Emergency control measures: • **Provision of Dumping vessel of the contents of the nitrator underneath reactor; the contents will be neutralized (by Alkali) in catch point. It will be sent to CF (Co-Processing/CHWIF/TSDF).**
	Bromination	➢ **All end nozzles in bromine charging hose will be blinded after use.** ➢ **Charging of bromine will be done when reactor is in vacuum and POP coated funnel will be used during charging.** ➢ **Excess bromine will be neutralize or discharged by adding Sodium Bisulfite.** ➢ **Make sure the absorber unit (scrubber) is working and capable of handling vented bromine fumes.** ➢ Structure of bromine bottle area will be periodically inspected to ensure stability. ➢ Personnel employed with bromine handling are made aware of potential hazards of bromine and of appropriate first-aid measure. ➢ Exhaust hood connected with alkali scrubber and ventilation system will be available. Exhaust hood has been provided to maintain to concentration of bromine vapor well below PEL. ➢ Work instructions for bromine charging will be displayed in local language/Hindi. ➢ Safety shower and eye-wash fountains will be available nearby handling and charging facility. The location of such item will be inspected and tested at fixed interval to make sure that it is in good condition. ➢ 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. ➢ Personal Hygiene – the following personal protective equipment will be used. ➢ Chemical safety goggles, face shields, SCBA sets, Aprons, rubber gloves, etc. ➢ Only trained employees handled bromine charging. Training will be given to employees for bromine handling and charging.
	Chlorination	➢ Chlorine Emergency Kit will be procured and kept ready at process site. ➢ Chlorine Hood with blower will be provided with scrubbing arrangement. ➢ SCBA sets will be kept ready at site. ➢ Safety Shower and eye wash will be provided in process area. ➢ Chlorine absorption system will be provided. In case of chlorine leakage in chlorine shed it will be suck through blower and it will be scrubbed in Caustic scrubber. ➢ Emergency siren and wind sock will be provided. ➢ Tele Communication system and mobile phone will be used in case of emergency situations for communication. ➢ First Aid Boxes and Occupational health centre will be made at site. ➢ Emergency organization and team will be prepared as per On site-Off site emergency planning. ➢ Full body protection suite and other PPEs will be kept ready at site. ➢ 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. **Evacuate the area in down wind direction** ➢ For Chlorine evacuate area in down wind direction up to 0.4 km (400 meter) in small spillage and in case of large spillage, evacuate the area in down wind direction 3.5 kms (3500 meters).

	➢ SOP will be prepared for safe charging of Chlorine tonners. ➢ Tonner handling EOT crane will be installed in Chlorine shed area for safe tonner handling. ➢ Safety Valve will be provided on chlorine header line and it will be connected to caustic scrubber. ➢ Safety valve will be provided on vaporizer header and outlet of safety valve connected to scrubber. ➢ Flow and temperature controllers will be provided on process line. Chlorine Gas detectors will be provided in process area.

H-3 Details of Fire Load Calculation

Total Plot Area:	1708.0 Sq. m
Area utilized for plant activity:	120.0 Sq. m (G+2)
Area utilized for Hazardous Chemicals Storage:	108.0 Sq. m(G+1)
Number of Floors:	G+2
Water requirement for firefighting in KLD:	13375 Liters
Water storage tank provided for firefighting in KLD:	2,00,000 Liters
Details of Hydrant Pumps:	Fire water Pump will be available. We will have 01 No's of electrical fire water Pump located at pump house having capacity 4550.0 litres/min and 01 No's of Diesel pump having capacity 4550.0 litres/min. Apart from this we have 01 Nos Jockey Pumps of capacity 1080.0 litres/min which maintains the Fire water Header Pressure at 8.0 kg/cm².
Nearest Fire Station :	Fire Station (DPMC Fire Station, Ankleshwar)
Applicability of Off Site Emergency Plan:	Yes

Comments:

1. The project proponent has proposed fire safety plan which includes fire hydrant line, sprinkler system, fire extinguishers, fire suits, covering the project area and provides for fire water storage tank of 200 KL. SEAC found it as per the requirement.

H-4 Details of Fire NOC/Certificate:

Unit will obtain Fire NOC after receipt of EC and before getting CTO.

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

-

Number of permanent Employee:	10 Employees
Number of Contractual person/Labour:	15 Employees
Area provided for OHC:	16.00 sq. m
Number of First Aid Boxes:	10

Nearest General Hospital:	Jayaben Modi Hospital
Name of Antidotes to be store in plant:	Artificial respiration, First Aid, etc.

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Comments

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

- During the SEAC Video conference meeting dated 21.01.2022, Project Proponent (PP) and their technical expert and EIA consultant from M/s. Envycraft Environmental Services remains present and made technical presentation before the Committee.
- Since the proposed project is located in notified industrial area, public consultation is not required as per paragraph 7(i) (III) (I) (b) of the Environment Impact Assessment Notification 2006.
- Deliberation of the Committee:
  - ✓ GIDC plot allotment letter with mentioning purpose from plastic unit to API product reviewed.
  - ✓ Product profile with its end use discussed in depth. At a time two or three unit process will be carried out from proposed product list as per area adequacy submitted by PP.
  - ✓ Site Plan/ layout with fire plan & floor plans and provision of separate entry & exits, 6 m wide peripheral road, distillation area, OHC, tank farm, production areas, raw material & finished goods storage areas, ETP area, utility area, hazardous waste storage area, fresh & spent solvent storage areas, hazardous waste storage area, 14 % greenbelt within premises etc.
  - ✓ Source of water will be GIDC.
  - ✓ Domestic Waste water will be treated in ETP.
  - ✓ Total effluent will be treated in ETP and then sent to CMEE of M/s. BEIL, Ankleshwar.
  - ✓ Natural gas and/or imported coal are proposed as fuel in boiler and TFH.
  - ✓ Two Stage Scrubber system is proposed for control of process gas emission.
  - ✓ PP submitted hazardous waste matrix mentioning source of generation, quantity and Mode of disposal and committed to comply the Hazardous and Other Wastes (Management and Trans boundary Movement) Rules 2016.
  - ✓ Fire hydrant plan, fire load calculation, Water balance diagram, Risk assessment, storage of Hazardous chemicals and its safety and Area adequacy was discussed.
  - ✓ CER fund allocation, EMP, Green belt area was discussed. 245 sq. meter i.e. 14 % within premises

and 350 sq. meter i.e. 20% outside premises in GIDC area.

- PP submitted an undertaking ensuring proposed product profile is in line with MoEF&CC's Notification vide S.O. 1223 (E) dated 27/03/2020 in respect of Active Pharmaceutical Ingredients (API) as category B2 projects. Undertaking as proposal of said product are eligible to consider under B2 category as per the notification of MoEF&CC dated 27.03.2020.

After detailed discussion, Committee unanimously decided to recommend the project to SEIAA, Gujarat for grant of Environment Clearance with the following specific condition:

SPECIFIC CONDITIONS:

1. Project Proponent (PP) shall strictly abide by the outcome/decision of Hon'ble Supreme Court of India in Civil Appeal no. 8478/2020 regarding operation of the Hon'ble NGT orders dated 10/07/2019 & 14/11/2019.
2. PP shall comply conditions of any subsequent amendment or expansion or change in product mix, after the 30th September 2020, considered as per the provisions in force at that time as mentioned in the Notification vide S.O. 1223 (E) dated 27/03/2020.
3. PP shall carry out proposed project/activities in respect of Active Pharmaceutical Ingredients (API) as per the amended EIA Notification vide S.O. 1223 (E) dated 27/03/2020 and any subsequent amendments.
4. PP shall not manufacture more than two or three unit process from proposed product list at a given point of time, as per details submitted by PP.
5. PP shall submit six monthly compliance report of Environmental Clearance without fail and the same shall be critically assessed by the regulatory authority.
6. Close loop solvent recovery system with adequate condenser system shall be provided to recover solvent vapours in such a manner that recovery shall be maximum and recovered solvent shall be reused in the process within premises.
7. Leak Detection and Repair (LDAR) program shall be prepared and implemented as per the CPCB guidelines. LDAR Logbooks shall be maintained.
8. All measure shall be taken to avoid soil and ground water contamination within premises.
9. PP shall use natural gas for utilities preferably but in case use of other fuel, PP shall put properly designed APCM with regular/periodic stack monitoring system to ensure that there shall be no increase in pollution load for the compliance of directives of Honorable NGT.

WATER

10. Total water requirement for the project shall not exceed 48 KLD. Unit shall reuse 38 KLD of treated industrial effluent and boiler condensate within premises. Hence, fresh water requirement shall not exceed 10 KLD and it shall be met through GIDC water supply only. Prior permission from concerned authority shall be obtained for withdrawal of water.

11. The industrial effluent generation from the project shall not exceed 12.20 KLD.

12. 8.50 KLD industrial effluent shall be treated in primary ETP followed by solvent stripper and then shall be sent to CMEE of M/s. BEIL through GPS fitted tanker for evaporation.

13. 2.50 KLD, exhausted scrubbing media shall be sold to endusers and/or shall be reused back in process as per Hazardous waste Rules'2016.

14. 1.20 KLD effluent from utility shall be directly reused back in process.

15. Domestic wastewater generation shall not exceed 0.80KL/day for proposed project and it shall be treated in ETP. It shall not be disposed off through soak pit/ septic tank.

16. Unit shall sent wastewater to CMEE only after ensuring content of effluent for COD/VOC so as not to get air borne during evaporation in order to achieve no adverse impacts on Environment and Human Health.

17. Unit shall provide buffer water storage tank of adequate capacity for storage of treated waste water during ant shut down of CMEE.

18. Unit shall provide ETP with adequate capacity.

19. The PP shall ensure to dispose off Waste water to the Common Facilities having valid CTO of GPCB.

AIR

20. Unit shall not exceed fuel consumption and provide APCM and Stack height as mentioned in flue gas matrix.

21. Unit shall provide APCM and stack height as mentioned in process gas matrix.

HAZARDOUS & SOLID WASTE

22. All hazardous solid waste shall be managed as mentioned in hazardous waste matrix.

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

GREENBELT AREA

24. The PP shall develop green belt within premises (245 Sq. M within premises and 350 sq. Meter outside premises in GIDC area i.e. 33 % of total area) as per the undertaking submitted before SEAC. Green belt shall be developed with native plant species that are significant and used for the pollution abatement as per the CPCB guidelines. It shall be implemented within 3 years of operation phase in consultation with GPCB.

25. <u>Safety & Health:</u>

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

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

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

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

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

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

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

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

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

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

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

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

m) Unit shall provide safety valve and rupture disc for Hydrogenation vessel safety.

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

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

p) Unit shall provide chlorine leakage control emergency kit and FRP hood with scrubber system for chlorine safety.

3.	SIA/GJ/IND2/244951/2021	**M/s. Balaji metal** Plot No: A1-168, GIDC Industrial estate-Ankleshwar, Tal: Ankleshwar, Dist.: Bharuch	Appraisal

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

Project status: Expansion

- Project proponent (PP) submitted online application vide no. SIA/GJ/IND2/244951/2021 on dated 28.12.2021 for obtaining Environmental Clearance.
- Project proponent has submitted Form – 1, Pre-Feasibility Report & Environment Management Plan as per Notification issued by MoEF&CC vide S.O. 1223(E) dated 27th March, 2020 regarding consideration of proposals or activities in respect of Active Pharmaceuticals Ingredients (API) as B2 category.
- This is an existing unit and proposes for expansion in manufacturing of synthetic organic chemicals [API and API Intermediates] as tabulated below,

Sr. No.	NAME OF PRODUCT	API Or Intermediate	Cas No.	Quantity MT/Month			Said API is used for/End Use of said API
				Existing	Proposed	Total	
Existing							
1.	Paint	--	--	3 KL/ Month	--	3 KL/ Month	--
Proposed							
2.	2,2',4'-Trichloro Acetophenone	Intermediate	4252-78-2	--	35 MT/ Month	35 MT /Month	Miconazole Nitrate/treat vaginal yeast infections
3.	3-(dimethylamino)-1-(3-methoxyphenyl)-2-methylpropan-1-one	Intermediate	197145-37-2				Tapentadol/ treat moderate to severe acute pain
4.	2-(4-{4-[4-(Hydroxy-diphenyl-methyl)- piperidin-1-yl]-butyryl}-phenyl)-2-methyl-propionic acid methyl ester	Intermediate	154477-55-1				Fexofenadine hydrochloride/ to relieve allergy symptoms

5.	2-(4-{1-Hydroxy-4-[4-(hydroxy- diphenyl-methyl)-piperidin-1-yl]- butyl}-phenyl)-2-methyl-propionic acid	Intermediate	138452-21-8				
6.	2, 3,4, 5-Bis-O-(1-MethylEthylidene)-B-D-fructo pyranose	Intermediate	20880-92-6				Topiramate/treat epilepsy
7.	3-chloro-1-phenyl propan-1-ol	Intermediate	18776-12-0				Dapoxetine/treatment of premature ejaculation
8.	Hydroxyl Naphthyl Ether	Intermediate	93-20-9				
9.	7-Hydroxy-3,4-dihydroquinolin-2(1H)-one	Intermediate	22246-18-0				Aripiprazole/ antipsychotic drug
10.	3-Bromo-1-(3-chloro-phenyl) -propan-1-one	Intermediate	500011-86-9				Bupropion Hydrochloride/treat major depressive disorder and seasonal affective disorder.
11.	Methanesulfonic acid 3-(3-trifluoro methyl-phenyl)-propyl ester	Intermediate	21172-43-0				Cinacalcet Hydrochloride/treat secondary hyperparathyroidism
12.	(1-Naphthalen-1-yl-ethyl)-[3-(3-trifluoromethyl-phenyl)-propyl]-amine	Intermediate	1271930-12-1				
13.	2-(thiophen-2-yl)ethanol	Intermediate	5402-55-1				Clopidogrel Bisulphate/ treat new/worsening chest pain
14.	2-(Thiophen-2-yl)ethyl 4-methylbenzenesulfonate	Intermediate	40412-06-4				
15.	(S)-Methyl 2-(2-chlorophenyl)- 2-((2-(thiophen-2-yl)ethyl)amino)acetate hydrochloride	Intermediate	141109-19-5				
16.	(S)-Methyl 2-(2-chlorophenyl)-2-(6,7-dihydrothieno [3,2-c]pyridin-5(4H)-yl)acetate sulfate	Intermediate	120202-71-3				
17.	(2,4-Difluoro-2-(1h- 1,2,4-Triazole-1-Yl) Acetophenone)	Intermediate	86404-63-9				Fluconazole/ prevent and treat a variety of fungal and yeast infections
18.	1-[2-(2,4-di fluorophenyl)-2,3-epoxypropyl]-1H-1,2,4-Triazole	Intermediate	86386-76-7				
19.	Cis –Bromo benzoate	Intermediate	61397-56-6				Ketoconazole/ treat serious fungal infections including: blastomycosis
20.	Cis-Imidazolealcoho	Intermediate	506-43-4				
21.	Cis –Tosylate	Intermediate	154003-23-3				
22.	1-Acetyl-4-(4-hydroxy phenyl)piperazine	Intermediate	67914-60-7				

23.	N-(3,5 dimethyladamantan-1- yl)urea	Intermediate	19982-07-1				Memantine HCl/ treat moderate to severe confusion
24.	(3,5, dimethyladamantan-1-amine)	Intermediate	41100-52-1				
25.	11-Piperazin-1-yl-dibenzo[b,f] [1,4]thiazepine	Intermediate	111974-74-4				Quetiapine Fumarate/treat certain mental/mood conditions
26.	2-[2-(4-Dibenzo[b,f][1,4]thiazepin-11-yl -piperazin-1-yl)-ethoxy]-ethanol	Intermediate	1076199-40-0				
27.	2-Methyl-butyric acid 8-(6-butylcarbamoyl-3,5-dihydroxy-hexyl)-3,7-dimethyl-1,2,3,7,8,8ahexahydro-naphthalen-1-yl ester	Intermediate	863239-60-5				Simvastatin/lower cholesterol
28.	2-Methyl-butyric acid 8-[6-butylcarbamoyl-3,5-bis-(tert-butyldimethyl-silanyloxy)-hexyl]-3,7-dimethyl-1,2,3,7,8,8a-hexahydronaphthalen- 1-yl ester	Intermediate	239-10-5				
29.	2,2-Dimethyl-butyric acid 8-[6-butylcarbamoyl-3,5-bis-(tert-butyldimethyl-silanyloxy)-hexyl]-3,7-dimethyl-1,2,3,7,8,8a-hexahydronaphthalen- 1-yl est	Intermediate	97369-75-0				
30.	4-(bromomethyl)biphenyl-2- carboxylic acid methyl ester	Intermediate	114772-38-2				Telmisartan/ treat high blood pressure (hypertension)
31.	methyl 4'-((1,7'-dimethyl-2'-propyl-1H,3'H-[2,5'-bibenzo[d]imidazol]-3'-yl)methyl)-[1,1'-biphenyl]-2-carboxylate	Intermediate	1026353-20-7				
32.	6-Chloro-5-(2-chloro-ethyl)-1,3-dihydro-2H--indol-2-one	Intermediate	118289-55-7				Ziprasidone Hydrochloride/ treat schizophrenia
33.	3-Piperazin-1-yl-1,2-benzisothiozole hydrochloride	Intermediate	87691-87-0				
34.	1,3cyclohexandione mono phenyl hydrazone	Intermediate	27385-45-1				Carvedilol/treat high blood pressure
35.	1,2,3,4-tetrahydrocarbazol-4-one	Intermediate	15128-52-6				
36.	4-hydroxy-9-(H) carbazole	Intermediate	52602-39-8				
37.	4-oxyranylmethoxy-9-(H)-carbazole	Intermediate	51997-51-4				
38.	1-(4-Methanesulfonyl-Phenyl)-ethanone	Intermediate	1020237-77-7				Etoricoxib/ reduce the pain and swelling

39.	(4-Methanesulfonyl-Phenyl)-acetic acid	Intermediate	90536-66-6					
40.	2-(4-Methanesulfonyl-Phenyl)-1-(6-methyl-pyridin-3-yl)-ethanone	Intermediate	221615-75-4					
41.	(2-Chloro-3-dimethylamino-allylidene)-dimethyl-ammonium Salt of Phosphorus Hexafluoride	Intermediate	291756-76-8					
42.	1-(3-[2-(7-Chloro-quinolin-2-yl)-vinyl]-phenyl)-3-[2-(1-hydroxy-1-methyl-ethyl)-phenyl]-propane-1-ol	Intermediate	287930-77-2				Monetelucast Sodium/ control and prevent symptoms caused by asthma	
43.	Methane sulfonic acid 1-(3-[2-(7-Chloro-quinolin-2-yl)-vinyl]-phenyl)-3-[2-(1-hydroxy-1-methyl-ethyl)-phenyl]-propyl ester	Intermediate	75-92-3					
44.	(1-aminomethyl-cyclohexyl)-acetic acid)	Intermediate	60175-04-4				Gabapentin/prevent and control seizures.	
45.	(1-Benzyl-4-tert-butoxycarbonylamino-2-hydroxy-5-phenylpentyl)-carbamic acid thiazol-5-ylmethyl ester	Intermediate	144163-97-3				Ritonavir/ treat human immunodeficiency virus (HIV) infection	
46.	Thioisobutyramide	Intermediate	563-83-7					
47.	1-(2-Isopropylthiazol-4-yl)-N-methyl methanamine	Intermediate	1185167-55-8					
48.	(S)-2-(3-((2-Isopropylthiazol-4-yl)methyl)-3-methylureido)-3-methylbutanoic acid	Intermediate	154212-61-0					
49.	Methyl Dopa Methyl Ester	Intermediate	18181-08-3				Carbidopa/ treat the symptoms of Parkinson's disease or Parkinson	
50.	3 3-pentamethylene oxaziridine	Intermediate	1130-32-1					
51.	Carbidopa Methyl Ester	Intermediate	91431-01-5					
52.	7-Hydroxy-3,4-dihydro-1Hquinolin- 2-one	Intermediate	205448-65-3				Aripiprazole/ treat certain mental/mood disorders	
53.	7-(4-Chloro-butoxy)-3,4-dihydro- 1H-quinolin-2-one	Intermediate	129722-34-5					
54.	1-(2,3-Dichloro-phenyl)-piperazine Hydrchloride	Intermediate	119532-26-2					
55.	7-{4-[4-(2,3-Dichloro-phenyl)-piperazin-1-yl] -butoxy}-3,4-dihydro-1H-quinolin-2-one	Intermediate	129722-25-4					
56.	N-[2R,3S)-3-Tert butoxycrbonyl amino- 2-hydroxy-4-phenyl butyl]-isobutylamine	Intermediate	302964-08-5				Darunavir/treat human immunodeficiency virus	

57.	N-[(2R,3S)-3-Tert butoxycarbonylamino-2-hydroxy-4-phenyl butyl]-isobutylamine	Intermediate	160232-08-6					
58.	N-[4-(4-Fluoro-phenyl)-5-formyl-6- isopropyl-pyrimidin-2-yl]-N-methyl -methanesulfonamide	Intermediate	29096-933					Rosuvastatin Calcium/ help lower "bad" cholesterol
59.	3-(tert-Butyl-dimethyl-silanyloxy)-7-[4-(4-fluoro-phenyl)-6- isopropyl-2-(methanesulfonyl-methyl-amino) -pyrimidin-5-yl]-5-oxo-hept-6-enoic acid methyl ester	Intermediate	355806-00-7					
60.	7-[4-(4-Fluoro-phenyl)-6-isopropyl-2-(methanesulfonyl -methyl-amino)-pyrimidin-5-yl]-3-hydroxy -5-oxo-hept-6-enoic acid methyl ester	Intermediate	147118-39-6					
61.	7-[4-(4-Fluoro-phenyl)-6-isopropyl-2-(methanesulfonylmethyl-amino)-pyrimidin-5-yl]-3,5-dihydroxyhept- 6-enoic acid methyl ester	Intermediate	147118-40-9					
62.	(2-aminobenzenesulfonic acid)	Intermediate	88-21-1					Torsemide /Heart failure, liver disease, and kidney disease
63.	(4-chloropyridine-3-sulfonamide)	Intermediate	18368-64-4					
64.	(4-(m-tolylamino)pyridine-3-sulfonamide)	Intermediate	72811-73-5					
65.	(Diethyl 3-oxopentanedioate)	Intermediate	105-50-0					Strontium Renelate /postmenopausal women with osteoporosis
66.	(Ethyl 5-amino-4-cyano-3-(2-ethoxy-2-oxoethyl)thiophene-2-carboxylate)	Intermediate	58168-20-0					
67.	(diethyl 2,2'-((3-cyano-4-(2-ethoxy-2-oxoethyl)-5-(ethoxycarbonyl) thiophen-2-yl)azanediyl)diacetate)	Intermediate	58194-26-6					
68.	Itopride Hydrochloride	API	122892-31-3					API /Gastrointestinal symptoms of functional, nonulcer dyspepsia (chronic gastritis)
69.	Artemether	API	71963-77-4					API /Antimalerial
70.	Diprofyllin	Intermediate	479-18-5					Doxofylline/ treatment of asthma
71.	Theophylline-7-acetal	Intermediate	5614-53-9					

72.	Sitagliptine	API	486460-32-6				API/ to control high blood sugar
73.	5-chloro-3-(chlorosulfonyl) thiophene-2-methylcarboxylate	Intermediate	70374-37-7				Lornoxicam/ nonsteroidal anti-inflammatory drug
74.	5 - Chloro-3-[[(methoxy carbonyl) amino] sulfonyl] - 2- thiophene carboxylic acid methyl ester	Intermediate	70374-38-8				
75.	6-chloro-4-hydroxy-2H-thieno[2,3-e]-1,2-thiazine-3-carboxylic acidmethylester1,1,-dioxide	Intermediate	70415-50-8				
76.	6-chloro-4-hydroxy-2-methyl-2H-thieno[2,3-e]-1,2-thiazine-3-carboxylic acidmethylester1,1,-dioxide	Intermediate	70415-50-8				
77.	Dimethyl Formamide Dimethyl Acetal	Intermediate	4637-24-5				Dolutegravir/used with other HIV medications to help control HIV infection
78.	P-chloro benzhydryl piperazine	Intermediate	303-26-4				Cetirizine Di HCl/relief of symptoms of hayfever and other allergic conditions
79.	4-Hydroxy coumarin	Intermediate	1076-38-6				Zonisamide/ to treat certain types of seizures.
80.	4-fluoro benzonitrile	Intermediate	1194-02-1				Trelagliptin/treatment of type 2 diabetes mellitus
81.	4-Methyl cathecol	Intermediate	452-86-8				Sitaxentan/treatment of pulmonary arterial hypertension (PAH).
82.	2 butynoic acid	Intermediate	590-93-2				Acalabrutinib/to treat people with mantle cell lymphoma
83.	4 methoxy phenyl hydrazine hydrochloride	Intermediate	19501-58-7				Apixaban/help prevent strokes or blood clots
84.	2-cyano-4-Bromomethyl Biphenyl (Bromo OTBN)	Intermediate	114772-54-2				Losartan Potassium/to treat high blood pressure
85.	4-sulfonamido Phenylhydrazine HCl	Intermediate	27918-19-0				Celecoxib/to relieve pain, tenderness, swelling and stiffness caused by osteoarthritis.
86.	Propanimidamide N-(Aminosulphonyl)-3-Chloro HCl	Intermediate	106649-95-0				Famotidine/to prevent and treat heartburn due to acid indigestion.
87.	Methyl 6 Methyl nicotinate	Intermediate	5470-70-2				Ketosulfone/used to minimize inflammation
*R&D					0.1	0.1	

TOTAL	3 KL/ Month	35 MT/ Month	35 MT /Mont +3 KL/ Month	

***Remark: Unit operation of R & D will remain same as per product.**

 # Brief Note of Product Profile:

1. **No of Manufacturing Plants:2 Nos.**
2. **Brief Note regarding number of Products to be manufactured considering plant capacity:**
   - **At a time 2-3 unit processes will be carried out.**
   - **Plant Capacity as 1.26 Tone/Day (Total Proposed) Plant Capacities.**

ENDUSE OF PRODUCTS

Sr. No.	Name of the Product	CAS No. (Product)	Type/ Category of Product (API/ Intermediate)	In case of Intermediate stage of API			Said API is used for/End Use of said API
				Stage i.e. n-1, n-2, etc.	Name of API in which Intermediate Used/ End use of said Intermediate	CAS no. (API)	
1.	Paint	--	--	--	--	--	--
2.	2,2',4'-Trichloro Acetophenone	4252-78-2	Intermediate	n-1	Miconazole Nitrate	22916-47-8	Miconazole Nitrate/treat vaginal yeast infections
3.	3-(dimethylamino)-1-(3-methoxyphenyl)-2-methylpropan-1-one	197145-37-2	Intermediate	n-1	Tapentadol	175591-09-0	Tapentadol/ treat moderate to severe acute pain
4.	2-(4-{4-[4-(Hydroxy-diphenyl-methyl)-piperidin-1-yl]-butyryl}-phenyl)-2- methyl-propionic acid methyl ester	154477-55-1	Intermediate	n-2	Fexofenadine	83799-24-0	Fexofenadine hydrochloride/ to relieve allergy symptoms
5.	2-(4-{1-Hydroxy-4-[4-(hydroxy- diphenyl-methyl)-piperidin-1-yl]-butyl}-phenyl)-2-methyl-propionic acid	138452-21-8	Intermediate	n-1			
6.	2, 3,4, 5-Bis-O-(1-MethylEthylidene)-B-D-fructo pyranose	20880-92-6	Intermediate	n-1	Topiramate	97240-79-4	Topiramate/treat epilepsy
7.	3-chloro-1-phenyl propan-1-ol	18776-12-0	Intermediate	n-2	Dapoxetine	129938-20-1	Dapoxetine/treatment of premature ejaculation
8.	Hydroxyl Naphthyl Ether	93-20-9	Intermediate	n-1			
9.	7-Hydroxy-3,4-dihydroquinolin-2(1H)-one	22246-18-0	Intermediate	n-1	Aripiprazole	129722-12-9	Aripiprazole/ antipsychotic drug

10.	3-Bromo-1-(3-chloro-phenyl) -propan-1-one	500011-86-9	Intermediate	n-1	Bupropion Hydrochloride	31677-93-7	Bupropion Hydrochloride/treat major depressive disorder and seasonal affective disorder.
11.	Methanesulfonic acid 3-(3-trifluoro methyl-phenyl)-propyl ester	21172-43-0	Intermediate	n-2	Carisoprodol	78-44-4	Cinacalcet Hydrochloride/treat secondary hyperparathyroidism
12.	(1-Naphthalen-1-yl-ethyl)-[3-(3-trifluoromethyl-phenyl)-propyl]-amine	1271930-12-1	Intermediate	n-1			
13.	2-(thiophen-2-yl)ethanol	5402-55-1	Intermediate	n-4	Clopidogrel Bisulphate	120202-66-6	Clopidogrel Bisulphate/ treat new/worsening chest pain
14.	2-(Thiophen-2-yl)ethyl 4-methylbenzenesulfonate	40412-06-4	Intermediate	n-3			
15.	(S)-Methyl 2-(2-chlorophenyl)- 2-((2-(thiophen-2-yl)ethyl)amino)acetate hydrochloride	141109-19-5	Intermediate	n-2			
16.	(S)-Methyl 2-(2-chlorophenyl)-2-(6,7-dihydrothieno [3,2-c]pyridin-5(4H)-yl)acetate sulfate	120202-71-3	Intermediate	n-1			
17.	(2,4-Difluoro-2-(1h-1,2,4-Triazole-1-Yl) Acetophenone)	86404-63-9	Intermediate	n-2	Fluconazole	86386-73-4	Fluconazole/ prevent and treat a variety of fungal and yeast infections
18.	1-[2-(2,4-di fluorophenyl)-2,3-epoxypropyl]-1H-1,2,4-Triazole	86386-76-7	Intermediate	n-1			
19.	Cis –Bromo benzoate	61397-56-6	Intermediate	n-4	Ketoconazole	65277-42-1	Ketoconazole/ treat serious fungal infections including: blastomycosis
20.	Cis-Imidazolealcoho	506-43-4	Intermediate	n-3			
21.	Cis –Tosylate	154003-23-3	Intermediate	n-2			
22.	1-Acetyl-4-(4-hydroxy phenyl)piperazine	67914-60-7	Intermediate	n-1			
23.	N-(3,5 dimethyladamantan-1-yl)urea	19982-07-1	Intermediate	n-2	Memantine HCl	41100-52-1	Memantine HCl/ treat moderate to severe confusion
24.	(3,5, dimethyladamantan-1-amine)	41100-52-1	Intermediate	n-1			

25.	11-Piperazin-1-yl-dibenzo[b,f] [1,4]thiazepine	111974-74-4	Intermediate	n-2	Quetiapine Fumarate	111974-69-7	Quetiapine Fumarate/treat certain mental/mood conditions
26.	2-[2-(4-Dibenzo[b,f][1,4]thiazepin-11-yl -piperazin-1-yl)-ethoxy]-ethanol	1076199-40-0	Intermediate	n-1			
27.	2-Methyl-butyric acid 8-(6-butylcarbamoyl-3,5-dihydroxy-hexyl)-3,7-dimethyl-1,2,3,7,8,8ahexahydro-naphthalen-1-yl ester	863239-60-5	Intermediate	n-3	Simvastatin	79902-63-9	Simvastatin/ lower cholesterol
28.	2-Methyl-butyric acid 8-[6-butylcarbamoyl-3,5-bis-(tert-butyldimethyl-silanyloxy)-hexyl]-3,7-dimethyl-1,2,3,7,8,8a-hexahydronaphthalen-1-yl ester	239-10-5	Intermediate	n-2			
29.	2,2-Dimethyl-butyric acid 8-[6-butylcarbamoyl-3,5-bis-(tert-butyldimethyl-silanyloxy)-hexyl]-3,7-dimethyl-1,2,3,7,8,8a-hexahydronaphthalen-1-yl est	97369-75-0	Intermediate	n-1			
30.	4-(bromomethyl)biphenyl-2- carboxylic acid methyl ester	114772-38-2	Intermediate	n-2	Telmisartan	144701-48-4	Tel misartan/ treat high blood pressure (hypertension)
31.	methyl 4'-((1,7'-dimethyl-2'-propyl-1H,3'H-[2,5'-bibenzo[d]imidazol]-3'-yl)methyl)-[1,1'-biphenyl]-2- carboxylate	1026353-20-7	Intermediate	n-1			
32.	6-Chloro-5-(2-chloro-ethyl)- 1,3-dihydro-2H--indol-2-one	118289-55-7	Intermediate	n-2	Ziprasidone Hydrochloride	138982-67-9	Ziprasidone Hydrochloride/ treat schizophrenia
33.	3-Piperazin-1-yl-1,2-benzisothiozole hydrochloride	87691-87-0	Intermediate	n-1			
34.	1,3cyclohexandione mono phenyl hydrazone	27385-45-1	Intermediate	n-4	Carvedilol	72956-09-3	Carvedilol/ treat high blood pressure
35.	1,2,3,4-tetrahydrocarbazol-4-one	15128-52-6	Intermediate	n-3			
36.	4-hydroxy-9-(H) carbazole	52602-39-8	Intermediate	n-2			

37.	4-oxyranylmethoxy-9-(H)-carbazole	51997-51-4	Intermediate	n-1			
38.	1-(4-Methanesulfonyl-Phenyl)-ethanone	1020237-77-7	Intermediate	n-4	Etoricoxib	202409-33-4	Etoricoxib/ reduce the pain and swelling
39.	(4-Methanesulfonyl-Phenyl)-acetic acid	90536-66-6	Intermediate	n-3			
40.	2-(4-Methanesulfonyl-Phenyl)-1-(6-methyl-pyridin-3-yl)-ethanone	221615-75-4	Intermediate	n-2			
41.	(2-Chloro-3-dimethylamino-allylidene)-dimethyl-ammonium Salt of Phosphorus Hexafluoride	291756-76-8	Intermediate	n-1			
42.	1-(3-[2-(7-Chloro-quinolin-2-yl)-vinyl]-phenyl)-3-[2-(1-hydroxy-1-methyl-ethyl)-phenyl]-propane-1-ol	287930-77-2	Intermediate	n-2	Monetelucast Sodium	151767-02-1	Monetelucast Sodium/ control and prevent symptoms caused by asthma
43.	Methane sulfonic acid 1-(3-[2-(7-Chloro-quinolin-2-yl)-vinyl]-phenyl)-3-[2-(1-hydroxy-1-methyl-ethyl)-phenyl]-propyl ester	75-92-3	Intermediate	n-1			
44.	(1-aminomethyl-cyclohexyl)-acetic acid)	60175-04-4	Intermediate	n-1	Gabapentin	60142-96-3	Gabapentin/ prevent and control seizures.
45.	(1-Benzyl-4-tert-butoxycarbonylamino-2-hydroxy-5-phenylpentyl)-carbamic acid thiazol-5-ylmethyl ester	144163-97-3	Intermediate	n-4	Ritonavir	155213-67-5	Ritonavir/ treat human immunodeficiency virus (HIV) infection
46.	Thioisobutyramide	563-83-7	Intermediate	n-3			
47.	1-(2-Isopropylthiazol-4-yl)-N-methyl methanamine	1185167-55-8	Intermediate	n-2			
48.	(S)-2-(3-((2-Isopropylthiazol-4-yl)methyl)-3-methylureido)-3-methylbutanoic acid	154212-61-0	Intermediate	n-1			
49.	Methyl Dopa Methyl Ester	18181-08-3	Intermediate	n-3	Carbidopa	28860-95-9	Carbidopa/ treat the symptoms of Parkinson's disease or Parkinson
50.	3 3-pentamethylene oxaziridine	1130-32-1	Intermediate	n-2			
51.	Carbidopa Methyl Ester	91431-01-5	Intermediate	n-1			
52.	7-Hydroxy-3,4-dihydro-1 Hquinolin- 2-one	205448-65-3	Intermediate	n-4	Aripiprazole	129722-12-9	Aripiprazole/ treat certain mental/mood

53.	7-(4-Chloro-butoxy)-3,4-dihydro-1H-quinolin-2-one	129722-34-5	Intermediate	n-3			disorders
54.	1-(2,3-Dichloro-phenyl)-piperazine Hydrchloride	119532-26-2	Intermediate	n-2			
55.	7-{4-[4-(2,3-Dichloro-phenyl)-piperazin-1-yl]-butoxy}-3,4-dihydro-1H-quinolin-2-one	129722-25-4	Intermediate	n-1			
56.	N-[2R,3S)-3-Tert butoxycrbonyl amino- 2-hydroxy-4-phenyl butyl]-isobutylamine	302964-08-5	Intermediate	n-2	Darunavir	206361-99-1	Darunavir/treat human immunodeficiency virus
57.	N-[(2R,3S)-3-Tert butoxycarbonylamino-2-hydroxy-4-phenyl butyl]-isobutylamine	160232-08-6	Intermediate	n-1			
58.	N-[4-(4-Fluoro-phenyl)-5-formyl-6- isopropyl-pyrimidin-2-yl]-N-methyl-methanesulfonamide	29096-933	Intermediate	n-4	Rosuvastatin Calcium	147098-20-2	Rosuvastatin Calcium/ help lower "bad" cholesterol
59.	3-(tert-Butyl-dimethyl-silanyloxy)-7-[4-(4-fluoro-phenyl)-6-isopropyl-2-(methanesulfonyl-methyl-amino) -pyrimidin-5-yl]-5-oxo-hept-6-enoic acid methyl ester	355806-00-7	Intermediate	n-3			
60.	7-[4-(4-Fluoro-phenyl)-6-isopropyl-2-(methanesulfonyl -methyl-amino)-pyrimidin-5-yl]-3-hydroxy -5-oxo-hept-6-enoic acid methyl ester	147118-39-6	Intermediate	n-2			
61.	7-[4-(4-Fluoro-phenyl)-6-isopropyl-2-(methanesulfonylmethyl-amino)-pyrimidin-5-yl]-3,5-dihydroxyhept- 6-enoic acid methyl ester	147118-40-9	Intermediate	n-1			
62.	2-aminobenzenesulfonic acid	88-21-1	Intermediate	n-3	Torsemide	56211-40-6	Torsemide /Heart failure, liver disease, and kidney disease
63.	4-chloropyridine-3-sulfonamide	18368-64-4	Intermediate	n-2			
64.	4-(m-tolylamino)pyridine-3-sulfonamide	72811-73-5	Intermediate	n-1			
65.	(Diethyl 3-oxopentanedioate)	105-50-0	Intermediate	n-3	Strontium Renelate	135459-90-4	Strontium Renelate /postmenopausal

66.	(Ethyl 5-amino-4-cyano-3-(2-ethoxy-2-oxoethyl)thiophene-2-carboxylate)	58168-20-0	Intermediate	n-2			women with osteoporosis
67.	(diethyl 2,2'-((3-cyano-4-(2-ethoxy-2-oxoethyl)-5-(ethoxycarbonyl) thiophen-2-yl)azanediyl)diacetate)	58194-26-6	Intermediate	n-1			
68.	Itopride Hydrochloride	122892-31-3	API	--	--	--	API /Gastrointestinal symptoms of functional, nonulcer dyspepsia (chronic gastritis)
69.	Artemether	71963-77-4	API	--	--	--	API /Antimalerial
70.	Diprofyllin	479-18-5	Intermediate	n-2	Doxofylline	69975-86-6	Doxofylline/ treatment of asthma
71.	Theophylline-7-acetal	5614-53-9	Intermediate	n-1			
72.	Sitagliptine	486460-32-6	API	--	--	--	API/ to control high blood sugar
73.	5-chloro-3-(chlorosulfonyl) thiophene-2-methylcarboxylate	70374-37-7	Intermediate	n-4	Lornoxicam	70374-39-9	Lornoxicam/ nonsteroidal anti-inflammatory drug
74.	5 - Chloro-3-[[(methoxy carbonyl) amino] sulfonyl] -2- thiophene carboxylic acid methyl ester	70374-38-8	Intermediate	n-3			
75.	6-chloro-4-hydroxy-2H-thieno[2,3-e]-1,2-thiazine-3-carboxylic acidmethylester1,1,-dioxide	70415-50-8	Intermediate	n-2			
76.	6-chloro-4-hydroxy-2-methyl-2H-thieno[2,3-e]-1,2-thiazine-3-carboxylic acidmethylester1,1,-dioxide	70415-50-8	Intermediate	n-1			
77.	Dimethyl Formamide Dimethyl Acetal	4637-24-5	Intermediate	n-1	Dolutegravir	1051375-16-6	Dolutegravir/ used with other HIV medications to help control HIV infection
78.	P-chloro benzhydryl piperazine	303-26-4	Intermediate	n-1	Cetirizine Di HCl	83881-52-1	Cetirizine Di HCl/ relief of symptoms of hayfever and other allergic conditions
79.	4-Hydroxy coumarin	1076-38-6	Intermediate	n-1	Zonisamide	68291-97-4	Zonisamide/ to treat certain types of seizures.
80.	4-fluoro benzonitrile	1194-02-1	Intermediate	n-1	Trelagliptin	1029877-94-	Trelagliptin/ treatment of type 2 diabetes

						8	mellitus
81.	4-Methyl cathecol	452-86-8	Intermediate	n-1	Sitaxentan	210421-64-0	Sitaxentan/treatment of pulmonary arterial hypertension (PAH).
82.	2 butynoic acid	590-93-2	Intermediate	n-1	Acalabrutinib	1420477-60-6	Acalabrutinib/to treat people with mantle cell lymphoma
83.	4 methoxy phenyl hydrazine hydrochloride	19501-58-7	Intermediate	n-1	Apixaban	503612-47-3	Apixaban/ help prevent strokes or blood clots
84.	2-cyano-4-Bromomethyl Biphenyl (Bromo OTBN)	114772-54-2	Intermediate	n-1	Losartan Potassium	124750-99-8	Losartan Potassium/ to treat high blood pressure
85.	4-sulfonamido Phenylhydrazine HCl	27918-19-0	Intermediate	n-1	Celecoxib	169590-42-5	Celecoxib/ to relieve pain, tenderness, swelling and stiffness caused by osteoarthritis.
86.	Propanimidamide N-(Aminosulphonyl)-3-Chloro HCl	106649-95-0	Intermediate	n-1	Famotidine	76824-35-6	Famotidine/ to prevent and treat heartburn due to acid indigestion.
87.	Methyl 6 Methyl nicotinate	5470-70-2	Intermediate	n-1	Ketosulfone	221615-75-4	Ketosulfone/ used to minimize inflammation

- The project falls under Category B2 of project activity 5(f) as per the schedule of EIA Notification 2006 and amendment dated 27th March, 2020.
- PP was called for Video conference meeting for presentation on dated 21.01.2022.
- During the SEAC Video conference meeting dated 21.01.2022, Project Proponent (PP) and their technical expert and EIA consultant from M/s. Envycraft Environmental Services remains present and made technical presentation before the Committee.
- Since the proposed project is located in notified industrial area, public consultation is not required as per paragraph 7(i) (III) (I) (b) of the Environment Impact Assessment Notification 2006.
- During meeting, Committee noted that existing plant CCA order is in name of M/s. Suncem enterprise which is differ than proposal of appraisal for proposed project. Hence Committee informed technical expert of PP about this case will be heard only after submission of name change in existing plant CCA order from M/s/ Suncem Enterprise to M/s. Balaji Metal.

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

1. Submit copy of existing plant valid CCA order in name of proposed project i.e. M/s. Balaji metal.

4.	SIA/GJ/IND2/68085/2018	**M/s. Aries Dye Chem Industries.** Plot No. C-1/260, 261, 262, 270/1, 271/2,	Appraisal

		Phase – II, GIDC Vatva, Ahmedabad.	

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

Project status: **Expansion**

- Project proponent (PP) has submitted online application vide no. SIA/GJ/IND2/68085/2018 on dated 01.12.2021 for obtaining Environmental Clearance.
- ToR issued by SEIAA to proposed project vide letter no.- SEIAA/GUJ/TOR/5(f)/86/2019, dated: 10.01.2019.
- Project proponent has submitted EIA Report prepared by M/s. Bhagwati Enviro Care Pvt. Ltd based on the TOR issued by SEIAA.
- This is an existing unit and proposed for expansion in manufacturing of synthetic organic chemicals as mentioned below:

Sr. no.	**Name of the Products**	**CAS / SI no.**	**Quantity MT/Month**			**End-use of the products ***
			Existing	**Proposed**	**Total**	
1.	Acid Black 210	99576-15-5	120	--	120	Acid dyes are used to dye protein fibers in textile industries. Reactive dyes are used for dyeing and printing of cellulosic textiles like Linen, Cotton, Viscose and Polynosic rayon. Direct dyes are used on cotton, paper, leather, wool, silk and nylon.
2.	Acid Black 194	61931-02-0				
3.	Direct Black 168	85631-88-5				
4.	Direct Black 22	6473-13-8				
5.	Reactive Black 5	17095-24-8				
6.	Acid Black 234	157577-99-6	0	10	10	
7.	Acid Black 52	5610-64-0		10	10	
8.	Acid Brown 75	8011-86-7		10	10	
9.	Acid Brown 58	12269-87-3		10	10	
10.	Acid Brown 425	119509-49-8		20	20	
11.	Acid Brown 432	119509-50-1		5	5	
12.	Acid Brown 165	61724-14-9		5	5	
13.	Acid Brown 161	61724-13-8		5	5	
14.	Acid Brown 282	61724-13-8		10	10	
15.	Acid Brown 355	60181-77-3		10	10	
16.	Direct Black 80	8003-69-8		20	20	
17.	Acid Yellow 194	61814-52-6		5	5	
18.	Acid Blue 193	12392-64-2		20	20	
19.	Acid Blue 158	6370-08-7		5	5	
20.	Acid Black 107	12218-96-1		10	10	
21.	Acid Black 1	1064-48-8		5	5	

22.	Acid Brown 98	12269-88-4		5	5	
23.	Acid Brown 235	12269-90-8		5	5	
24.	Acid Brown 349	72827-73-7		5	5	
25.	Acid Brown 365	63641-88-3		5	5	
26.	Acid Green 68	61901-32-4		5	5	
27.	Acid Green 73	12219-93-1		5	5	
28.	Acid Violet 90	6408-29-3		5	5	
		Total	**120**	**195**	**315**	

- The project falls under B1 category of project activity 5(f) as per the schedule of EIA Notification 2006.
- PP was called for Video conference meeting for presentation on dated 21.01.2022.
- PP submitted salient features of water, air and Hazardous waste management as under,

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

Existing	Proposed	Total
7.19 Crores	2.4 Crores	9.59 Crores

Break-up of proposed project Cost:

Details	Project Cost (Rs. In Crores)
Land	Lease
Building	2.34
Machinery	6.44
Env. & Safety	0.40
Miscellaneous	0.41
Total	9.59

-

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

-

Sr. No	Unit	Detail	Capital Cost (Rs. In Crores)	Operating Cost (Rs. In Crores)	Maintenance Cost (Rs. In Crores)	Total Recurring Cost (Rs. In Crores)
1	Waste Water	Proposed ETP & STP	0.07	0.25	0.05	0.3
2	Air	Propose Steam Boiler	0.035	0.02	0.01	0.03
3	Noise Control	Acoustic enclosure for Boiler	0.01	0.0	0.005	0.005

4	Hazardous Management	Transportation cost	0.015	0.02	0.005	0.025
5	Fire & Safety	Additional Fire Hydrant System, Fire Extinguishers & PPE	0.12	0.025	0.005	0.03
6.	AWH Monitoring	Environment monitoring	0.02	0.015	0.015	0.03
7.	Green Belt Development	Development of Green belt area	0.02	0.022	0.003	0.025
8.	Occupational Health	Health checkup of workers & employee	0.07	0.015	0.01	0.025
9	CER Activity	Social activity will do at near village	0.0	0.0	0.0	0.025
Total			0.36	0.367	0.103	0.495

Comments:

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

A-3	Details of CER -

PP shall carry out CER activities as below:

- ✓ CER fund for provide solar street light in Ropda village

B	Land / Plot ownership details: Plot No. C-1/260: 760 Sq. m. vide letter no. SO/AD/VTW/SHD/4556 Plot No. C-1/261: 760 Sq. m. vide letter no. AM/AD/VTW/TFR/VTW/SHD/6371 Plot No. C-1/262: 760 Sq. m. vide Letter no. GIDC/RM/AD/ALT/VTW/SHD/3820 Plot No. 270/1: 760 Sq. m. vide Letter no. GIDC/RM/ABD/TFR/VTW/SHD/271 Plot No. 271/1: 760 Sq. m. vide Letter no. GIDC/RM/ABD/TFR/VTW/SHD/272
B-1	Plot area Existing: 3800 Sq. m. | Proposed: 0 Sq. m. | Total: 3800 Sq. m. -
B-2	Area adequacy

Sr. No.	Land Break Up for	Ground Floor	First Floor	Second Floor	Third Floor	Forth Floor	Fifth Floor	% of Land Break up (Ground Floor)
1.	Production Area	1008.22	1008.22	1008.22	1008.22	-	-	26.53
2.	Finished Goods Storage	207.94	-	-	-	-	-	5.47
3.	Raw Material Storage Area (Solid + Liquid)	214.6	-	-	-	-	-	5.65
4.	Raw Material Storage Area (Solid)	-	422.54	-	-	-	-	-
5.	Spray Drying Area	142.08	142.08	142.08	142.08	142.08	142.08	3.74
6.	Blending & Packing Area	116.55	116.55	-	-	-	-	3.07
7.	ETP & Solid waste Storage Area	133.2	-	-	-	-	-	3.50
8.	Office & lab	109	148	-	-	-	-	2.87
9.	OHC	30	-	-	-	-	-	0.79
10.	Utility	201.65	-	-	-	-	-	5.31
11.	Security Cabin	9	-	-	-	-	-	0.24
12.	Green Belt	610	-	-	-	-	-	16.05
13.	Open Area & Roads	1017.76	-	-	-	-	-	26.78
Total		3800	1837.39	1150.3	1150.3	142.08	142.08	100

Comments:

SEAC has examined it w.r.t.to total monthly production, maximum products, manufactured per month, the total raw material required, weekly storage requirement of each raw material, their mode of storage, their compatibility (flammability, corrosive, toxic), area needed by each raw material, one week

	storage of finished goods. Area adequacy, from overall safety perspective, has been provided in proposal and is satisfactory.
B-3	Green belt area <table><tr><td></td><td>Existing</td><td>Proposed (Sq. meter)</td><td>Total (Sq. meter)</td></tr><tr><td>Area in Sq. meter</td><td>50</td><td>560</td><td>610 (In house)</td></tr><tr><td>% of total area</td><td>1.3%</td><td>14.7%</td><td>16%</td></tr></table> **Comments:** The condition shall be given that – The PP shall develop green belt within premises (610 Sq. m. – In House (16% of total plot area) and 650 sq. Meter, Outside premises (17% of total plot area) at Ropda village, Total – 1260 Sq. m. i.e. 33.16% of total plot area) as per the undertaking submitted before SEAC. Green belt shall be developed with native plant species that are significant and used for the pollution abatement as per the CPCB guidelines. It shall be implemented within 3 years of operation phase in consultation with GPCB.
610 Sq. m. – In House (16% of total plot area) 650 Sq. m. – Outside premises (17% of total plot area) at Ropda village Total – 1260 Sq. m. (33.16% of total plot area)	
C	Employment generation <table><tr><td>Existing</td><td>Proposed</td><td>Total</td></tr><tr><td>40</td><td>20</td><td>60</td></tr></table> -
D	WATER
D-1	Source of Water Supply ➢ .GIDC Vatva water supply
	Comments: 2) obtained
D-2	Water consumption (KLD)
	- <table><tr><td></td><td>Existing</td><td>Proposed</td><td>Total after</td></tr></table>

Category	KLD	(Additional) KLD	Expansion KLD
(A) Domestic	1.5	1.0	2.5
(B) Gardening	1.0	0.5	1.5
(C) Industrial			
Process	28	17	45
For Ice manufacturing	0.0	18	18
Washing	8.0	1.0	9.0
Boiler	7.0	7.0	14
Scrubber	0.0	1.0	1.0
Industrial Total	43	44	87
Grand Total (A+B+C)	45.5	45.5	91

-

Comments:

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

D-3 Waste water generation (KLD)

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Category	Existing KLD	Proposed (Additional) KLD	Total after Expansion KLD
(A) Domestic	1.2	0.5	1.7
(B) Industrial			

Process	36.1	21.1	57.3
For Ice manufacturing	0.0	0.0	0.0
Washing	8.0	1.0	9.0
Boiler	0.8	0.8	1.6
Scrubber	0.0	1.0	1.0
Total Industrial waste water	45	23.9	68.9

-

Comments:

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

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

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

Comments:

1. Domestic wastewater generation shall not exceed 1.70 KL/day for proposed project and it shall be treated in STP. It shall not be disposed off through soak pit/ septic tank. Treated sewage shall be utilized for gardening and plantation purpose within premises after achieving on-land discharge norms prescribed by the GPCB.
2. Unit shall provide STP with adequate capacity.

D-5	Break-up of waste water disposal & facility (For Industrial after proposed expansion)

-

Sr. no.	Quantity	Facility

	KLD	
1	45 KLD	CETP Vatva
2	9.56 KLD	Common Spray Dryer facility at The Green Environment Service Co-op Society Ltd. & Chhatral Environment Management System Pvt. Ltd.
3	14.34 KLD	RO Permeate reuse within premises.
Total	68.9 KLD	

Comment,

Industrial effluent shall be segregated into two streams (1) Low Concentrated (2) Dilute stream shall be treated as below.

1. Low Concentrated Stream (45 KLD)

- 45 KLD (Generated from 33.4KLD-Low Con. Process, 1.6KLD-Boiler, 1.0KLD-Scrubber & 9.0 KLD-Washing) will be treated in ETP (Having Primary, Secondary & Tertiary Treatment Unit) then send to CETP-Vatva (as per existing CCA) for further treatment.

2. High Concentrated Stream (23.9 KLD):

- 23.9 KLD (Generated from High Con. Process) will be neutral in neutralization tank then goes to RO from that 14.34 KLD RO permeate reuse in industrial purpose within premises and 9.56 KLD RO rejected will be sent to Common Spray Dryer at The Green Environment Services Co-op Society Limited-Vatva & Chhatral Environment Management System Pvt. Ltd. for Spray Drying.

E	AIR
E-1	Power (Electricity) requirement : 300 KVA
E-2	Flue gas emission details

- Existing & 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 Pollutants	Air Pollution Control Measures (APCM)

1.	Boiler-1 (0.6 TPH) (Existing)	20	PNG	200 SCM/Day	SPM SO_2 NO_x	Adequate Stack Height
2.	Boiler-2 (2 TPH) (Existing)	20	PNG	1900 SCM/Day	SPM SO_2 NO_x	Adequate Stack Height
3.	Hot Air Generator – 1 (3 Lac k cal/hr) (Existing)	21	PNG	500 SCM/Day	SPM SO_2 NO_x	Adequate Stack Height
4.	Hot Air Generator – 2 (2 Lac k cal/hr) (Existing)	21	PNG	300 SCM/Day	SPM SO_2 NO_x	Adequate Stack Height
5.	Steam Boiler (1 TPH) (Propose)	20	PNG	900 SCM/Day	SPM SO_2 NO_x	Adequate Stack Height

- We will dismantle existing Boiler (0.6 TPH) after expansion

E-3	Process gas

- Existing & Proposed

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 (1 KL/Hr) (Existing)	Particulate Matter	30	Cyclone separator followed by water scrubber
2	Spray Dryer – 2 (0.5 KL/Hr) (Existing)	Particulate Matter	30	Cyclone separator followed by water scrubber

-

E-4	Fugitive emission details with its mitigation measures.

Measures taken for fugitive emission control:

- Proper storage of raw materials, products and fuels.
- Ensuring closed feeding and sampling.
- Establishing SOPs for start-up, shut down and maintenance operational procedures.
- Regular work place monitoring and ambient air quality monitoring as per post project

monitoring plan.

- Pneumatically transfer of raw material in reactor.
- PPE will be provided to the workers working in process area.
- Greenbelt will be developed around the plant to arrest the fugitive emission.
- Paved road will make to reduce the fugitive emission. Water sprinkler will be provided to reduce the fugitive emission.

Comments for E2, E3 & E4:

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

F	Hazardous waste
F-1	Hazardous waste management matrix

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Sr. no.	Type/Name of Hazardous waste	Specific Source of generation (Name of the Activity, Product etc.)	Category and Schedule as per HW Rules.	Quantity (MT/Annum)			Management of HW
				Existing	Proposed	Total	
1	ETP Waste	Effluent Treatment Plant	35.3	30	24	54	Collection, Storage, Transportation & Disposal at TSDF authorized by Board.
2	Used Oil	Lubrication in plant machineries	5.1	200 Lit	300 Lit	500 Lit	Collection, Storage, Transportation & Disposed by selling to Registered re refiners
3	Discarded Carboys/Drums/Bag with liner	Raw Material Section	33.1	6	66	72	Collection, Storage, Transportation & Disposed by selling to authorized recycler.

-

Comments:

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

F-2	Non- Hazardous waste management matrix

2. Fly Ash generation will be 0 MTPA (No Fly Ash Generated)
3. STP sludge generation will be 3.0 MTPA (used as manure in gardening activity)

Comments:

1. Management of fly ash shall be as per the Fly ash Notification 2009 & its amendment time to time and it shall be ensured that there is 100% utilization of fly ash to be generated from the unit.
2. STP sludge shall be collected and reused as manure in gardening activity or send to TSDF site for landfilling.

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

There will be no use any type of solvent in existing as well as propose manufacturing activity and other ancillary operation.

G-2	LDAR proposed:

Not Applicable

There will be no use of any type of solvent in existing as well as proposed manufacturing process & other ancillary operation.

G-3	VOC emission sources and its mitigation measures

Not Applicable

There will be no use of any type of solvent in existing as well as proposed manufacturing process & other ancillary operation.

Comments:

1) Not applicable

H	SAFETY details after proposed expansion
H-1	Details regarding storage of Hazardous chemicals

-

Sr. no	Name of Chemical	Capacity of Tank	Number of Tanks	Hazardous Characteristics of Chemical
1	HCl	10	1	Corrosive
2	Sulphuric Acid	5.0	1	Corrosive
3	Caustic	8.0	1	Flammable

-

Storage of Hazardous chemicals in Tanks

- Dyke will be provided to storage tank to collect leakage/spillage
- Provision of Static Earthing
- Fire Extinguisher/Fire Hydrant System
- Lighting /Proper Illumination
- Lightening arrestor
- Trained and experience operators
- NFPA label capacity and content should display on storage tank

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

- 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
FLAMMABLE & EXPLOSIVE	• Separate Isolated Storage Area is constructed as per explosive department requirement and separation distance will be maintained, accordingly. • Workers and Operators handling such materials will be trained for the hazards (fire/explosion, health, and chemical reactivity) associated with them. • Lightening arrestor will be provided on the top of tallest structure. • NFPA label (hazard identification) capacity and content will be displayed on respective barrels. • Every time it will be ensured that barrels are cleaned and no chemicals are as a residue to avoid mixing and causing

	explosion or any mishap • While decanting chemicals proper earthing arrangement will be ensured to avoid static charge • Good housekeeping will be maintained. • Work Instructions shall be prepared and followed. • Proper ventilation will be provided in storage room. • Proper label and identification board /stickers will be provided in the storage area. • Area shall be marked as “Hazardous Chemical Storage”, “No Smoking”, “Hot work Restricted”. No cell phones • MSDS of chemicals stored will be available in storage area
CORROSIVE & CHEMICALS	• Preventing or minimizing contact between corrosive substances and skin, mucous membranes and eyes. • Corrosive substances should not be allowed to come in contact with materials that may react. • All the containers, pipes, apparatus, installations and structures used for the manufacture, storage, transport or use of these substances may be protected by suitable coatings, impervious to and unaffected by corrosives. • All containers or receptacles should be clearly labelled to indicate their contents and should bear the danger symbol for corrosives. • Adequate ventilation and exhaust arrangement whether general or local, should be provided whenever corrosive toxic gases or dust are present. • Personal protective devices shall be used • First aid treatment facilities shall be provided and all concerned should be instructed to follow safe practices such as (a) Prolonged washing with water (b) Removing contaminated clothing (c) Seeking immediate medical help. • Safety showers and eye washers is provided.
REACTIVE CHEMICALS	• Store minimum quantities • Segregate chemicals, e.g. from water, air, incompatible chemicals, sources of heat, ignition sources • Spillage control; bund, spray, blanket, containment. Drain to collection pit • Decontamination and first-aid provisions, e.g. neutralize/destroy, fire-fighting • Contain/vent pressure generated to a safe area • Split-up stocks into manageable lots, e.g. with reference to fire loading/spillage control. • Ensure appropriate levels of security, hazard warning notices, fences, patrols. Control access including vehicles • Appropriate gas/vapour/fume/pressure venting, e.g. flame arrestors, scrubbers, absorbers, stacks • Ensure adequate natural or forced general ventilation of the storage area Provide adequate, safe lighting • Label (name and number); identify loading/unloading/transfer couplings • Provide appropriate fire protection (sprinkler, dry powder, gas) • Ensure adequate access for both normal and emergency purposes with alternative routes

- Applicability of PESO: No

Comments:

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

H-2	Types of hazardous Processes involved and its safety measures:

There will be no hazardous processes i.e. Hydrogenation process, Nitration process, Chlorination process, Exothermic Reaction in existing as well propose manufacturing activity and other ancillary operation

H-3	Details of Fire Load Calculation

Total Plot Area:	3800 Sq. m.
Area utilized for plant activity:	2000 Sq. m.
Area utilized for Hazardous Chemicals Storage:	600 Sq. m.
Number of Floors:	G+5
Water requirement for firefighting in KLD:	112 L/Min
Water storage tank provided for firefighting in KLD:	200 KL
Details of Hydrant Pumps:	1) Main Pump : Flow : 137 m3/Hr , Head : 75Meter 2) Diesel Pump :Flow : 137 m3/Hr , Head :75 Meter 3) Jockey Pump : Flow : 10.8 m3/Hr , Head : 75 Meter
Nearest Fire Station :	Jasoda nagar fire station
Applicability of Off Site Emergency Plan:	No

Comments:

1. The project proponent has proposed fire safety plan which includes fire hydrant line, sprinkler system, fire extinguishers, fire suits, covering the project area and provides for fire water storage tank of 200 KL. SEAC found it as per the requirement.

H-4	Details of Fire NOC/Certificate:

Unit will obtain Fire NOC after receipt of EC.

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

-

Number of permanent Employee:	60 Nos.
Number of Contractual person/Labour:	5 Nos.
Area provided for OHC:	30 Sq. m.
Number of First Aid Boxes:	20 Nos.
Nearest General Hospital:	Kashiba General Hospital
Name of Antidotes to be store in plant:	Adequate antidotes will be stored within premises

-

Comments

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

- During the SEAC Video conference meeting dated 21.01.2022, Project Proponent (PP) and their technical expert and EIA consultant from M/s. Bhagvati Envirocare Pvt. Ltd remain present and made technical presentation before the Committee.
- During the meeting, the project was appraised based on the information furnished in the EIA Report and details presented during the meeting.
- The baseline environmental quality has been assessed for various components of the environment viz. air, noise, water, biological and socioeconomic aspect. The baseline environmental study has been conducted for the study area of 10 km radial distance from project site for the period March 2021 to May 2021. Ambient Air Quality monitoring was carried out for PM_{10}, $PM_{2.5}$, SO_2, NOx, CO, HC, and VOCs at eight locations, including the project site. Values conform to the prescribed standards for Ambient Air Quality. The incremental Ground Level Concentration (GLC) has been computed using AERMOD model. The resultant concentrations are within the NAAQS. The modeling study proved that the air emissions from the proposed plant would not affect the ambient air quality of the region in any significant manner. The ambient air quality around the proposed project site will remain within the National Ambient Air Quality Standards (NAAQS).
- Risk assessment including prediction of the worst-case scenario and maximum credible accident scenarios has been carried out. The detail proposed safeguard measures including On-Site / Off-Site Emergency Plan has been covered in the RA report.
- Upon asking regarding QCI/NABET accreditation for preparation of EIA preparation for proposed project, technical expert of PP informed that they have obtained QCI/NABET accreditation for preparation of EIA/EMP report as per the amended EIA Notification vide S.O. 648 (E) Dated 03.03.2016.
- This is an existing unit established before year 2006 and proposed for manufacturing of synthetic organic chemicals at GIDC Vatva. Unit is having valid CCA of the Board and CCA compliance report submitted by unit. PP presented one Show cause notice (SCN) issued by GPCB in last three years and its reply submitted at GPCB presented by PP during meeting.
- Deliberation of Committee:

- ✓ Product profile with its end-use is discussed in depth.
- ✓ Source of water supply is GIDC.
- ✓ Committee noted that PP has addressed area adequacy with layout plan for proposed project site. Site Plan/ layout with fire plan & floor plans and provision of separate entry & exits, 6 m wide peripheral road, distillation area, OHC, tank farm, production areas, raw material & finished goods storage areas, ETP area, utility area, hazardous waste storage area, fresh & spent solvent storage areas, hazardous waste storage area, 16 % greenbelt within premises etc.
- ✓ Domestic effluent will be treated in ETP.
- ✓ Total effluent will be segregated and low COD stream will be treated in ETP and then will be sent to CETP of GSECL and high COD stream will be sent to common spray dryer of GSECL & Chhatral Environment Management System Pvt. Ltd for Spray Drying.
- ✓ Pipeline natural gas as fuel for Boiler and HAG proposed along with adequate stack height.
- ✓ In built Cyclone separator and water scrubber as APCM proposed for spray dryer.
- ✓ Exhausted scrubbing media will be selling out as per the HW Rules.
- ✓ PP submitted hazardous waste matrix mentioning source of generation, quantity and Mode of disposal and committed to comply the Hazardous and Other Wastes (Management and Trans boundary Movement) Rules 2016.
- ✓ Committee deliberated on Process safety, area adequacy and layout plan, Fire safety, water balance & waste water management, Flue gas and process gas emission & Air Pollution Control System, Hazardous waste matrix, EMP, CER, LDAR and solvent recovery, Green belt, Risk assessment, baseline data etc.

- Looking to Greenbelt development at Ghodai village which is far away from GIDC Vatva and CER activity at Ghodai village which is not acceptable, hence Committee insisted for clarification regarding submission of proposal of greenbelt at Ghodai village which is far away from GIDC Vatva for which PP is agreed upon and later on submitted revised Greenbelt details of Ropada village which is near GIDC Vatva with undertaking for maintenance and area location of green belt development .Also Committee insisted for revised CER activity in need based surrounding villages in study area of proposed project and adequate size of fire water tank for which PP is agreed upon and later on submitted revised CER details and adequate size fire water tank details.
- Since the proposed project is located in notified industrial area, public consultation is not required as per paragraph 7(i) (III) (I) (b) of the Environment Impact Assessment Notification 2006.
- **After detailed discussion, Committee unanimously decided to recommend the project to SEIAA, Gujarat for grant of Environment Clearance with the following specific condition:**

SPECIFIC CONDITIONS:

1. Project proponent (PP) shall install CEMS **[Continuous Emission Monitoring System]** in line to

CPCB directions to all SPCB vide letter no. B-29016/04/06PCI-1/5401 dated 05/02/2014 for effluent discharge and air emission as per pollutants discharge/emission from respective project and an arrangement shall also be done for reflecting the online monitoring results on the company's server, which can be assessable by the GPCB/CPCB on real time basis. **[For Small/Large/Medium (Red Category) & Whichever (Air emission & Effluent discharge) is applicable]**.

2. Leak Detection and Repair (LDAR) program shall be prepared and implemented as per the CPCB guidelines. LDAR Logbooks shall be maintained.
3. The National Ambient Air Quality Emission Standards issued by the Ministry vide G. S. R. No. 826 (E) dated 16th November, 2009 shall be complied with.
4. National Emission Standards for Organic Chemicals Manufacturing Industry issued by the Ministry vide G. S. R. 608 (E) dated 21/07/2010 and amended from time to time shall be followed.
5. Unit shall have to adhere to the prevailing area specific policies of GPCB with respect to the discharge of pollutants, and shall carry out the project development in accordance & consistence with the same.
6. The project proponent must strictly adhere to the stipulations made by the Gujarat Pollution Control Board, State Government and/or any other statutory authority.
7. All measures shall be taken to avoid soil and ground water contamination within premises.
8. Project proponent (PP) shall adopt appropriate methods for segregation of waste water streams based on characteristics at source and its sound management keeping in view direction under section 18 (1) (b) of the Water (Prevention and Control of Pollution) act, 1974 issued by CPCB regarding compliance of CETP.

WATER

9. Total water requirement for the project shall not exceed 91 KLD. Unit shall reuse 16.04 KLD of boiler condensate within premises. Hence, fresh water requirement shall not exceed 74.96 KLD and it shall be met through GIDC water supply only. Prior permission from concerned authority shall be obtained for withdrawal of water.
10. The industrial effluent generation from the project shall not exceed 68.90 KLD after expansion.
11. 45 KLD, Low COD Industrial effluent shall be treated in ETP-1 and then treated effluent shall be sent to CETP of GSECL for further treatment and disposal.
12. 23.90 KLD, High COD effluent shall be treated in ETP-2 followed by RO plant. 9.56 KLD of RO reject shall be sent to common spray dryer of M/s. GSECL, Vatva and M/s. Chhatral Environment Management System Pvt. Ltd at Dhanot, Dist- Gandhinagar for evaporation , through GPS fitted tanker and 14.34 KLD, RO permeate shall be reused back in process .
13. Treated waste water shall be discharged into CETP and common spray dryer only after complying with the inlet norms prescribed by GPCB to ensure no adverse impact on Human Health and Environment.
14. Domestic wastewater generation shall not exceed 1.70 KL/day for proposed project and it shall be

treated in STP. It shall not be disposed off through soak pit/ septic tank.

15. Unit shall provide ETP and RO with adequate capacity.
16. The PP shall ensure to dispose off Waste water to the Common Facilities having valid CTO of GPCB.

AIR

17. Unit shall not exceed fuel consumption and provide APCM and Stack height as mentioned in flue gas matrix.
18. Unit shall provide APCM and stack height as mentioned in process gas matrix.
19. PP shall use approved fuels only as fuel in boilers.

HAZARDOUS & SOLID WASTE

20. All hazardous solid waste shall be managed as mentioned in hazardous waste matrix.
21. The unit shall submit the list of authorized end users of hazardous wastes along with MoU signed with them at least two months in advance prior to the commencement of production. In the absence of potential buyers of these items, the unit shall restrict the production of the respective items.

GREENBELT AREA

22. The PP shall develop green belt within premises (610 Sq. m. – In House (16% of total plot area) and 650 sq. Meter, Outside premises (17% of total plot area) at Ropda village, Total – 1260 Sq. m. i.e. 33.16% of total plot area) as per the undertaking submitted before SEAC. Green belt shall be developed with native plant species that are significant and used for the pollution abatement as per the CPCB guidelines. It shall be implemented within 3 years of operation phase in consultation with GPCB.
23. **Safety & Health:**
    a) PP shall provide Occupational Health Centre (OHC) as per the provisions under the Gujarat Factories Rule 68-U.
    b) PP shall obtain fire safety certificate / Fire No-Objection certificate (NOC) from the concern authority as per the prevailing Rules / Gujarat Fire Prevention and Life Safety Measures Act, 2016.
    c) Unit shall adopt functional operations/process automation system including emergency response to eliminate risk associated with the hazardous processes.
    d) PP shall carry out mock drill within the premises as per the prevailing guidelines of safety and display proper evacuation plan in the manufacturing area in case of any emergency or accident.
    e) PP shall install adequate fire hydrant system with foam trolley attachment within premises and separate storage of water for the same shall be ensured by PP.
    f) PP shall take all the necessary steps for control of storage hazards within premises ensuring incompatibility of storage raw material and ensure the storage keeping safe distance as per the prevailing guidelines of the concerned authority.

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

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

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

5.	SIA/GJ/IND2/68099/2019	**M/s. Samip chemicals Pvt. ltd.** Plot No. 703, 704/1, GIDC Industrial Estate, Ankleshwar 393002, Dist: Bharuch.	Appraisal

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

Project status: **Expansion**

- Project proponent (PP) has submitted online application vide no. SIA/GJ/IND2/68099/2019 on dated 01.12.2021 for obtaining Environmental Clearance.
- Auto ToR issued by SEIAA to proposed project vide letter dated 09.06.2020.
- Project proponent has submitted EIA Report prepared by M/s. Bhagwati Enviro Care Pvt. Ltd based on the TOR issued by SEIAA.
- This is an existing unit and proposed for expansion in manufacturing of synthetic organic chemicals as mentioned below:

Sr. No.	Name of Product		CAS No./ CI No.	Quantity MT/Month		
				Existing	Proposed	Total
1	Reactive Dyes		---	6.0	--	6.0
2	Reactive Red 195	And/ Or	93050-79-4	0.0	45.0	45.0
3	Reactive Yellow 145	And/ Or	93050-80-4			
4	Reactive Blue 220	And/ Or	128416-19-3			
5	Reactive Blue 250	And/ Or	93951-21-4			
6	Reactive Orange 78	And/ Or	71902-15-3			
7	Reactive Black WNN	And/ Or	17095-94-8			
8	Acid Orange - II (Orange- 7)	And/ Or	633-96-5			
9	Acid Metanil Yellow (Yellow - 36)	And/ Or	587-98-4			
10	Acid Fast Red A (Red 88)	And/ Or	1658-56-6			
11	Acid Scarlet 3R (Red 18)	And/ Or	2611-82-7			
12	Acid Navy Blue RX (Blue– 113)	And/ Or	3351-05-1			

	13	Acid Maroon V (Red– 119)	And/ Or	12220-20-1 / 70210-06-9				
	14	Acid Patent Blue (Blue - 7)	And/ Or	129-17-9				
	15	Acid Violet 4BS (Violet- 49)	And/ Or	1694-09-3				
	16	Acid Green V (Green- 16)	And/ Or	12768-78-4				
	17	Acid Rhodamine B (Red - 52)	And/ Or	81-88-9				
	18	Acid Black 1	And/ Or	1064-48-8				
	19	Acid Black 194	And/ Or	61931-02-0				
	20	Acid Black 210	And/ Or	99576-15-5				
	21	Acid Black 234	And/ Or	157577-99-6				
	22	Acid Brown 349	And/ Or	72827-73-7				
	23	Acid Brown 434	And/ Or	126851-40-9				
	24	Acid Brown 58	And/ Or	12269-87-3				
	25	ACID BROWN 161	And/ Or	61724-13-8				
	26	Acid Blue 1	And/ Or	116-95-0				
	27	ACID ORANGE 142	And/ Or	61901-39-1				
	28	Solvent Blue 35	And/ Or	17354-14-2				
	29	Solvent Blue 104	And/ Or	116-75-6				
	30	Solvent Blue 122	And/ Or	67905-17-3				
	31	Solvent Orange 58	And/ Or	71775-93-4				
	32	Solvent Orange 60	And/ Or	6925-69-5				
	33	Solvent Orange 86	And/ Or	81-64-1				
	34	Solvent Yellow 14	And/ Or	842-07-9				
	35	Solvent Green-3	And/ Or	128-80-3				
	36	Solvent Red 127	And/ Or	61969-48-0				
	37	Solvent Yellow 82	And/ Or	12227-67-7				
	38	Solvent Black 27	And/ Or	12237-22-8				

39	Pigment Red Violet (Red 31)	And/ Or	6448-96-0			
40	Pigment Bordex (Red 12)	And/ Or	6410-32-8			
41	Pigment Orange 13	And/ Or	3520-72-7			
42	Pigment Yellow 2G- 12	And/ Or	6358-85-6			
43	Pigment Red F4R (Red 8)	And/ Or	6410-30-6			
44	Basic Chrysodine R	And/ Or	4438-16-8			
45	Basic Bismark Brown R	And/ Or	5421-66-9			
46	Direct Red 5BL (Red 80)	And/ Or	2610-10-8			
47	Direct Scarlet 4BS (Red 23)	And/ Or	3441-14-3			
48	Direct Violate MB (Violate 9)	And/ Or	6227-14-1			
49	Direct Violate Helio B (51)		5489-77-0			
Total				**6.0**	**45.0**	**51.0**

- The project falls under B1 category of project activity 5(f) as per the schedule of EIA Notification 2006.
- PP was called for Video conference meeting for presentation on dated 21.01.2022.
- PP submitted salient features of water, air and Hazardous waste management as under,

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

Existing	Proposed	Total
0.6930 Crores	1.72 Crores	2.4130 Crores

Break-up of proposed project Cost:

Details	Existing (Rs. In Crores)	Proposed (Rs. In Crores)	Total (Rs. In Crores)
Land	0.1379	--	0.1379
Building	0.2655	0.1250	0.3905
Machinery	0.2673	1.5950	1.8623
Others	0.0222	--	0.0222

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

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Sr. No	Unit	Detail	Capital Cost (Rs. In Crores)	Operating Cost (Rs. In Crores)	Maintenance Cost (Rs. In Crores)	Total Recurring Cost (Rs. In Crores)
1	Air	Monitoring of Air Environment	0.14	0.04	0.02	0.06
2	Waste Water	ETP, Common MEE Cost	0.1	0.33	0.12	0.45
3	Noise	Monitoring of Noise	0	0.007	0	0.007
4	Hazardous Management	Transportation cost	0.025	0.025	0.025	0.05
5	AWH Monitoring	Env monitoring	0.035	0.01	0.01	0.02
6	Green Belt Development	Health checkup of workers & employee	0.01	0.01	0.007	0.017
7	Occupational Health	Health checkup of workers & employee	0.04	0.01	0.005	0.015
8	Fire & Safety	Fire Hydrant System, Fire Extinguishers & PPE	0.1	0.01	0.0025	0.0125
9	CER Activity	Social activity will do I near village	0	0.0172	0	0.0172
Total			0.45	0.4592	0.1895	0.6487

Comments:

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

A-3	Details of CER -

PP shall carry out CER activities as below:

- ✓ Budget allocated for CER activity 1.0 % of project cost (For Brown field project)-1.72 Lacs
- ✓ Provided Solar roof panel in primary school at kosmadi gam.

B	Land / Plot ownership details: Plot No.: 703: GIDC/ANK/AM/181 Plot No.: 704/1: GIDC/DEE III/ANK/65

B-1 **Plot area**

Existing	Proposed	Total
5300 Sq. m.	0.0 Sq. m.	5300 Sq. m.

-

B-2

Area adequacy

Table…

Sr. No.	Land Break up	Gr. Fl	1st. Fl	2nd Fl	Total	%
1	Office	54	-	-	54	1.02
2	Lab	-	54	54	108	0.00
3	OHC	30	-	-	30	0.57
4	Utility & Fuel Storage	96	-	-	96	1.81
5	Security Cabin	9	-	-	9	0.17
6	Raw Material (Solid)	-	381	381	762	0.00
7	Raw Material (Liquid)	228	-	-	228	4.30
8	Finish Good Storage area	153	-	-	153	2.89
9	ETP & Solid Waste Area	120	-	-	120	2.26
10	Tank Farm	70.5	-	-	70.5	1.33
11	Spray Drying area	48	-	-	48	0.91
12	Production Area (Existing)	285	285	285	855	5.38
13	Production Area (Proposed)	285	285	285	855	5.38
14	Roads	2172.5	-	-	2172.5	40.99
15	Greenbelt	1749.0	-	-	1749.0	33.00

Total	**5300**	**1005**	**1005**	**7310**	**100**

Comments:

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

B-3 **Green belt area**

	Existing	Proposed (Sq. meter)	Total (Sq. meter)
Area in Sq. meter	1749 (In side Premises)	0	1749 (In side Premises)
% of total area	33	0	33

Comments:

The condition shall be given that –

1. The PP shall develop green belt within premises (1749 Sq. m i.e. 33 % of the total plot area) as per the undertaking submitted before SEAC. Green belt shall be developed with native plant species that are significant and used for the pollution abatement as per the CPCB guidelines. It shall be implemented within 3 years of operation phase in consultation with GPCB.

C **Employment generation**

Existing	Proposed	Total
22	63	85

-

D **WATER**

D-1 **Source of Water Supply**

- GIDC Water Supply

Comments:

	Prior permission from concerned authority i.e. CGWA shall be obtained for withdrawal of water.
D-2	**Water consumption (KLD)**

-

Category	**Existing** KLD	**Proposed (Additional)** KLD	**Total after Expansion** KLD
(D) Domestic	0.5	2.85	3.35
(E) Gardening	0.1	7.65	7.75
(F) Industrial			
Process	1.25	18.0	19.25
Washing	0.50	1.80	2.30
Boiler	0.65	10.0	10.65
Cooling	--	2.0	2.0
Others - Scrubber	--	0.2	0.2
Industrial Total	**2.4**	**32.0**	**34.4**
Grand Total (A+B+C)	**3.0**	**42.5**	**45.5**

-

Comments:

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

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

-

Category	**Existing** KLD	**Proposed (Additional)** KLD	**Total after Expansion** KLD
(C) Domestic	0.5	2.25	2.75
(D) Industrial			
Process	1.9	22.39	24.29
Washing	0.5	1.8	2.3

Boiler	0.1	0.4	0.5
Cooling	--	0.1	0.1
Others - Scrubber	--	0.2	0.2
Total Industrial waste water	**2.5**	**24.89**	**27.39**

-

Comments:

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

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

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

Comments:

1. Domestic wastewater generation shall not exceed 2.75 KL/day for proposed project and it shall be treated in STP. It shall not be disposed off through soak pit/ septic tank. Treated sewage shall be utilized for gardening and plantation purpose within premises after achieving on-land discharge norms prescribed by the GPCB.
2. Unit shall provide STP with adequate capacity.

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

-

Sr. no.	**Quantity KLD**	**Facility**
1	13.7	Treated Effluent sent to ETL, Ankleshwar
2	8.9	RO permeate effluent reused in ind. Purpose.
3	4.79	RO Rejected effluent sent to CMEE BEIL
Total	27.39	

1. Total Industrial effluent shall be treated in ETP and then 13.70 KLD, treated effluent shall be sent to CETP of M/s. ETL for further treatment and disposal while rest of treated effluent shall be further treated in RO plant.
2. 4.79 KLD of RO reject shall be sent to CMEE of M/s. BEIL, for evaporation, through GPS

fitted tanker and 8.90 KLD, RO permeate shall be reused back in process.

3. Treated waste water shall be discharged into CETP and CMEE only after complying with the inlet norms prescribed by GPCB to ensure no adverse impact on Human Health and Environment.

E	**AIR**
E-1	Power (Electricity) requirement : 145 KVA
E-2	**Flue gas emission details**

- **Existing & 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 Pollutants**	**Air Pollution Control Measures (APCM)**
				Existing	**Proposed**	**Total**		
1.	Steam Boiler - 60568 (0.4 TPH) **(Existing)**	11	Agro waste/ Briquettes	0.75	2.25	3.00	Particulate Matter SOx NOx	Multi Cyclone Separator & water Scrubber
2.	Hot Air Generator - 60569 (1 Lac Kcal/Hr) **(Existing)**	11	Agro waste/ Briquettes	0.75	2.25	3.00		Multi Cyclone Separator & water Scrubber
3.	Hot Air Generator - 60570 (1 Lac Kcal/Hr) **(Existing)**	11	Agro waste/ Briquettes	0.75	2.25	3.00		Multi Cyclone Separator & water Scrubber
4.	Steam	11	Agro waste/	0.75				Multi Cyclone

	Boiler - 10428 (0.4 TPH) **(Existing)**		Briquettes		2.25	3.00		Separator & water Scrubber
5.	D.G. Set **(Existing)**	5.0	HSD	480 Liter	--	480 Liter		Adequate Stack height is provided
6.	Steam Boiler (0.6 TPH) **(Proposed)**	20.0	Agro waste/ Briquettes of Bio Coal	--	4.5	4.5	Particulate Matter SOx NOx	Multi Cyclone Separator & water Scrubber
7.	Hot Air Generator (1 Lac Kcal/Hr) **(Proposed)**	20.0	Agro waste/ Briquettes of Bio Coal	--	3.0	3.0		Multi Cyclone Separator & water Scrubber
8.	Thermopack (Cap. 2 Lac Kcal/Hr) **(Proposed)**	20.0	Agro waste/ Briquettes of Bio Coal	--	5.0	5.0		Multi Cyclone Separator & water Scrubber
9.	Thermopack (Cap. 2 Lac Kcal/Hr) **(Proposed)**	20.0	Agro waste/ Briquettes of Bio Coal	--	5.0	5.0		Multi Cyclone Separator & water Scrubber

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E-3	**Process gas**

- Existing & Proposed

Sr. No.	**Specific Source of emission**	**Type of emission**	**Stack Height (meter)**	**Air Pollution Control Measures (APCM)**
1	Pulveriser	SPM	9	Bag Filter

2	Spray Dryer (Product Dryer)	Particulate Matter SOx NOx	20	Multi Cyclone Separator & Water Scrubber

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

Measures taken for fugitive emission control:

- Proper storage of raw materials, products and fuels.
- Ensuring closed feeding and sampling.
- Establishing SOPs for start-up, shut down and maintenance operational procedures.
- Regular work place monitoring and ambient air quality monitoring as per post project monitoring plan.
- Pneumatically transfer of raw material in reactor.
- PPE will be provided to the workers working in process area.
- Greenbelt will be developed around the plant to arrest the fugitive emission.

Paved road will make to reduce the fugitive emission. Water sprinkler will be provided to reduce the fugitive emission.

Comments for E2, E3 & E4:

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

F	**Hazardous waste**
F-1	**Hazardous waste management matrix**

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Sr. No	Type of Hazardous Waste	Source	Cat. No.	Quantity MT/Year			Management
				Existing	Proposed	Total	
1.	Empty barrels/ Containers/Liners Contaminated with hazardous Chemicals/Wastes	Raw Materials & Finished Products	33.1	6.72	43.28	50.0	Collection, Storage, Transportation Disposal by selling to registered recyclers approved by GPCB/CPCB/Reuse within

							premises/sell to local scrap vendor
2.	ETP Sludge	Effluent Treatment Plant	35.3	3.0	97.0	100.0	Collection, Storage, Transportation &Disposal at TSDF site for secured land filling at BEIL Ankleshwar
3.	Used or Spent Oil	D.G. Set & Thermopack	5.1	--	0.02	0.02	Maximum quantity reuse in plant & machinery as lubricant and balance quantity dispose by selling to authorized re refiners/recycler approved by GPCB/CPCB.
4.	Process Residue	Process (Product No. 5)	26.1	--	48.60	48.60	Collection, Storage, Transportation Disposal for co - Processing
5.	Manganese Sulfate Solution (80 – 85%)	Process (Product No. 14,17,26)	26.1	--	308.57	308.57	Collection, Storage, and entire quantity will be reuse within premises.
6.	Sulphuric Acid (60%)	Process (Product No. 14)	26.3	--	1736.00	1736.00	Collection, Storage, and entire quantity will be reuse within premises.
7.	Distillation Residue	Process (Product No. 28 to 30,32, 33)	26.1	--	2.30	2.30	Collection, Storage, Transportation Disposal for co - Processing

8.	Fly Ash	From Utilities	--	--	5	5	Collection, Storage, Transportation Disposal at TSDF site approved by Board or sell to Bricks mfg. Unit.

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Comments:

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

F-2	Non- Hazardous waste management matrix

STP sludge generation will be 1 MTPA

Comments:

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

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

Product No.	**Product Name**	**Solvent Name**	**Product Qty.**	**Generated Quantity**	**Recover Solvent**	**Distillation Residue**	**Recovery efficiency%**
29	Solvent Blue 104	ODCB	45	22.05	21.98	0.07	99.69
		Methanol		70.65	70.54	0.11	99.84
30	Solvent Blue 122	IPA		87.75	87.66	0.09	99.90
32	Solvent Orange 60	O-Xylene		119.25	119.16	0.09	99.92
		Methanol		238.50	238.37	0.14	99.94
33	Solvent Orange 86	Xylene		122.14	121.95	0.19	99.84

G-2	**LDAR proposed:**

- ….NA

- …

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

- Leak Free Pumps for transfer of solvents.
- MSW Gaskets in solvent pipelines to prevent leakage from flanges.
- Minimum number of flanges, joints and valves in pipelines.
- To eliminate chances of leakages from glands of pumps, mechanical seal will be provided at all solvent pumps.
- All the rotating equipment like pumps will be installed with Mechanical Seals to arrest any sort of emissions.
- Condenser and scrubber post Reactor with cooling arrangement.
- Enclosures to chemical storage area, collection of emission from loading of raw materials in particular solvents through hoods and ducts by induced draft, and control by condenser to be ensured.
- In case the small spillage or leakage observed, first pour the china clay (vermiculate) on material and collect the contaminated china clay (vermiculate) and send to ETP.
- If the spillage is of inflammable liquid, switch off all the power supply in the area to prevent Electric Spark.

Comments:

1. Measures for achieving maximum solvent recovery and minimize VOC generation, inclusive of VOC detectors, pumps, maintenance of pipelines, proper ventilation etc., provided are as per requirement.
2. Spent solvents shall be recovered by in-house distillation in such a manner that recovery shall not be achieved to the maximum extent and recovered solvent shall be reused in the process. Solvent recovery system with adequate reflux condensers shall be provided for controlling escape of low boiling solvents (VOCs).

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

-
-

Sr.no	Name of Chemical	Capacity of Tank	Number of Tanks	Hazardous Characteristics of Chemical
1	HCl (Hydrochloric Acid)	10 KL*1 Nos	1	Corrosive
2	Sulphuric Acid	10 KL*1 Nos	1	Corrosive
3	Oleum 23%	10 KL* 2 Nos.	1	Corrosive

Brief note on storage of Hazardous chemicals in Tanks

- Dyke will be provided to storage tank to collect leakage/spillage
- Provision of Static Earthing
- Fire Extinguisher/Fire Hydrant System
- Lighting /Proper Illumination
- Lightening arrestor
- Trained and experience operators

- NFPA label capacity and content should display on storage tank

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

- 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
Corrosive	- Store corrosives in suitable labeled containers away from incompatible materials, in a cool, dry area. - Store corrosives in areas which are Well ventilated, Supplied with adequate firefighting equipment, Supplied with suitable spill clean-up equipment and materials. - Store containers at a convenient height for handling, below eye level if possible. - Avoid rapid temperature changes in corrosive liquid storage areas. If a tightly-sealed corrosive liquid container is cooled suddenly, a partial vacuum could form inside it. In extreme cases, the container might collapse and leak. - Inspect storage areas regularly for any deficiencies, including corrosion damage, leaking containers, or poor housekeeping.
Flammable	– Materials will be stored as per its compatibility study and separate area will be available for flammable, corrosive and toxic chemical drums storage. – Smoking and other spark, flame generating item will be banned from this area. – NFPA labels will be provided on drums for hazard identification of the chemicals – Safety shower and eyewash shower will be provided near storage area and plant area. – Flame proof electrical equipment's provided in process and storage area. – Onsite emergency will be prepared as per GJR 68 J (9) and train all team members for emergency situation as per risk assessment scenarios outcome.

- **Applicability of PESO:** NO.

Comments:

1. Committee was of the opinion that the provisions of PESO, licensing, condition

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

H-2	**Types of hazardous Processes involved and its safety measures:**

No

H-3	**Details of Fire Load Calculation**

Total Plot Area:	5300
Area utilized for plant activity:	1352
Area utilized for Hazardous Chemicals Storage:	153
Number of Floors:	G +2
Water requirement for firefighting in KLD:	100
Water storage tank provided for firefighting in KLD:	100 KL
Details of Hydrant Pumps:	2
Nearest Fire Station :	Bharuch
Applicability of Off Site Emergency Plan:	No

Comments:

1. The project proponent has proposed fire safety plan which includes fire hydrant line, sprinkler system, fire extinguishers, fire suits, covering the project area and provides for fire water storage tank of 100 KL. SEAC found it as per the requirement.

H-4	**Details of Fire NOC/Certificate:**

Unit will obtain Fire NOC after receipt of EC and before getting CTO.

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

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Number of permanent Employee:	40
Number of Contractual person/Labour:	45
Area provided for OHC:	30
Number of First Aid Boxes:	25
Nearest General Hospital:	Ankleshwar
Name of Antidotes to be store in plant:	--

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Comments

Project proponent has proposed Occupational health center with adequate provision of

manpower, equipment and operational cost. SEAC finds it as per the provisions of Gujarat Factory Rules 1963.

- During the SEAC Video conference meeting dated 21.01.2022, Project Proponent (PP) and their technical expert and EIA consultant from M/s. Bhagwati Enviro Care Pvt. Ltd remain present and made technical presentation before the Committee.
- During the meeting, the project was appraised based on the information furnished in the EIA Report and details presented during the meeting.
- The baseline environmental quality has been assessed for various components of the environment viz. air, noise, water, biological and socioeconomic aspect. The baseline environmental study has been conducted for the study area of 10 km radial distance from project site for the period October, 2020 to December 2020. Ambient Air Quality monitoring was carried out for PM_{10}, $PM_{2.5}$, SO_2, NOx, CO, HC, and VOCs at eight locations, including the project site. Values conform to the prescribed standards for Ambient Air Quality. The incremental Ground Level Concentration (GLC) has been computed using ISCST-3. The resultant concentrations are within the NAAQS. The modeling study proved that the air emissions from the proposed plant would not affect the ambient air quality of the region in any significant manner. The ambient air quality around the proposed project site will remain within the National Ambient Air Quality Standards (NAAQS).
- Risk assessment including prediction of the worst-case scenario and maximum credible accident scenarios has been carried out. The detail proposed safeguard measures including On-Site / Off-Site Emergency Plan has been covered in the RA report.
- Upon asking regarding QCI/NABET accreditation for preparation of EIA preparation for proposed project, technical expert of PP informed that they have obtained QCI/NABET accreditation for preparation of EIA/EMP report as per the amended EIA Notification vide S.O. 648 (E) Dated 03.03.2016.
- This is an existing unit established before year 2006 and proposed for manufacturing of synthetic organic chemicals at GIDC Vatva. Unit is having valid CCA of the Board and CCA compliance report submitted by unit. PP presented one closure (direction) order under water act on 11/02/2021 issued by GPCB in last three years and its revocation order issued by GPCB to unit.
- Deliberation of Committee:
    - ✓ Product profile with its end-use is discussed in depth.
    - ✓ Source of water supply is GIDC.
    - ✓ Committee noted that PP has addressed area adequacy with layout plan for proposed project site.
    - ✓ Site Plan/ layout with fire plan & floor plans and provision of separate entry & exits, 6 m wide peripheral road, distillation area, OHC, tank farm, production areas, raw material & finished goods storage areas, ETP area, utility area, hazardous waste storage area, fresh & spent solvent storage areas, hazardous waste storage area, 16 % greenbelt within premises etc.

- ✓ Domestic effluent will be treated in ETP.
- ✓ Total effluent will be treated in ETP and then as per CCA,13.70 KLD treated effluent sent to CETP of ETP and rest of effluent further treated in RO plant and RO reject will be sent to common spray dryer of BEIL.
- ✓ Agro waste/ briquette as fuel for Boiler , TFH and HAG proposed along with APCM and stack height.
- ✓ In built Cyclone separator and bag filter with deep tubing system as APCM proposed for spray dryer.
- ✓ Exhausted scrubbing media will be selling out as per the HW Rules.
- ✓ PP submitted hazardous waste matrix mentioning source of generation, quantity and Mode of disposal and committed to comply the Hazardous and Other Wastes (Management and Trans boundary Movement) Rules 2016.
- ✓ Committee deliberated on Process safety, area adequacy and layout plan, Fire safety, water balance & waste water management, Flue gas and process gas emission & Air Pollution Control System, Hazardous waste matrix, EMP, CER, LDAR and solvent recovery, Green belt, Risk assessment, baseline data etc.

- Looking to stack height proposed for boiler is inadequate, CER detials and not mentioning fly ash disposal details, Committee insisted for revised flue gas emission matrix and flyash details for which PP is agreed upon and later on submitted revised flue gas matrix for proposed boiler stack, CER activity and flyash disposal details, through e-mail.
- Since the proposed project is located in notified industrial area, public consultation is not required as per paragraph 7(i) (III) (I) (b) of the Environment Impact Assessment Notification 2006.
- **After detailed discussion, Committee unanimously decided to recommend the project to SEIAA, Gujarat for grant of Environment Clearance with the following specific condition:**

SPECIFIC CONDITIONS:

1. Project proponent (PP) shall install CEMS **[Continuous Emission Monitoring System]** in line to CPCB directions to all SPCB vide letter no. B-29016/04/06PCI-1/5401 dated 05/02/2014 for effluent discharge and air emission as per pollutants discharge/emission from respective project and an arrangement shall also be done for reflecting the online monitoring results on the company's server, which can be assessable by the GPCB/CPCB on real time basis. **[For Small/Large/Medium (Red Category) & Whichever (Air emission & Effluent discharge) is applicable]**.
2. Leak Detection and Repair (LDAR) program shall be prepared and implemented as per the CPCB guidelines. LDAR Logbooks shall be maintained.
3. The National Ambient Air Quality Emission Standards issued by the Ministry vide G. S. R. No. 826 (E) dated 16th November, 2009 shall be complied with.

4. National Emission Standards for Organic Chemicals Manufacturing Industry issued by the Ministry vide G. S. R. 608 (E) dated 21/07/2010 and amended from time to time shall be followed.
5. Unit shall have to adhere to the prevailing area specific policies of GPCB with respect to the discharge of pollutants, and shall carry out the project development in accordance & consistence with the same.
6. The project proponent must strictly adhere to the stipulations made by the Gujarat Pollution Control Board, State Government and/or any other statutory authority.
7. All measures shall be taken to avoid soil and ground water contamination within premises.
8. Project proponent (PP) shall adopt appropriate methods for segregation of waste water streams based on characteristics at source and its sound management keeping in view direction under section 18 (1) (b) of the Water (Prevention and Control of Pollution) act, 1974 issued by CPCB regarding compliance of CETP.

WATER

9. Total water requirement for the project shall not exceed 45.50 KLD. Unit shall reuse 8.90 KLD of treated industrial effluent within premises. Hence, fresh water requirement shall not exceed 36.60 KLD and it shall be met through GIDC water supply only. Prior permission from concerned authority shall be obtained for withdrawal of water.
10. The industrial effluent generation from the project shall not exceed 27.39 KLD after expansion.
11. Total Industrial effluent shall be treated in ETP and then 13.70 KLD, treated effluent shall be sent to CETP of M/s. ETL for further treatment and disposal while rest of treated effluent shall be further treated in RO plant.
12. 4.79 KLD of RO reject shall be sent to CMEE of M/s. BEIL, for evaporation, through GPS fitted tanker and 8.90 KLD, RO permeate shall be reused back in process.
13. Treated waste water shall be discharged into CETP and CMEE only after complying with the inlet norms prescribed by GPCB to ensure no adverse impact on Human Health and Environment.
14. Domestic wastewater generation shall not exceed 2.75 KL/day for proposed project and it shall be treated in STP. It shall not be disposed off through soak pit/ septic tank.
15. Unit shall provide ETP and RO with adequate capacity.
16. The PP shall ensure to dispose off Waste water to the Common Facilities having valid CTO of GPCB.

AIR

17. Unit shall not exceed fuel consumption and provide APCM and Stack height as mentioned in flue gas matrix.
18. Unit shall provide APCM and stack height as mentioned in process gas matrix.
19. PP shall use approved fuels only as fuel in boilers.

HAZARDOUS & SOLID WASTE

20. All hazardous solid waste shall be managed as mentioned in hazardous waste matrix.
21. The unit shall submit the list of authorized end users of hazardous wastes along with MoU signed

with them at least two months in advance prior to the commencement of production. In the absence of potential buyers of these items, the unit shall restrict the production of the respective items.

GREENBELT AREA

22. The PP shall develop green belt [1749 m2 inside plant premises i.e. 33 % of total plot area] as per the undertaking submitted before SEAC. Green belt shall be developed with native plant species that are significant and used for the pollution abatement as per the CPCB guidelines. It shall be implemented within 3 years of operation phase in consultation with GPCB.
23. **Safety & Health:**
    a) PP shall provide Occupational Health Centre (OHC) as per the provisions under the Gujarat Factories Rule 68-U.
    b) PP shall obtain fire safety certificate / Fire No-Objection certificate (NOC) from the concern authority as per the prevailing Rules / Gujarat Fire Prevention and Life Safety Measures Act, 2016.
    c) Unit shall adopt functional operations/process automation system including emergency response to eliminate risk associated with the hazardous processes.
    d) PP shall carry out mock drill within the premises as per the prevailing guidelines of safety and display proper evacuation plan in the manufacturing area in case of any emergency or accident.
    e) PP shall install adequate fire hydrant system with foam trolley attachment within premises and separate storage of water for the same shall be ensured by PP.
    f) PP shall take all the necessary steps for control of storage hazards within premises ensuring incompatibility of storage raw material and ensure the storage keeping safe distance as per the prevailing guidelines of the concerned authority.
    g) PP shall take all the necessary steps for human safety within premises to ensure that no any harm is caused to any worker/employee or labor within premises.
    h) Flame proof electrical fittings shall be provided in the plant premises, wherever applicable.
    i) Unit shall never store drum/barrels/carboys of incompatible material/chemical together.
    j) Unit shall provide a spare tank with emergency transfer system and bund/ dyke wall to Oleum storage tank.
    k) Unit shall obtain all required permissions from the Narcotics Control Bureau for usage as raw material, storage and handling of Acetic Anhydride & any such chemicals.

6.	SIA/GJ/IND2/68375/2019	**M/s. Ohm Sai Industries.** Plot No. C-1/B-2017, GIDC Industrial Estate, Ankleshwar -393002, Dist: Bharuch.	Appraisal

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

Project status: **Expansion**

- Project proponent (PP) has submitted online application vide no. SIA/GJ/IND2/68375/2019 on dated 01.12.2021 for obtaining Environmental Clearance.
- Auto ToR issued by SEIAA to proposed project vide letter dated 09.06.2020.
- Project proponent has submitted EIA Report prepared by M/s. Bhagwati Enviro Care Pvt. Ltd based on the TOR issued by SEIAA.
- This is an existing unit and proposed for expansion in manufacturing of synthetic organic chemicals as mentioned below:

Sr No.	Name of Product		Cas No./CI No.	Quantity (MT/Month)			End – use of Products
				Existing	Proposed	Total	
1	2:4:5 Trichloro Aniline	And/ Or	636-30-6	5.60			Dye Intermediate
2	Acid Patent Blue (Blue-7)	And/ Or	129-17-9				Textile Industries / Paper Industries Leather Industries / Ink Industries
3	Acid Violet 4BS (Violet - 49)	And/ Or	1694-09-3				Textile Industries / Paper Industries Leather Industries / Ink Industries
4	Acid Green V (Green 16)	And/ Or	12768-78-4				Textile Industries / Paper Industries Leather Industries / Ink Industries
5	Acid Rhodamine B (Red - 52)	And/ Or	81-88-9				Textile Industries / Paper Industries Leather Industries / Ink Industries
6	Acid Blue 1	And/ Or	116-95-0				Textile Industries / Paper Industries Leather Industries / Ink Industries
7	Solvent Blue 35	And/ Or	17354-14-2		16.5	16.5	Textile Industries / Paper Industries Leather Industries / Ink Industries
8	Solvent Blue 104	And/ Or	116-75-6				Textile Industries / Paper Industries Leather Industries / Ink Industries
9	Solvent Blue 122	And/ Or	67905-17-3				Textile Industries / Paper Industries Leather Industries / Ink Industries
10	Solvent Orange 58	And/ Or	71775-93-4				Textile Industries / Paper Industries Leather Industries / Ink Industries
11	Solvent	And/	6925-				Textile Industries /

	Orange 60	Or	69-5				Paper Industries Leather Industries / Ink Industries
12	Solvent Orange 86	And/ Or	81-64-1	---			Textile Industries / Paper Industries Leather Industries / Ink Industries
13	Solvent Yellow 14	And/ Or	842-07-9				Textile Industries / Paper Industries Leather Industries / Ink Industries
14	Solvent Green-3	And/ Or	128-80-3				Textile Industries / Paper Industries Leather Industries / Ink Industries
15	Solvent Red 127	And/ Or	61969-48-0				Textile Industries / Paper Industries Leather Industries / Ink Industries
16	Solvent Yellow 82	And/ Or	12227-67-7				Textile Industries / Paper Industries Leather Industries / Ink Industries
17	Solvent Black 27	And/ Or	12237-22-8				Textile Industries / Paper Industries Leather Industries / Ink Industries
18	Pigment Red Violet (Red 31)	And/ Or	6448-96-0				Textile Industries / Paper Industries Leather Industries / Ink Industries
19	Pigment Bordex (Red 12)	And/ Or	6410-32-8				Textile Industries / Paper Industries Leather Industries / Ink Industries
20	Pigment Orange 13	And/ Or	3520-72-7				Textile Industries / Paper Industries Leather Industries / Ink Industries
21	Pigment Yellow 2G-12	And/ Or	6358-85-6				Textile Industries / Paper Industries Leather Industries / Ink Industries
22	Pigment Red F4R (Red 8)		6410-30-6				Textile Industries / Paper Industries Leather Industries / Ink Industries

- The project falls under B1 category of project activity 5(f) as per the schedule of EIA Notification 2006.
- PP was called for Video conference meeting for presentation on dated 21.01.2022.
- PP submitted salient features of water, air and Hazardous waste management as under,

Sr. no.	Particulars	Details

A-1 Total **cost of Proposed** Project
(Rs. in Crores):

Existing	Proposed	Total
0.2718 Crores	0.80 Crores	1.0718 Crores

Break-up of proposed project Cost:

Details	Existing (Rs. In Crores)	Proposed (Rs. In Crores)	Total (Rs. In Crores)
Land	--	--	--
Building	0.1597	--	0.1597
Machinery	0.1120	0.8000	0.9120
Others	--	--	--

-

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

-

Sr. No	Unit	Detail	Capital Cost (Rs. In Crores)	Operating Cost (Rs. In Crores)	Maintenance Cost (Rs. In Crores)	Total Recurring Cost (Rs. In Crores)
1	Air	Monitoring of Air Environment	0.09	0.02	0.01	0.03
2	Waste Water	ETP, Common MEE Cost	0.055	0.1	0.07	0.17
3	Noise	Monitoring of Noise	0	0.005	0	0.005
4	Hazardous Management	Transportation cost	0.025	0.01	0.01	0.02
5	AWH Monitoring	Env monitoring	0.03	0.01	0.005	0.015
6	Green Belt Development	Health checkup of workers & employee	0.007	0.0025	0.0025	0.005
7	Occupational Health	Health checkup of workers & employee	0.03	0.005	0.005	0.01
8	Fire & Safety	Fire Hydrant System, Fire Extinguishers	0.08	0.005	0.005	0.01

		& PPE				
9	CER Activity	Social activity will do I near village	0	0.008	0	0.008
Total			0.317	0.1655	0.1075	0.273

Comments:

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

A-3	**Details of CER** -

PP shall carry out CER activities as below:

- ✓ Budget allocated for CER activity 1.0 % of project cost (For Brown field project)-1.72 Lacs
- ✓ Provided Solar roof panel in primary school at kosmadi gam.

B	**Land / Plot ownership details:** Plot No.: C1B/2017: GIDC/DM/CG/ANK/1539
B-1	**Plot area**

Existing	Proposed	Total
704 Sq. m.	0.0 Sq. m.	704 Sq. m.

-

B-2	**Area adequacy** **Table…**

SR NO.	LAND BREAK UP FOR	GROUND FLOOR	FIRST FLOOR	SECOND FLOOR	AREA
1	OFFICE & LAB	-	18	-	18
2	OHC	15	-	-	15
3	UTILITY	20	-	-	20
4	TANK FARM AREA	8	-	-	8
5	SECURITY CABIN	9	-	-	9
6	RAW MATERIAL STORAGE AREA (SOLID)(EXISTING+PROPOSED)	-	15.75	33.75	49.5
7	RAW MATERIAL STORAGE AREA(LIQUID) (EXISTING+PROPOSED)	15.75	-	-	15.75
8	FINISHED GOODS STORAGE (EXISTING + PROPOSED)	18	-	-	18
9	ETP & SOLID WASTE STORAGE AREA	19.8	-	-	19.8
10	SPARY DRYING AREA	15	15	15	45
11	PRODUCTION AREA (EXISTING)	52.58	52.58	52.58	157.74
12	PRODUCTION AREA (PROPOSED)	52.58	52.58	52.58	157.74
13	OPEN AREA (ROADS)	337.49	-	-	337.49
14	GREEN BELT	140.8	-	-	140.8
	TOTAL (SQ.MT)	**704**	**153.91**	**153.91**	**1011.82**

Comments:

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

B-3 **Green belt area**

	Existing	Proposed (Sq. meter)	Total (Sq. meter)
Area in Sq. meter	141.30 (In side Premises)	91.07 (Outside Premise at kosmadi gam)	1749
% of total area	20	13	33

Comments:

The condition shall be given that –

The PP shall develop green belt within premises (141.30 Sq. m within plant and 91.07 sq. Meter outside premises at Kosamdi village i.e. 33 % of the total plot area) as per the undertaking submitted before SEAC. Green belt shall

be developed with native plant species that are significant and used for the pollution abatement as per the CPCB guidelines. It shall be implemented within 3 years of operation phase in consultation with GPCB.

C **Employment generation**

Existing	Proposed	Total
10	20	30

-

D **WATER**

D-1 **Source of Water Supply**

- GIDC Water Supply

Comments:

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

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

-

Category	**Existing** KLD	**Proposed (Additional)** KLD	**Total after Expansion** KLD
(G) Domestic	1.00	0.90	1.90
(H) Gardening	0.10	0.60	0.70
(I) Industrial			
Process	1.00	5.40	6.40
Washing	0.20	1.00	1.20
Boiler	1.70	10.40	12.10
Cooling	0.00	0.50	0.50
Others - Scrubber	0.00	0.20	0.20
Industrial Total	2.90	17.50	20.40
Grand Total (A+B+C)	4.00	19.00	23.00

-

Comments:

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

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

-

Category	**Existing** KLD	**Proposed (Additional)** KLD	**Total after Expansion** KLD
(E) Domestic	0.40	0.80	1.20
(F) Industrial			
Process	1.60	5.60	7.20
Washing	0.20	1.00	1.20
Boiler	0.20	0.55	0.75
Cooling	0.00	0.05	0.05
Others - Scrubber	0.00	0.20	0.20
Total Industrial waste water	2.00	7.40	9.40

-

Comments:

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

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

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

Comments:

1. Domestic wastewater generation shall not exceed 1.20 KL/day for proposed project and it shall be treated in STP. It shall not be disposed off through soak pit/ septic tank. Treated sewage shall be utilized for gardening and plantation purpose within premises after achieving on-land discharge norms prescribed by the GPCB.
2. Unit shall provide STP with adequate capacity.

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

-

Sr. no.	Quantity KLD	Facility
1	4.6	Treated Effluent sent to ETL, Ankleshwar
2	2.95	RO permeate effluent reused in ind. Purpose.
3	1.85	RO Rejected effluent sent to CMEE BEIL
Total	9.4	

Comments,

1. Total Industrial effluent shall be treated in ETP and then 4.60 KLD, treated effluent shall be sent to CETP of ETL for further treatment and disposal while rest of treated effluent shall be further treated in RO plant.
2. 1.85 KLD of RO reject shall be sent to CMEE of M/s. BEIL for evaporation, through GPS fitted tanker and 2.75 KLD, RO permeate shall be reused back in process.
3. Treated waste water shall be discharged into CETP of M/s. ETL and CMEE of M/s. BEIL only after complying with the inlet norms prescribed by GPCB to ensure no adverse impact on Human Health and Environment.

E	**AIR**
E-1	Power (Electricity) requirement : 90 KVA
E-2	**Flue gas emission details**

- **Existing & 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 Pollutants	Air Pollution Control Measures (APCM)
				Existing	Proposed	Total		
1.	Steam Boiler - (0.6 TPH) **(Existing)**	15	Agro waste/ Briquettes	0.48 MT/d	0.97 MT/d	1.45 MT/d	Particulate Matter SOx NOx	Multi Cyclone Separator & water Scrubber

2.	D.G. Set (45 KVA) **(Existing)**	5.0	HSD	408 Liter	--	408 Liter		Adequate Stack height is provided
3.	Steam Boiler (1 TPH) **(Proposed)**	20.0	Natural Gas	--	1000 SCM/d	1000 SCM/d	Particulate Matter SOx NOx	Adequate Stack height will be provided
4.	Hot Air Generator (1 Lac Kcal/Hr) **(Proposed)**	20.0	Natural Gas	--	1000 SCM/d	1000 SCM/d		Adequate Stack height will be provided
5.	Thermopack (Cap. 1 Lac Kcal/Hr) **(Proposed)**	20.0	Natural Gas	--	750 SCM/d	750 SCM/d		Adequate Stack height will be provided

-

E-3	**Process gas**

- Existing & Proposed

Sr. No.	Specific Source of emission	Type of emission	Stack Height (meter)	Air Pollution Control Measures (APCM)
1	Spray Dryer (500 Lit/Hr.) (Proposed)	PM	20	Multi Cyclone Separator & Water Scrubber

-

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

Measures taken for fugitive emission control:

- Proper storage of raw materials, products and fuels.
- Ensuring closed feeding and sampling.
- Establishing SOPs for start-up, shut down and maintenance operational procedures.
- Regular work place monitoring and ambient air quality monitoring as per post project monitoring plan.
- Pneumatically transfer of raw material in reactor.

- PPE will be provided to the workers working in process area.
- Greenbelt will be developed around the plant to arrest the fugitive emission.

Paved road will make to reduce the fugitive emission. Water sprinkler will be provided to reduce the fugitive emission.

Comments for E2, E3 & E4:

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

F	**Hazardous waste**
F-1	**Hazardous waste management matrix**

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Sr. No.	Type of Waste	Source of Generation	Cat. No.	Quantity			Management
				Existing	Proposed	Total	
1	ETP Sludge	Effluent Treatment Plant	35.3	5.0	235.0	240.0	Collection, Storage, Transportation & Disposal at TSDF site at BEIL Ankleshwar
2	Empty barrels/ Containers/Liners Contaminated with hazardous Chemicals/Wastes	Raw Materials & Finished Products	33.1	150.00	--	150.00	Collection, Storage, Transportation Disposal by selling to registered recyclers approved by GPCB/CPCB/Reuse within premises/sell to local scrap vendor
3	Used or Spent Oil	D.G. Set & machinery	5.1	--	0.02	0.02	Maximum quantity reuse in plant & machinery as lubricant and balance quantity dispose by selling to authorized re refiners/recycler approved by GPCB/CPCB.
4	Spent Acid (Dilute Sulphuric Acid - 60%)	Process (Product No. 2)	26.3	216.00	420.00	636.00	Collection, Storage, and 216.00 MT/Year is send to Novel spent acid management, Vatva Ahmedabad and

							420.00 MT/Year will be reuse within same product.
5	Process Waste	From Process (Product No. 1)	26.1	5.00	9.00	14.00	Collection, Storage, Transportation &Disposal by send it to TSDF – BEIL, Ankleshwar
6	Manganese Sulfate (45-50%)	Process (Product No. 2, 5, 6)	26.1	--	113.15	113.15	Collection, Storage, and entire quantity will be reuse within same product.

-

Comments:

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

F-2	Non- Hazardous waste management matrix

STP sludge generation will be 1 MTPA

Comments:

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

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

Product No.	Product Name	Solvent Name	Product Qty.	Generated Quantity (MT/Month)	Recover Solvent (MT/Month)	Recovery efficiency %
1	Solvent Blue 35	N Butyl Amine	16.5	22.95	22.28	97.00
		Methanol		65.25	63.45	97.24
2	Solvent Blue 104	ODCB		22.05	21.38	97.0
		Methanol		70.65	67.95	96.20
3	Solvent Blue 122	IPA		87.75	84.83	96.70
4	Solvent Orange 60	O-Xylene		119.25	115.88	97.20
		Methanol		238.50	233.55	98.0

G-2	LDAR proposed:

- ….NA
- …

G-3	VOC emission sources and its mitigation measures

- Leak Free Pumps for transfer of solvents.
- MSW Gaskets in solvent pipelines to prevent leakage from flanges.
- Minimum number of flanges, joints and valves in pipelines.
- To eliminate chances of leakages from glands of pumps, mechanical seal will be provided at all solvent pumps.
- All the rotating equipment like pumps will be installed with Mechanical Seals to arrest any sort of emissions.
- Condenser and scrubber post Reactor with cooling arrangement.
- Enclosures to chemical storage area, collection of emission from loading of raw materials in particular solvents through hoods and ducts by induced draft, and control by condenser to be ensured.
- In case the small spillage or leakage observed, first pour the china clay (vermiculate) on material and collect the contaminated china clay (vermiculate) and send to ETP.
- If the spillage is of inflammable liquid, switch off all the power supply in the area to prevent Electric Spark.

Comments:

1. Measures for achieving maximum solvent recovery and minimize VOC generation, inclusive of VOC detectors, pumps, maintenance of pipelines, proper ventilation etc., provided are as per requirement.
2. Spent solvents shall be recovered by in-house distillation in such a manner that recovery shall not be achieved to the maximum extent and recovered solvent shall be reused in the process. Solvent recovery system with adequate reflux condensers shall be provided for controlling escape of low boiling solvents (VOCs).

H	SAFETY details after proposed expansion
H-1	Details regarding storage of Hazardous chemicals

-
-

Sr.no	Name of Chemical	Capacity of Tank	Number of Tanks	Hazardous Characteristics of Chemical
3	Oleum 23%	5 KL* 2 Nos.	1	Corrosive

Brief note on storage of Hazardous chemicals in Tanks

- Dyke will be provided to storage tank to collect leakage/spillage
- Provision of Static Earthing
- Fire Extinguisher/Fire Hydrant System
- Lighting /Proper Illumination
- Lightening arrestor
- Trained and experience operators

- NFPA label capacity and content should display on storage tank

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

- 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
Corrosive	- Store corrosives in suitable labeled containers away from incompatible materials, in a cool, dry area. - Store corrosives in areas which are Well ventilated, Supplied with adequate firefighting equipment, Supplied with suitable spill clean-up equipment and materials. - Store containers at a convenient height for handling, below eye level if possible. - Avoid rapid temperature changes in corrosive liquid storage areas. If a tightly-sealed corrosive liquid container is cooled suddenly, a partial vacuum could form inside it. In extreme cases, the container might collapse and leak. - Inspect storage areas regularly for any deficiencies, including corrosion damage, leaking containers, or poor housekeeping.
Flammable	– Materials will be stored as per its compatibility study and separate area will be available for flammable, corrosive and toxic chemical drums storage. – Smoking and other spark, flame generating item will be banned from this area. – NFPA labels will be provided on drums for hazard identification of the chemicals – Safety shower and eyewash shower will be provided near storage area and plant area. – Flame proof electrical equipment's provided in process and storage area. – Onsite emergency will be prepared as per GJR 68 J (9) and train all team members for emergency situation as per risk assessment scenarios outcome.

- **Applicability of PESO:** NO.

Comments:

1. Committee was of the opinion that the provisions of PESO, licensing, condition

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

H-2	**Types of hazardous Processes involved and its safety measures:**

No

H-3	**Details of Fire Load Calculation**

Total Plot Area:	704
Area utilized for plant activity:	212.35
Area utilized for Hazardous Chemicals Storage:	51.75
Number of Floors:	G +2
Water requirement for firefighting in KLD:	20
Water storage tank provided for firefighting in KLD:	50 KL
Details of Hydrant Pumps:	2
Nearest Fire Station :	Bharuch
Applicability of Off Site Emergency Plan:	No

Comments:

The project proponent has proposed fire safety plan which includes fire hydrant line, sprinkler system, fire extinguishers, fire suits, covering the project area and provides for fire water storage tank of 50 KL. SEAC found it as per the requirement.

H-4	**Details of Fire NOC/Certificate:**

Unit will obtain Fire NOC after receipt of EC and before getting CTO.

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

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Number of permanent Employee:	18
Number of Contractual person/Labour:	12
Area provided for OHC:	15
Number of First Aid Boxes:	8
Nearest General Hospital:	Ankleshwar
Name of Antidotes to be store in plant:	--

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Comments

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

- During the SEAC Video conference meeting dated 21.01.2022, Project Proponent (PP) and their technical expert and EIA consultant from M/s. Bhagwati Enviro Care Pvt. Ltd remain present and made technical presentation before the Committee.
- During the meeting, the project was appraised based on the information furnished in the EIA Report and details presented during the meeting.
- The baseline environmental quality has been assessed for various components of the environment viz. air, noise, water, biological and socioeconomic aspect. The baseline environmental study has been conducted for the study area of 10 km radial distance from project site for the period October, 2020 to December 2020. Ambient Air Quality monitoring was carried out for PM_{10}, $PM_{2.5}$, SO_2, NOx, CO, HC, and VOCs at eight locations, including the project site. Values conform to the prescribed standards for Ambient Air Quality. The incremental Ground Level Concentration (GLC) has been computed using ISCST-3. The resultant concentrations are within the NAAQS. The modeling study proved that the air emissions from the proposed plant would not affect the ambient air quality of the region in any significant manner. The ambient air quality around the proposed project site will remain within the National Ambient Air Quality Standards (NAAQS).
- Risk assessment including prediction of the worst-case scenario and maximum credible accident scenarios has been carried out. The detail proposed safeguard measures including On-Site / Off-Site Emergency Plan has been covered in the RA report.
- Upon asking regarding QCI/NABET accreditation for preparation of EIA preparation for proposed project, technical expert of PP informed that they have obtained QCI/NABET accreditation for preparation of EIA/EMP report as per the amended EIA Notification vide S.O. 648 (E) Dated 03.03.2016.
- This is an existing unit established before year 2006 and proposed for manufacturing of synthetic organic chemicals at GIDC Ankleshwar. Unit is having valid CCA of the Board and CCA compliance report submitted by unit. PP presented undertaking stating that there is no legal court case, public complaint and legal notice issued by GPCB in last three years.
- Deliberation of Committee:
    - ✓ Product profile with its end-use is discussed in depth. PP informed that they will manufacture four products from proposed product list considering area adequacy of project.
    - ✓ Source of water supply is GIDC.
    - ✓ Committee noted that PP has addressed area adequacy with layout plan for proposed project site. Looking to proposal of expansion of production from 5.6 MT/Month to 16.5 MT/Month in plot size of only 704 sq. Meter, Committee asked for justify adequacy of proposed expansion project.

Technical expert of PP informed that proposed dyes products manufacturing process is simple one stage reaction and no addition of plant machinery in spite of only size of reactor.

- ✓ Domestic effluent will be treated in STP.
- ✓ Total effluent will be treated in ETP and then will be sent to CETP of M/s. ETL and rest of effluent further treated in RO plant and RO reject sent to CMEE of M/s. BEIL, Ankleshwar.
- ✓ Agro waste/ briquette as fuel for existing Boiler and HAG along with APCM and stack height and natural gas as APCM proposed for proposed boiler,HAG.
- ✓ In built Multi Cyclone separator and water scruber as APCM proposed for spray dryer.
- ✓ Exhausted scrubbing media will be selling out as per the HW Rules.
- ✓ PP submitted hazardous waste matrix mentioning source of generation, quantity and Mode of disposal and committed to comply the Hazardous and Other Wastes (Management and Trans boundary Movement) Rules 2016.
- ✓ Committee deliberated on Process safety, area adequacy and layout plan, Fire safety, water balance & waste water management, Flue gas and process gas emission & Air Pollution Control System, Hazardous waste matrix, EMP, CER, LDAR and solvent recovery, Green belt, Risk assessment, baseline data etc.

- Looking to stack height for proposed boiler and HAG, Committee insisted for revised flue gas emission matrix with mentioning adequate stack height for which PP is agreed upon and later on submitted revised stack height details, through e-mail.
- Since the proposed project is located in notified industrial area, public consultation is not required as per paragraph 7(i) (III) (I) (b) of the Environment Impact Assessment Notification 2006.
- **After detailed discussion, Committee unanimously decided to recommend the project to SEIAA, Gujarat for grant of Environment Clearance with the following specific condition:**

SPECIFIC CONDITIONS:

1. Project proponent (PP) shall install CEMS **[Continuous Emission Monitoring System]** in line to CPCB directions to all SPCB vide letter no. B-29016/04/06PCI-1/5401 dated 05/02/2014 for effluent discharge and air emission as per pollutants discharge/emission from respective project and an arrangement shall also be done for reflecting the online monitoring results on the company's server, which can be assessable by the GPCB/CPCB on real time basis. **[For Small/Large/Medium (Red Category) & Whichever (Air emission & Effluent discharge) is applicable]**.
2. Close loop solvent recovery system with adequate condenser system shall be provided to recover solvent vapours in such a manner that recovery shall be maximum and recovered solvent shall be reused in the process within premises.
3. Leak Detection and Repair (LDAR) program shall be prepared and implemented as per the CPCB guidelines. LDAR Logbooks shall be maintained.

4. PP shall not manufacture more than four products from proposed product list at a given point of time, as per details submitted by PP.
5. The National Ambient Air Quality Emission Standards issued by the Ministry vide G. S. R. No. 826 (E) dated 16th November, 2009 shall be complied with.
6. National Emission Standards for Organic Chemicals Manufacturing Industry issued by the Ministry vide G. S. R. 608 (E) dated 21/07/2010 and amended from time to time shall be followed.
7. Unit shall have to adhere to the prevailing area specific policies of GPCB with respect to the discharge of pollutants, and shall carry out the project development in accordance & consistence with the same.
8. The project proponent must strictly adhere to the stipulations made by the Gujarat Pollution Control Board, State Government and/or any other statutory authority.
9. All measures shall be taken to avoid soil and ground water contamination within premises.
10. Project proponent (PP) shall adopt appropriate methods for segregation of waste water streams based on characteristics at source and its sound management keeping in view direction under section 18 (1) (b) of the Water (Prevention and Control of Pollution) act, 1974 issued by CPCB regarding compliance of CETP.

WATER

11. Total water requirement for the project shall not exceed 23 KLD. Unit shall reuse 4.15 KLD of treated industrial effluent within premises. Hence, fresh water requirement shall not exceed 18.85 KLD and it shall be met through GIDC water supply only. Prior permission from concerned authority shall be obtained for withdrawal of water.
12. The industrial effluent generation from the project shall not exceed 9.40 KLD after expansion.
13. Total Industrial effluent shall be treated in ETP and then 4.60 KLD, treated effluent shall be sent to CETP of ETL for further treatment and disposal while rest of treated effluent shall be further treated in RO plant.
14. 1.85 KLD of RO reject shall be sent to CMEE of M/s. BEIL for evaporation, through GPS fitted tanker and 2.75 KLD, RO permeate shall be reused back in process.
15. Treated waste water shall be discharged into CETP of M/s. ETL and CMEE of M/s. BEIL only after complying with the inlet norms prescribed by GPCB to ensure no adverse impact on Human Health and Environment.
16. Domestic wastewater generation shall not exceed 1.20 KL/day for proposed project and it shall be treated in STP. It shall not be disposed off through soak pit/ septic tank.
17. Unit shall provide ETP and RO with adequate capacity.
18. The PP shall ensure to dispose off Waste water to the Common Facilities having valid CTO of GPCB.

AIR

19. Unit shall not exceed fuel consumption and provide APCM and Stack height as mentioned in flue gas matrix.

20. Unit shall provide APCM and stack height as mentioned in process gas matrix.
21. PP shall use approved fuels only as fuel in boilers.

HAZARDOUS & SOLID WASTE

22. All hazardous solid waste shall be managed as mentioned in hazardous waste matrix.
23. The unit shall submit the list of authorized end users of hazardous wastes along with MoU signed with them at least two months in advance prior to the commencement of production. In the absence of potential buyers of these items, the unit shall restrict the production of the respective items.

GREENBELT AREA

24. The PP shall develop green belt within premises (141.30 Sq. m within plant and 91.07 sq. Meter outside premises at Kosamdi village i.e. 33 % of the total plot area) as per the undertaking submitted before SEAC. Green belt shall be developed with native plant species that are significant and used for the pollution abatement as per the CPCB guidelines. It shall be implemented within 3 years of operation phase in consultation with GPCB.
25. **Safety & Health:**
    a) PP shall provide Occupational Health Centre (OHC) as per the provisions under the Gujarat Factories Rule 68-U.
    b) PP shall obtain fire safety certificate / Fire No-Objection certificate (NOC) from the concern authority as per the prevailing Rules / Gujarat Fire Prevention and Life Safety Measures Act, 2016.
    c) Unit shall adopt functional operations/process automation system including emergency response to eliminate risk associated with the hazardous processes.
    d) PP shall carry out mock drill within the premises as per the prevailing guidelines of safety and display proper evacuation plan in the manufacturing area in case of any emergency or accident.
    e) PP shall install adequate fire hydrant system with foam trolley attachment within premises and separate storage of water for the same shall be ensured by PP.
    f) PP shall take all the necessary steps for control of storage hazards within premises ensuring incompatibility of storage raw material and ensure the storage keeping safe distance as per the prevailing guidelines of the concerned authority.
    g) PP shall take all the necessary steps for human safety within premises to ensure that no any harm is caused to any worker/employee or labor within premises.
    h) Flame proof electrical fittings shall be provided in the plant premises, wherever applicable.
    i) Unit shall never store drum/barrels/carboys of incompatible material/chemical together.
    j) Unit shall provide effective fire hydrants, water monitors & foam application system at solvent storage tank farm area. Unit shall provide adequate safety system such as water sprinklers, water curtains, foam pouring system etc. to restrict cascade fire emergency in solvent tank

farm.

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

7.	SIA/GJ/IND2/68572/2019	**M/s. Nilkanth Organics pvt.ltd.** Plot No.: A1-3806, G.I.D.C., Ankleshwar - 393002, Dist: Bharuch.	Appraisal

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

Project status: **Expansion**

- Project proponent (PP) has submitted online application vide no. SIA/GJ/IND2/68572/2019 on dated 01.12.2021 for obtaining Environmental Clearance.
- ToR issued by SEIAA to proposed project vide letter dated 16-05-2019 .
- Project proponent has submitted EIA Report prepared by M/s. Bhagwati Enviro Care Pvt. Ltd based on the TOR issued by SEIAA.
- This is an existing unit and proposed for expansion in manufacturing of synthetic organic chemicals as mentioned below:

Sr. no.	Name of the Products	CAS no. / CI no.	Quantity MT/Month			End-use of the products
			Existing	Proposed	Total	
1	Resist Salt	127-68-4	50	300	350	Intermediate For Dyes, Textiles, Oxidizing Agent For Electroplating, Food Products, Auxiliary For Printing Fabrics
2	Metanilic Acid	121-47-1	0	200	200	Used As Raw Material For Production Of M-Amino Phenol And N-N Di Ethyl-M-Amino Phenol
3	3,3 Di Nitro Di Phenyl Sulphone	1228-53-1	0	25	25	Intermediate For Dyes, Textiles, Oxidizing Agent For Electroplating
		Total	50	525	575	

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

- PP was called for Video conference meeting for presentation on dated 21.01.2022.
- PP submitted salient features of water, air and Hazardous waste management as under,

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

Existing	Proposed	Total
0.86 Crores	2.66 Crores	3.52 Crores

Break-up of proposed project Cost:

Details	Existing (Rs. In Crores)	Proposed (Rs. In Crores)	Total (Rs. In Crores)
Land	0.28	0	0.28
Building	0.27	0	0.27
Plant &Machinery	0.31	2.66	2.97

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

Sr. No	Unit	Detail	Capital Cost (Rs. In Lac)	Operating Cost (Rs. In Lac)	Maintenance Cost (Rs. In Lac)	Total Recurring Cost (Rs. In Lac)
1	Waste Water	ETP & STP In House Spray Dryer Sent to Spray Dryer	20.0	80.0	40.0	120.0
2	Air	Steam Boiler, HAG, Spray Dryer	20.0	10.0	5.0	15.0
3	Hazardous Management	Membership fees of TSDF, MOU	10.0	3.0	2.0	5.0

4	Fire & Safety	Fire Hydrant System & Fire Extinguishers Provision of safety equipment	15.0	2.0	0.0	2.0
5	AWH Monitoring	CEMS Provision. Monitoring by authorized agency	1	0.25	0.25	5
6	Noise Monitoring	Monitoring by authorized agency	0.0	0.0	1.0	1.0
7.	Green Belt Development	For develop gardening area & trees planted	2.0	3.0	0.0	3.0
8.	Occupational Health	OHC & health checkup of workers	1.0	2.0	2.0	4.0
9.	CER Activity	Fund allocation for social activity at nearest village.	0.0	2.66	0.0	2.66
Total			69	102.91	50.25	157.66

Summary

Cost of Project in Crores per Annum:	3.52
EMP Capital Cost in Crores per Annum and Percentage:	0.69 (19.60%)
EMP Recurring Cost in Crores per Annum and Percentage:	1.57 (44.60%)

A-3	Details of CER as per OM dated 01/05/2018(In case of project falls under CPA/SPA, CER fund allocation to be at least 1.5 times the slabs given in the OM dated 01.05.2018 for SPA and 2 times for CPA

in case of Environmental Clearance as per the mechanism published vide MoEF&CC's OM vide 31.10.2019.)

% as per the OM	Rs. in Crores
1	0.266

In case of more than % as per the OM, mention the same.

Brief note on proposed activities for CER:

S. No	CER Activity	1st Year	ProposedAction Plan
1	Medical facility	0.266 lcs	Drinking water facility at Adol gam
Total CSR Budget		0.266	

B	Land / Plot ownership details:
B-1	Plot area

Existing	Proposed	Total
2738 Sq. m.	00 Sq. m.	2738 Sq. m.

B-2 Brief note on Area adequacy in line to proposed project activities:

Sr. No.	Particulars	LAND AREA (Sq. m.)	% of Land Us (at ultimate)
1	Office & Lab	58.33	2.13
2	OHC	15.04	0.55
3	Utility	116.87	4.27
4	Security Cabin	10.08	0.37
5	Raw Material Storage	156.62	5.72
6	Production	847.02	30.94
7	Finish Good Storage area	48.31	1.76
8	Roads	589.00	21.51
9	Greenbelt	904.25	32.75
	Total	2738.00	100

B-3 Green belt area

	Existing	Proposed (Sq. meter)	Total (Sq. meter)
Area in	904.25	0	904.25

		Sq. meter			
		% of total area	33.00	0	33.00

In case of GREEN-BELT partly outside premises, give complete details like exact location (Lat-Long), Agreement/MoU with specific area etc.

C	Employment generation

Existing	Proposed	Total
14	50	64

In case of Indirect employment, Give details.

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

ategory	Existing KLD	Proposed (Additional) KLD	Total after Expansion KLD	Remark
(J) Domestic	1	4	5	
(K) Gardening	0	2	2	
(L) Industrial				
Process	5.7	79	84.7	
Washing	0	2	2	
Cooling	1	1	2	
Boiler	0	2	2	

Industrial Total	6.7	84.0	90.7		
Grand Total (A+B+C)	7.7	90.0	97.7		

Brief Note on worst case scenario for water consumption:

Sr. No.	Product	Batch Size (in Kg)	No. Of Batch/ Month	Production in MT/Month	Water Consumption in KL/Batch	Water Consumption in KL/Day
1	Reactive Blue H5G	1700	74	125	0.86	2.1
2	Reactive Blue G	1700	74	125	0.86	2.1
3	Pigment Beta Blue	2500	50	125	10.875	18.1

-

Summary of water requirement	Existing KLD	Proposed (Additional) KLD	Total after Expansion KLD	Remarks
Total water requirement for the project (A)	7.7	90.0	97.7	
Total fresh water requirement (B)	00	39.2	39.2	
Total Quantity to be recycled (C)	00	58.5	58.5	
Ensure Total water requirement = Fresh water + Recycled water				

i.e. A = B + C

Reuse/Recycle details (KLD) with feasibility.
[Source of reuse & application area]

Source of waste water for reuse in KLD (From where it is coming)	Application area with quantity in KLD (Where it is used)	Characteristics of waste water to be reused (COD, BOD, TDS etc.)	Remarks regarding feasibility to reuse
Process: 53.5	Process: 53.5	pH – 6.9-7.0 COD – 650-800 mg/L BOD – 450-550 mg/L	

In case of no reuse/recycle of waste water, Give brief note on justification as why no reuse/recycle.

- NA

D-3

Waste water generation (KLD)

ategory	Existing KLD	Proposed (Additional) KLD	Total after Expansion KLD	Remark
(G) Domestic	1	4	5	
(H) Industrial				
Process	0	62.5	62.5	
Washing	0	2	2	
Cooling	0	0.1	0.1	
Boiler	0	0.2	0.2	
	0	64.8	64.8	

	Total Industrial waste water					

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

Industrial: 64.8 KLPD

@ 53.5 KLPD will be reused in manufacturing process and remaining @ 11.3 KLPD will be treated Primary ETP and then spray dried in in-house spray dryer.

Sr. No.	Product	Batch Size (in Kg)	No. Of Batch/ Month	Production in MT/Month	Water Consumption in KL/Batch	Water Consumption in KL/Day
1	Reactive Blue H5G	1700	74	125	1.21	3
2	Reactive Blue G	1700	74	125	1.756	4.3
3	Pigment Beta Blue	2500	50	125	9.375	15.6

Brief justification in case of no process effluent generation or no industrial effluent generation or no high concentration effluent generation from proposed project (Whichever is applicable).

- Not Applicable.

D-4	Mode of Disposal & Final meeting point (Existing and Proposed)

Existing and Proposed

Domestic:	Domestic wastewater @5 KLPD will be treated in STP and reused in gardening.
Industrial:	Industrial: 64.8 KLPD @ 53.5 KLPD will be reused in manufacturing process and remaining @ 11.3 KLPD will be treated Primary ETP and then spray dried in in-house spray dryer.

-

Clearly mention about final disposal

D-5	Treatment facilities

For Domestic waste water:

Capacity of STP: -- 6 KLPD

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

- 20 KLPD primary Treatment plant

Sr. No.	Parameter	Concentration	
		ETP Inlet	ETP Outlet
1	pH	6.5-7.0	7.0-7.5
2	COD	800-1000 mg/L	600-800 mg/L
3	BOD	400-450 mg/L	300-350 mg/L
4	TDS	2500-3000 mg/L	2500-3000 mg/L
5	TSS	150-200 mg/L	80-100 mg/L

Note: (In case of CETP discharge) :

Management of waste water keeping in view direction under section 18 (1) (b) of the Water (Prevention and Control of Pollution) act, 1974 issued by CPCB regarding compliance of CETP.

- ZLD unit

Brief note on adequacy of ZLD (In case of Zero Liquid Discharge):

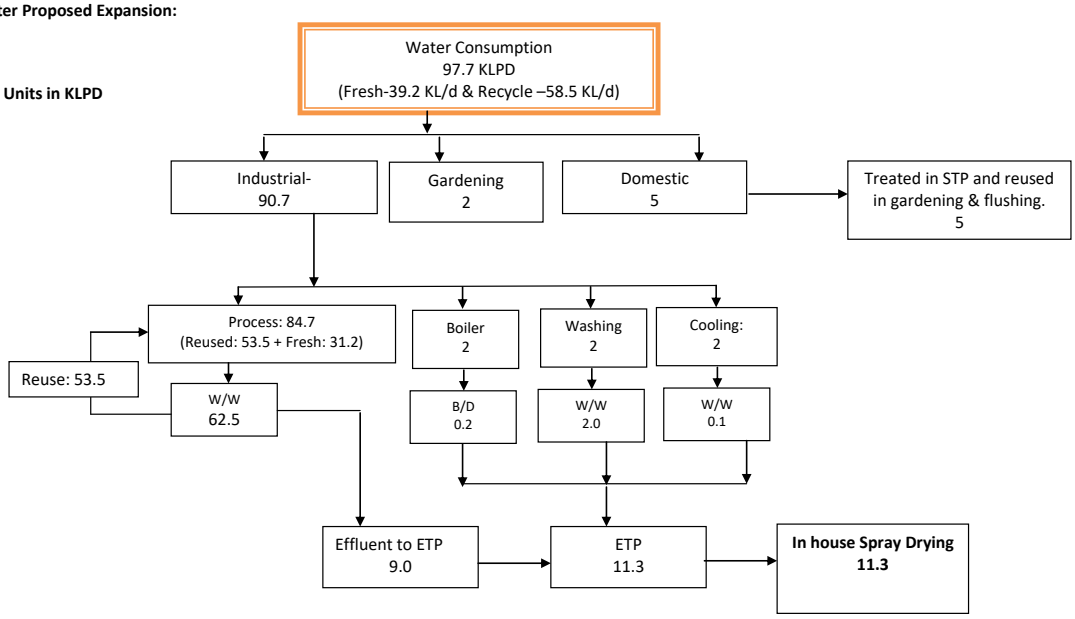
Generated Ind. effluent will be treated in Primary treatment and RO system then some quantity of RO rejected effluent spray dried in in-house spray dryer and remaining quantity of effluent will be sent to CETP of ETL, Ankleshwar.

D-6	In case of Common facility (CF) i.e. CETP, Common Spray dryer, Common MEE, CHWIF etc. Name of Common facility (CF) (For waste water treatment)
	➢ NO
	Membership of Common facility (CF) mentioning total capacity, consented quantity, occupied capacity and spare capacity and norms of acceptance of effluent from member unitsin-line with the direction given by GPCB vide Letter No. GPCB/P-1/8-G (5)/550706 dated 08/01/2020.
	➢ NO

D-7Simplified water balance diagram with reuse / recycle of waste water (Existing and Proposed)

After Proposed Expansion:

All Units in KLPD



E	AIR
E-1	Brief Note on fuel based Heat energy requirement and worst case scenario thereof:

- Natural gas is used as fuel in IBR Boiler & HAG.

E-2	Flue gas emission details No. of Boilers/TFH/Furnaces/DG sets etc. with capacities viz. TPH, Kcal/hr, MT/hr, KVA etc. (In case of Project located within CPA/SPA , APCM shall be in line to the mechanism published in the MOEFCC's OM vide dated 31.10.2019)

Existing & Proposed

A	Stack Attached To	Qty. of Fuel To be Used	Type of Fuel	Stack Height (m)	Air Pollution Control Measure
1	Small industrial Boiler-I (Cap.600 Lit/Hr.) (Existing)	Natural Gas	400 SCM/d(Ex.)+ 600 SCM/d (Pro.)	20	Adequate Stack
2	Hot Air Generator-I (Cap. 80000 KCAL/Hr.) (Existing)	Natural Gas	250 SCM/d(Ex.)+ 1250SCM/d (Pro.)	20	Adequate Stack

3	D.G. Sets (63 KVA) (Existing)	Diesel	15 lit/hr	9	----	
4	Thermic Fluid Heater-I (Cap.200000 KCAL/Hr.) (Proposed)	Natural Gas	500 SCM/d	20	Adequate Stack	
5	Thermic Fluid Heater-II (Cap.200000 KCAL/Hr.) (Proposed)	Natural Gas	500 SCM/d	20	Adequate Stack	
6	Thermic Fluid Heater-III (Cap.200000 KCAL/Hr.) (Proposed)	Natural Gas	500 SCM/d	20	Adequate Stack	
7	Hot Air Generator-II (Cap. 400000 KCAL/Hr.) (Proposed)	Natural Gas	650 SCM/d	20	Adequate Stack	
8	Hot Air Generator-III (Cap. 400000 KCAL/Hr.) (Proposed)	Natural Gas	650 SCM/d	20	Adequate Stack	

E-3	Process gasi.e. Type of pollutant gases (SO_2, HCl, NH_3, Cl_2, NO_x etc.)

Existing & Proposed

Sr. no.	Specific Source of emission (Name of the Product & Process)	Type of emissions i.e. Air Pollutants (SO2, HCl, Cl etc.)	Stack/Vent Height (meter)	Air Pollution Control Measures (APCM)
1	Spray Dryer (Inbuilt HAG) (500 Lit/Hr.) (Proposed)	PM	11	Wet scrubber and Cyclone Separator
2	SFD (Spin Flash Dryer)(Inbuilt HAG) (300 KGS/Hr.) (Proposed)	Particulate Matter	11	Cyclone Separator And bag filter

	3	Fluid Bed Dryer	Particulate Matter	11	Cyclone Separator followed by bag filter

Note:

- Details of gaseous raw materials used in proposed project:No any Gaseous RM used.
- Estimation of process gas emission (Product wise and Total): No process gas generated from the manufacturing process.
- Requirement of the scrubbing media (KL per Day) considering solubility (Product wise and Total):--
- Yearly generation of all bleed liquors (MT/KL per Annum) as mentioned above and its: sound management in HW matrix.=--

E-4	Fugitive emission details with its mitigation measures.
	Sources of fugitive emissions include storage of chemicals, loading and unloading section, raw material handling, hazardous waste storage area. Mitigation Measures - Water shall be sprinkled during the construction - Mechanical seals for pumps etc. should be used and maintained. - Closed unloading, conveying and packing system - All the reactors shall be closed. - Safety devices shall be provided to workers - Raw material storage in closed storage area
F	Hazardous waste (As per the Hazardous and Other Wastes (Management and Transboundary Movement) Rules 2016. Note: ➢ Priorities for HW Management: Pre-processing, Co-Processing, Reuse/Recycle within premises, Sell out to actual users having Rule-9 permission, TSDF/CHWIH. ➢ Quantification of hazardous waste shall be based on mass balance and calculations shall be incorporated in EMP details separately. ➢ Disposal to scrap vendors/vendors/traders is not allowed
F-1	Hazardous waste management matrix

Existing & Proposed

Sr. No.	Type of Waste	Source of Generation	Cat. No.	Quantity			Facility
				Existing	Proposed	Total	

1	ETP waste	ETP Plant	35.3	0.0	4 MT/Yr	4 MT/yr	Collection, Storage, Transportation & Disposed to TSDF Site.
2	Used Oil	Plant & Machinery	5.1	0.006 KL/Year	0.02 KL/Yea r r	0.026 KL/Year	Collection, Storage, Transportation, Disposal by selling to Register refiners.
3	Discarded Drums Bag/Liners/Containers.	Raw Material Storage Area	33.3	2 MT /Year	1 MT/Year	3 MT/Year	Used for Packing of ETP Waste or return back to Raw material Supplier.
4	Gypsum Waste from Process	Resist Salt & Metanilic Acid	26.1	240 MT/Year	4956 MT/Year	5196 MT/Year	Collection, Storage, Transportation, Sell to Cement Mfg. Fertilizers unit.
5	Iron Waste from process.	Metanilic Acid	26.1	0 MT/Year	450 MT/Year	450 MT/Year	Collection, Storage, Transport to Cement Industries for co-processing.
6	Salt	Spray Dryer	--	0 MT/year	8 MT/year	8 MT/year	Collection, Storage, Transportation & Disposed to TSDF Site.

-

F-2	Membership details of TSDF, CHWIF etc. (For HW management)	
Details of Membership letter no. & Date with spare capacity of the Common Facility. ➢ BEIL, Ankleshwar		
F-3	Details of Non-Hazardous waste & its disposal (MSW and others)	Not Applicable
G	Solvent management, VOC emissions etc.	

G-1	Brief Note on types of solvents, Details of Solvent recovery, % recovery, reuse of recovered Solvents etc.
No Solvent any solvent used in manufacturing process.	
G-2	Brief Note on LDAR proposed:
➢ Please refer Annexure_LDAR	
G-3	VOC emission sources and its mitigation measures

- Leak free pumps for transfer of solvents.
- MSW Gaskets in solvent pipelines to prevent leakage from flanges.
- Minimum number of flanges, joints and valves in pipelines.
- To eliminate chances of leakages from glands of pumps, mechanical seal will be provided at all solvent pumps.
- All the rotating equipment like pumps will be installed with mechanical seals to arrest any sort of emissions.
- Condenser and scrubber post reactor with cooling arrangement.
- Enclosures to chemical storage area, collection of emission from loading of raw materials in particular solvents through hoods and ducts by induced draft, and control by condenser to be ensured.
- In case the small spillage or leakage observed, first pour the china clay(vermiculate) on material and collect the contaminated china clay (vermiculate) and send to ETP.
- If the spillage is of inflammable liquid , switch off all the power supply in the area to prevent Electric Spark.

H	SAFETY details
H-1	Details regarding storage of Hazardous chemicals (For tank storages only including spent acid and spent solvent tanks)

-

Sr.no	Name of Chemical	Maximum Storage Capacity (MT)	Capacity in KL/ Number of Tanks	Hazardous Characteristics of Chemical
1	Hydrochloric Acid (30 %)	3	5*1	Corrosive

Brief note on storage of Hazardous chemicals in Tanks

- Dyke will be provided to storage tank to collect leakage/spillage
- Provision of Static Earthing
- Fire Extinguisher/Fire Hydrant System
- Lighting /Proper Illumination
- Lightening arrestor
- Trained and experience operators
- NFPA label capacity and content should display on storage tank

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

- NA

Safety details of Hazardous Chemicals:

Type of Hazardous Chemicals	Safety measures
Hydrochloric Acid (30 %)	Keep locked up.. Keep container dry. Do not ingest. Do not breathe gas/fumes/ vapor/spray. Never add water to this product. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents, reducing agents, combustible materials, organic materials, metals, acids, alkalis, moisture. May corrode metallic surfaces. Store in a metallic or coated fiber board drum using a strong polyethylene inner package.

- Applicability of PESO : Not applicable

H-2	Types of hazardous Processes involved and its safety measures: (Hydrogenation process, Nitration process, Chlorination process, Exothermic Reaction etc.)

Not Applicable

Type of Process	Safety measures including Automation

H-3	Details of Fire Load Calculation

-

Total Plot Area:	2738
Area utilized for plant activity:	847.02
Area utilized for Hazardous Chemicals Storage:	141.43
Number of Floors:	GL floor+1
Water requirement for firefighting in KLD :	50 KLD
Water storage tank provided for firefighting in KLD:	100
Details of Hydrant Pumps:	1) Electric Motor Driven, Horizontal Centrifugal Fire Pump of capacity 93.67 m3/Hr @ 65 MWC head

		2) Electric Motor Driven, Horizontal Centrifugal Jockey Pump of capacity 10.8 m3/Hr @ 65 MWC head 3) Diesel Engine Driven, Horizontal Centrifugal type Stand-By Fire Pump of capacity 93.67m3/hr @ 65 MWC head
	Nearest Fire Station :	Ankleshwar GIDC
	Applicability of Off Site Emergency Plan:	No

-

H-4	Details of Fire NOC/Certificate:
Attached here with.	
H-5	Details of Occupational Health Centre (OHC):

-

Number of permanent Employee :	64
Number of Contractual person/Labour :	00
Area provided for OHC:	15.04
Number of First Aid Boxes :	03
Nearest General Hospital :	GIDC, Ankleshwar
Name of Antidotes to be store in plant :	--

- During the SEAC Video conference meeting dated 21.01.2022, Project Proponent (PP) and their technical expert and EIA consultant from M/s. Bhagwati Enviro Care Pvt. Ltd remain present and made technical presentation before the Committee.
- During the meeting, the project was appraised based on the information furnished in the EIA Report and details presented during the meeting.
- The baseline environmental quality has been assessed for various components of the environment viz. air, noise, water, biological and socioeconomic aspect. The baseline environmental study has been conducted for the study area of 10 km radial distance from project site for the period October, 2020 to December 2020. Ambient Air Quality monitoring was carried out for PM_{10}, $PM_{2.5}$, SO_2, NOx, CO, HC,HCl

and VOCs at eight locations, including the project site. Values conform to the prescribed standards for Ambient Air Quality. The incremental Ground Level Concentration (GLC) has been computed using ISCST-3. The resultant concentrations are within the NAAQS. The modeling study proved that the air emissions from the proposed plant would not affect the ambient air quality of the region in any significant manner. The ambient air quality around the proposed project site will remain within the National Ambient Air Quality Standards (NAAQS).

- Risk assessment including prediction of the worst-case scenario and maximum credible accident scenarios has been carried out. The detail proposed safeguard measures including On-Site / Off-Site Emergency Plan has been covered in the RA report.
- Upon asking regarding QCI/NABET accreditation for preparation of EIA preparation for proposed project, technical expert of PP informed that they have obtained QCI/NABET accreditation for preparation of EIA/EMP report as per the amended EIA Notification vide S.O. 648 (E) Dated 03.03.2016.
- This is an existing unit established before year 2006 and proposed for manufacturing of synthetic organic chemicals at GIDC Ankleshwar. Unit is having valid CCA of the Board and CCA compliance report submitted by unit. PP presented one Notice of Direction under Water Act issued by GPCB in last three years and its reply submitted at GPCB presented by PP.
- Deliberation of Committee:
    - ✓ Product profile with its end-use is discussed in depth.
    - ✓ Source of water supply is GIDC.
    - ✓ Committee noted that PP has addressed area adequacy with layout plan for proposed project site. Looking to proposal of expansion of production from 50 MT/Month to 575 MT/Month in plot size of 2738 sq. Meter, Committee asked for justify adequacy of proposed expansion project. Technical expert of PP could not justify it during meeting and also layout plan not mentioning adequate approach road to utility, oleum storage with spare storage tank and other hazardous chemical storage as per its type of hazard and compatibility chart.
    - ✓ Domestic effluent will be treated in STP.
    - ✓ 9 KLD effluent from process and other utility and washing effluent will be treated in ETP and then will be evaporated in in-house spray dryer while rest of 53.50 KLD process effluent from production will be directly reused back in process.
    - ✓ Natural gas as fuel for Boiler and HAG proposed.
    - ✓ In built Cyclone separator and bag filter with deep tubing system as APCM proposed for spray dryer. Even though usage of 65% oleum for sulphonation process and HCl wth iron powder for reduction process as raw material for proposed project , technical expert of PP have not submitted process stack and APCM with stack details for sulphonation and reduction reactor and hence Committee asked for submission of clarification regarding it.
    - ✓ Exhausted scrubbing media will be selling out as per the HW Rules.

- ✓ PP submitted hazardous waste matrix mentioning source of generation, quantity and Mode of disposal and committed to comply the Hazardous and Other Wastes (Management and Trans boundary Movement) Rules 2016. Looking to hazardous waste matrix showing ETP sludge generation quantity showing only 4 MT/year which is not proportionate for dyes intermediate products production capacity of 575 MT/month and hence committee insisted for justification of it.
- ✓ Committee deliberated on Process safety, area adequacy and layout plan, Fire safety, water balance & waste water management, Flue gas and process gas emission & Air Pollution Control System, Hazardous waste matrix, EMP, CER, LDAR and solvent recovery, Green belt, t, baseline data etc. Looking to CER activity not mentioning about environment field activity , Committee insisted for revised CER like roof top solar panel to nearby need based villages gram panchayat or school building.

- Looking to presentation not mentioning details of 65% oleum risk assessment along with other hazardous chemical storage and its handling, Committee insisted for submission of risk assessment regarding it.
- Since the proposed project is located in notified industrial area, public consultation is not required as per paragraph 7(i) (III) (I) (b) of the Environment Impact Assessment Notification 2006.
- **After detailed discussion, Committee unanimously decided to consider the project in one of next upcoming meeting ony after submission of following documents,**

1. Revised layout plan and area adequacy with mentioning adequate approach road to utility, adequate size peripheral road, oleum storage with spare storage tank and other hazardous chemical storage as per its type of hazard and compatibility chart.
2. Technical clarification with mass balance and chemical reaction for not submitted process stack and APCM with stack details for sulphonation and reduction reactor even though usage of 65% oleum for sulphonation process and HCl wth iron powder for reduction process as raw material for proposed project.
3. Technical justification with mass balance for mentioning ETP sludge generation quantity showing only 4 MT/year which is not proportionate for dyes intermediate production plant of capacity 575 MT/month.
4. Revised CER like roof top solar panel to nearby need based village's gram panchayat or school building.
5. Risk assessment of 65% oleum along with other hazardous chemical storage and its handling considering its storage and its handling and super imposition of dispersion model of oleum gas on proposed project area considering any leakage or blast of oleum tank or its handling and its impact on surrounding residential area with its remediation control measures along with details of population affected.

8.	Offline	**M/s. Natural Bleach Earths Pvt. Ltd.** Survey No. : 904, Village: Dhaneti, Bhuj – Bhachau Highway, Tal: Bhuj, Dis: Kutch	Appraisal

Category of the unit: **2(b)**

Project status: **Expansion**

- Project proponent (PP) has submitted offline application by submission of form-1 and PFR of proposed project for obtaining Environmental Clearance.
- This is new unit proposes for Mineral Beneficiation as tabulated below:

Sr. No.	Name of the Products	CAS no. /CI no.	Quantity MT/Month	End-use of products
1	Activated bleaching Clay/ Earth	1302-78-9	1200	Refining edible and non-edible oil (Oil Refining)
2	Precipitated Silica	7631-86-9	300	Rubber, Plastics Fillers

- The project falls under Category B2 of project activity 2(b) as per the schedule of EIA Notification 2006. The mineral beneficiation activity listed in the schedule as Category 'B', with production 20,000TPA, involving only in physical beneficiation is considered to be in category B2. The proposed project will be involved in physical beneficiation only with 18,000 TPA capacity of Activated Bleaching earth. Hence, B2 category is justified.
- The proposal was considered in the meeting dated 21.01.2022.
- During the meeting dated 21.01.2022, 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 of PP, Envirocare Technocrats Pvt. Ltd remains present during video conference meeting.
- Committee noted that technical expert of PP submitted fresh application and mentioned in presentation that previous EC application had rejected by SEIAA vide letter no: SEIAA/GUJ/EC/2(b)/1518/2021 dated: 14/10/2021. Upon asking regarding clarification for whether PP applied for fresh application or rejected application, technical expert of PP informed that they have applied as fresh application at SEIAA and acknowledgement copy of it presented by PP. But PP could not represent previous application rejection status. Hence Committee informed technical expert of PP that this case shall be heard only after clarification about fresh application or it is previous application proposal which rejected by SEIAA on dated 14/10/2021for proposed project.
- **After detailed discussion, it was decided to defer the project in one of upcoming meeting only after submission of clarification about this one is fresh application or previous application**

proposal which rejected by SEIAA on dated 14/10/2021 for proposed project along with supporting authenticated document for clarification.

9.	SIA/GJ/IND2/200031/2021	**M/s Kanchan Cera Coat Pvt Ltd**. Plot no- D2/E/309, Dahej II, Galendra,Ta-Vagra, Dist - Bharuch	EC-Reconsideration

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

Project status: New

- Project proponent (PP) submitted online application vide no. SIA/GJ/IND2/200031/2021on dated 26.02.2021 for obtaining Environmental Clearance.
- Project proponent has submitted Form – 1, Pre-Feasibility Report & Environment Management Plan as per Notification issued by MoEF&CC vide S.O. 1223(E) dated 27th March, 2020 regarding consideration of proposals or activities in respect of Active Pharmaceuticals Ingredients (API) as B2 category.
- This is a new project proposed for manufacturing of synthetic organic chemicals **[API & its Intermediates]** as tabulated below.

Sr. No.	Name of the Products	API OR INTERMEDIATE	CAS no.	Quantity MT/Month	*End-use of products
1	Erythromycin Base	API	114-07-8	10	As antibiotic for pneumonia, ear infection, skin problem etc.
2	Inositol Nicotinate	API	6556-11-2		For Raynaud syndrome
3	Phenoxy Acetic Acid	Intermediate (N-2)	122-59-8		Used in pharmaceuticals and antifungal
4	4,7-Dichloroquinoline	API	86-98-6		Antimicrobial Activity
5	2-Amino-3, 5-Dibromo-Benzaldehyde	Intermediate (N-1)	50910-55-9		Ambroxol and Bromhexine
6	4-(4-aminophenyl)	Intermediate (N-1)	438056-69-0		Morpholine based

	morpholin-3-one				pharmaceuticals
7	2-(oxiran-2-ylmethyl)-1H-isoindole-1,3(2H)-dione	Intermediate (N-1)	161596-47-0		Used in antibiotic Linezolid
8	Imidazol-1-yl-Acetonitrile	Intermediate (N-1)	98873-55-3		Used in antifungal

 # Brief Note of Product Profile:

1. No of Manufacturing Plants: __01__ no.s
2. Brief Note regarding number of Products to be manufactured considering plant capacity:
    - There will be not manufacture all products at the same time in Manufacturing Plant. Unit has sufficient area to manufacture 10 Nos. of product with production capacity 10 TPM.

Specific End-use of each proposed products:

Sr. No.	Name of the Product	CAS No. (Product)	Type/ Category of Product (API/ Intermediate)	In case of Intermediate stage of API			Said API is used for/End Use of said API
				Stage i.e. n-1, n-2, etc.	Name of API in which Intermediate Used/ End use of said Intermediate	CAS no. (API)	
1	Erythromycin Base	114-07-8	API	-	-	114-07-8	As antibiotic for pneumonia, ear infection, skin problem etc.
2	Inositol Nicotinate	6556-11-2	API	-	-	6556-11-2	For Raynaud syndrome
3	Phenoxy Acetic Acid	122-59-8	Intermediate (N-2)	n-2	2-phenoxyethanol	122-99-6	Used in pharmaceuticals and antifungal
4	4,7-Dichloroquinoline	86-98-6	API	-	-	86-98-6	Antimicrobial Activity
5	2-Amino-3, 5-Dibromo-Benzaldehyde	50910-55-9	Intermediate (N-1)	n-2	Ambroxol HCl	23828-92-4	Ambroxol and Bromhexine
6	4-(4-aminophenyl) morpholin-3-one	438056-69-0	Intermediate (N-1)	n-1	Morpholine	110-91-8	Morpholine based pharmaceuti

							cals
7	2-(oxiran-2-ylmethyl)-1H-isoindole-1,3(2H)-dione	161596-47-0	Intermediate (N-1)	n-1	Rivaroxaban (Anticoagulant)	366789-02-8	Used in Anticoagulant
8	Imidazol-1-yl-Acetonitrile	98873-55-3	Intermediate (N-1)	n-1	Luliconazole (Antifungal)	187164-19-8.	Used in antifungal

- The project falls under Category B2 of project activity 5(f) as per the schedule of EIA Notification 2006 and amendment dated 27th March, 2020.
- PP submitted an undertaking ensuring proposed product profile is in line with MoEF&CC's Notification vide S.O. 1223 (E) dated 27/03/2020 in respect of Active Pharmaceutical Ingredients (API) as category B2 projects. Undertaking as proposal of said product are eligible to consider under B2 category as per the notification of MoEF&CC dated 27.03.2020
- The proposal was considered in the SEAC video conference meeting dated 08.06.2021.
- During the meeting dated **08.06.2021**, 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 their Technical Expert from M/s Biohm Consultare Pvt. Ltd. remain present during video conference meeting.
- This is Greenfield project proposed for manufacturing of synthetic organic chemicals **[API& its Intermediate]** at GIDC Dahej. Total plot area is 21,944.17 Sq. m.
- Committee noted the following:
  - ✓ GIDC letter in the name of the unit.
  - ✓ Product profile with specific End-use of product. Committee deliberated on Product No-3: 2-(Dimethyl Amino) Ethyl Chloride Hydrochloride having end-use as Intermediate and starting reagent for organic synthesis and Product No-4: 2-(Diethylamino) Ethyl Chloride Hydrochloride considered as API Intermediate (n-2) and having end-use as a catalyst in combination with CuBr for polymerization which is not acceptable as API Intermediate.
  - ✓ Site Plan/ layout with fire plan & floor plans and provision of separate entry & exits, 6 m wide peripheral road, OHC, assembly points, production area, raw material & finished goods storage areas, ETP area, utility area, hazardous waste storage area, 35% greenbelt within premises, etc.
  - ✓ Stream wise segregation of effluent will be carried out.
  - ✓ Concentrated effluent from process will be treated in stripper and further treated with dilute stream.
  - ✓ Treated effluent from stripper, dilute stream from utilities, washing & scrubber and domestic effluent will be treated in primary, secondary & Tertiary ETP and sent to CETP-Dahej.

- ✓ Briquette is proposed as fuel in boiler.
- ✓ Two stage scrubbing system is proposed for control of process gas emission.
- ✓ Scrubbing liquor will be treated in ETP or sold as per hazardous waste Rules.
- ✓ PP submitted hazardous waste matrix mentioning source of generation, quantity and Mode of disposal and committed to comply the Hazardous and Other Wastes (Management and Transboundary Movement) Rules 2016.
- ✓ Fire load calculation mentioning fire water storage (Cap: 100 KL) and 10 Nos of foam type extinguishers (Cap: 9 Litres).
- ✓ Risk assessment of hazardous chemicals.

- Committee deliberated on Product profile, Layout plan, Storage details, Process safety, Fire safety, water balance & waste water management, Flue gas and process gas emission & Air Pollution Control System, Hazardous waste matrix, EMP, CER, Green belt, etc.
- Committee insisted to provide the following details:
  - ✓ Product profile by removing Product No-3: 2-(Dimethyl Amino) Ethyl Chloride Hydrochloride and Product No: 4 2-(Diethylamino) Ethyl Chloride Hydrochloride considered as API Intermediate (n-2).
  - ✓ Provision of water sprinklers in all components in fire protection plan.
  - ✓ Provisional membership of CETP-Dahej for sending treated effluent.
  - ✓ Hazardous waste matrix mentioning quantity & mode of disposal of process residue, distillation residue and bleed liquors.
  - ✓ Increase capacity of fire water storage looking to plot size and storage of hazardous chemicals.
  - ✓ EMP including cost of CER as per MoEF&CC OM dated: 30.09.2020.
- **After detailed discussion, Committee unanimously decided to defer the proposal and consider the same in one of the upcoming SEAC meeting only after satisfactory submission of the following:**
  1. GIDC Plot allotment letter in the name of the unit.
  2. Revised Product profile by removing Product No-3: 2-(Dimethyl Amino) Ethyl Chloride Hydrochloride and Product No: 4 2-(Diethylamino) Ethyl Chloride Hydrochloride considered as API Intermediate (n-2).
  3. Revised Site Plan/ layout with provision of water sprinklers in fire protection plan.

4. Provisional membership of CETP-Dahej for sending treated effluent.

5. Revised Hazardous waste matrix mentioning quantity & mode of disposal of process residue, distillation residue and bleed liquors.

6. Revised fire load calculation mentioning adequate capacity of fire water storage and foam type trolley looking to plot size and storage of hazardous chemicals.

7. Revised EMP including cost of Fire & Safety and CER.

- PP submitted reply of above query generated on SEAC VC meeting dated 08.06/2021 through e-mail.
- This proposal is reconsidered in SEAC meeting dated **09.09.2021**. PP along with their technical expert/consultant, M/s. Biohm Consultare Pvt. Ltd remains present in the meeting and made presentation before Committee.
- PP submitted revised salient features of water, air and Hazardous waste management are as under,

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

Total Project
Rs. 2.75 Crores

Break-up of proposed project Cost:

Details	Project Cost (Rs. In Crores)
Land	1.31
Building	0.14
Machinery	0.82
Env. & Safety	0.48
Miscellaneous	-
Total	**2.75**

-

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

-

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 + CETP membership	10.00	12.00	0.50	11.50
2	Air	Cyclone, Bag Filter & Water Scrubber	10.00	2.00	1.45	3.45
3	Hazardous Management	Proper collection, Safe Handling, Storage	-	6.00	-	6.00

		within premises and disposal of waste at approved TSDF, recyclers, re-processors and Solvent management					
4	Fire & Safety	Fire Extinguishers, Fire hydrant system	15.50	0.50	1.50	2.00	
5	AWH Monitoring	-	-	5.00	-	5.00	
6.	Green Belt Development	Plantation	1.50	0.50	1.00	1.50	
7.	Occupational Health	PPE, Check ups	5.50	0.50	0.50	1.00	
8	CER	Solar Panel & Avenue Plantation	5.50	-	-	-	
9	DCS	Already Included in Project Cost	-	-	-	1.0	
Total			**48.00**	**-**	**-**	**31.45**	

Comments:

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

A-3	**Details of CER** -

PP shall carry out CER activities as below:

- ✓ Solar street lights, Community plantation activity, Solar panels installation at schools in Sanjali &Kharod.

S. No.	**Planned Activities under CER as per specific needs**	**Location**	**Cost for 1st Year (Lakhs)**	**Cost for 2nd Year (Lakhs)**	**Total (Lakh)**
1.	Avenue Plantation programme	Sanjali	1.5	-	1.5
2.	Infrastructure- • Solar Panel to Gram Panchayat Offices: 6 KW X	Sanjali &Kharod	2.0	2.0	4.0

	2Nos (2 lakh each)				
	Total		3.5	2.0	5.5

B	**Land / Plot ownership details:** Land Possession Documents from Gujarat Industrial Development Corporation vide letter no. GIDC/DM (CG)/ANK/ALT/PLT/7510 on dated 18/12/2007.
B-1	**Plot area** Total Plot area 25570.50 sq. m. -
B-2	**Area adequacy** ➢ Company will store its major Consumable raw material in Drums & Tanks (We procure Raw Materials from the local market. 90% of these raw materials are easily available from this market. Hence, no excess quantity of raw materials will be stored). The manufacturing unit will be established in only 1000 sq m. and approx. 50% area is open for future expansion. Hence there no shortage of land for the unit and utilities. **Area Adequacy table:** ➢ Hence, adequate area is available for proposed new Facility. **Comments:** **SEAC has examined it w.r.t.to total monthly production, maximum products, manufactured per month, the total raw material required, weekly storage requirement of each raw material, their mode of storage, their compatibility (flammability, corrosive, toxic), area needed by each raw material, one week storage of finished goods. Area adequacy, from overall safety perspective, has been provided in proposal and is satisfactory.**
B-3	**Green belt area** Total (Sq. meter) Area in Sq. meter: 8757.90 % of total area: 34 **Comments:** The condition shall be given that - The PP shall develop green belt (8757.90 Sq. m i.e. 34 % of the total plot area) as per the undertaking submitted before SEAC. Green belt shall be developed with native plant species that are significant and

used for the pollution abatement as per the CPCB guidelines. It shall be implemented within 3 years of operation phase in consultation with GPCB.

C **Employment generation**

Total
18

-

D **WATER**

D-1 **Source of Water Supply**

- GIDC Water Supply.

Comments:

- For water supply, the requisite permission shall be obtained from GIDC.

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

-

Category	Quantity KLD
(M) Domestic	0.81
(N) Gardening	5.0
(O)	
Process	2.778
Washing	0.2
Boiler	3.0
Cooling	2.20
Others (Scrubber)	-
Industrial Total	8.178
Grand Total (A+B+C)	13.988

-

Comments:

Total Water Requirement of the proposed project will be 13.988 KLD, out of which Water Consumption for Process will be 2778 KLD. The worst-case scenario water consumption for full operation of unit is 13.988 kLD for one time and during recycling, the fresh water requirement will be 9.998 kLD. The maximum requirement of water product wise is given below-

S. No.	Name of the Product	Water Requirement (KL/Batch)
1	Erythromycin Base	0.4
2	Inositol Nicotinate	2.778
3	Phenoxy Acetic Acid	0.25
4	4,7-Dichloroquinoline	0.5
5	2-Amino-3, 5-Dibromo-Benzaldehyde	1.5
6	4-(4-aminophenyl) morpholin-3-one	1.4
7	2-(oxiran-2-ylmethyl)-1H-isoindole-1,3(2H)-dione	1.5
8	Imidazol-1-yl-Acetonitrile	1.9

Comments

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

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

-

Category	Waste water KLD	Remarks
(I) Domestic	0.65	ETP
(J) Industrial		
Process	1.95	Will be treated in ETP, and will be sent to CETP for final disposal
Washing	0.2	
Boiler	1.0	
Cooling	0.2	
Others	0.2	
Total Industrial waste water	3.35	
Total [A + B]	4.00	

-

Comments:

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

The below table shows maximum waste water generation in worst case scenario for manufacturing is calculated and given below as –

S.No.	Product Name	Water Consumption (kL/Batch)
1	Erythromycin Base	0.4
2	Inositol Nicotinate	1.95
3	Phenoxy Acetic Acid	0.03
4	4, 7-Dichloroquinoline	0.4
5	2-Amino-3, 5-Dibromo-Benzaldehyde	0.8
6	4-(4-aminophenyl) morpholin-3-one	1.0
7	2-(oxiran-2-ylmethyl)-1H-isoindole-1,3(2H)-di-one	1.1

	8	Imidazol-1-yl-Acetonitrile /1-H-Imidazol-1-yl-Acetonitrile	0.2

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

0.65 KLD Domestic Waste Water will be treated in ETP & treated wastewater will be sent to CETP.

Comments:

Domestic wastewater generation shall not exceed 0.81 KL/day for proposed project and it shall be treated in ETP. It shall not be disposed off through soak pit/ septic tank.

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

Sr. no.	**Quantity KLD**	**Facility**
1	4	ETP and then will be sent to CMEE-BEIL for final disposal
Total	4	-
Membership Certificate no. & Date (For CETP/CMEE/CSD etc.) Provisional assurance of M/s: CMEE of BEIL Infrastructure Limitedvide no. Ref. BEIL/ANK/2021 dated 30.10.2021		

Comments:

1. Management of Industrialeffluent shall be as under:

1. Concentrated Stream (1.95 KLD)

- 1.95 KLD from process stream collected, neutralized and treated in Stripper, In-house ETP Plant and then will be sent to common facility of CMEE Dahej for further treatment and disposal.
- Unit shall feed wastewater to in-house MEE only after ensuring content of effluent for COD/VOC so as not to get air borne during evaporation in order to achieve no adverse impacts on Environment and Human Health.

2. Dilute Stream (2.05 KLD):

- 2.05 KLD industrial effluent generated from scrubber, washing, Cooling tower and Boiler + Sewage shall be neutralized and then sent to Common facility of CETP Dahej for further treatment and disposal.
- Treated waste water shall be sent to BEIL Infrastructure Limited only

after complying with the inlet norms of CMEE prescribed by GPCB to ensure no adverse impact on Human Health and Environment

2. Unit shall provide ETP with adequate capacity.
3. The PP shall ensure to dispose off Waste water to the Common Facilities having valid CTO of GPCB.

E	**AIR**
E-1	Power (Electricity) requirement: 96.95 kW or 122 KVA
E-2	**Flue gas emission details**

-

Sr. no.	Source of emission With Capacity	Stack Height (meter)	Type of Fuel	Quantity of Fuel MT/Day	Type of emissions i.e. Air Pollutants	Air Pollution Control Measures (APCM)
1	Boiler (1.5 TPH)	30	Briquette of bio coal	5 TPD	SPM-150 mg/Nm^3, SOx-100 ppm, NOx – 50 ppm	Multi-cyclone Separator with Bag Filter + Water Scrubber
2	DG Set	9	HSD	6 Litre/hr		Adequate Stack Height

-

E-3	**Process gas**

-

Sr. no.	Specific Source of emission (Name of the Product & Process)	Type of emission	Stack/Vent Height (meter)	Air Pollution Control Measures (APCM)
1	Process Vent –1	HCl, HBr	11	2 Stage Water Scrubber (Water+Alkali)
2	Process Vent –2	SO_2, HCl	11	2 Stage Water Scrubber (Chilled Water+Alkali)

-

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

- For Fugitive emission such as VOCs, VOC detectors will be installed.
- Leak Detection and Repair (LDAR) program shall be implemented to comply with environmental regulations for reducing the fugitive emissions of targeted chemicals into the environment.

- To control fugitive emission from process / reaction, all reactor condensers shall be connected to a scrubber to minimize loss of solvents / fugitive emission in to the atmosphere.

Comments for E2, E3 & E4:

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

F	**Hazardous waste**
F-1	**Hazardous waste management matrix**

-

S. no.	Type/Name of Hazardous waste	Specific Source of generation (Name of the Activity, Product etc.)	Category and Schedule as per HW Rules.	Quantity (TPA)	Management of HW
1	Used Oil	From machine/ D.G. set	5.1	0.2	Collection, Storage & Selling to authorized recycler
2	Residue (Contaminates, Organic solvent)	Process Plant	26.4	24	Collection, storage, Transportation and Dispose by sending for Co Processing or Active CHWIF

3	Bleed Liquor	From Scrubber	-	7.3	Collection, Storage, Transportation & Disposed at TSDF site.
4	Spent Catalyst	Process plant	26.5	1	
5	ETP Sludge	ETP	35.3	30	
6	Spent Solvent	Process Plant	28.6	33+16 = 49	Collection, Storage, & recover by distillation & Reuse in process within the premises. Or Collection, storage and sold to purifying distillation unit having valid CTO from GPCB and rule 9 permission to receive this waste
7	Discarded Containers (Damaged Containers, Liners, Drums, containers with hazardous waste)	Raw material storage and from utility	33.1	15	Collection, Storage & Selling to GPCB approved scrap dealer.

-

Comments:

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

F-2	Non- Hazardous waste management matrix

- ✓ Fly Ash generation will be 55 TPA.
- ✓ Poly-bag generation will be 0.15 TPA

Comments:

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

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

Solvent Recovery Table

S. No.	Name of Solvent	Consumption MT/Month	Generation MT/Month	Recovery (%)	Loss (%)
1	Toluene	4.55	4.34	95.43	4.6
2	Methylene dichloride	6.00	5.7	95.00	5
3	Meso inositol	0.40	0.38	95.00	5
4	Isopropanol	2.1	1.89	90.01	10
5	Thionyl Chloride	0.4	0.29	72.50	27.5
6	Acetone	3.00	2.7	88.73	12
7	Methanol	7.04	5.8	82.54	17
8.	Chloro acetonitrile	2.1	1.87	88.65	12

G-2	**VOC emission** sources and its mitigation measures

Measures for achieving maximum solvent recovery and minimize VOC generation:

- The entire manufacturing activities & distillation process will be carried out in a totally closed system.
- Maintenance of the pipeline and valves & fittings will be carried out regularly to avoid any leakages.
- Reactor will be connected with three numbers of condensers where in the first condenser chilled water will be used whereas in second and third condenser brine solution will be used as media and it will be also equipped with vacuum system as per requirement.
- The condenser will be provided with sufficient HTA and residence time to achieve more than 90% recovery.
- All the Flange joints of the pipe lines which carry solvents will be covered with flange guards.
- VOC detectors will be installed at various places to identify any fugitive emissions.
- Minimum number of flanges, joints and valves in pipelines shall be provided.

-

G-3	**LDAR proposed:**

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:

8. Process Controls
9. Emissions control program
10. Selection of appropriate method for leak detection
11. Scheduling and checklist for Leak Detection
12. Methods for rectification of identified leaks
13. Frequency of Monitoring
14. Record keeping of LDAR Program

-
-

Comments:

1. Measures for achieving maximum solvent recovery and minimize VOC generation, inclusive of VOC detectors, pumps, maintenance of pipelines, proper ventilation etc., provided are as per requirement.
2. Spent solvents shall be recovered by in-house distillation in such a manner that recovery shall not be achieved to the maximum extent and recovered solvent shall be reused in the process. Solvent recovery system with adequate reflux condensers shall be provided for controlling escape of low boiling solvents (VOCs).

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

S. No	Name of Chemical	Capacity of Tank	Number of Tanks	Hazardous Characteristics of Chemical
1	Toluene	5 KL	1 No.	Flammable
2	Methylene dichloride	5 KL	1 No.	Flammable
3	Methanol	5 KL	1 No.	Flammable
4	Isopropanol	5 KL	1 No.	Flammable
5	Thionyl Chloride	5 KL	1 No.	Flammable
6	Acetone	5 KL	1 No.	Flammable
7	Meso inositol	5 KL	1 No.	Flammable
8	Chloro Acetonitrile	5 KL	1 No.	Flammable

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

Brief note on storage of Hazardous chemicals in Tanks

PESO Tank- 3 Nos. (Underground)

Non-PESO- 5 Nos

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

Carboys, Bags etc.

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

Comments:

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

H-2	**Types of hazardous Processes involved and its safety measures:**
Hydrogeneration	• FLP type area will be provided. • Total enclosed process system. • Instrument & Plant Air System. • Nitrogen blanketing in Hydrogenation reactor. • Safety valve and Rupture disc provided on reactor. • Cooling Chilling and power alternative arrangement have been made on reactor. • Hydrogen and Nitrogen Cylinder bank away from the auto clave reactor. • PRV station with shut off valve, safety valve provision will be made for hydrogenation reaction safety. • Before Hydrogen Gas charging in to reactor and after completion of reaction Nitrogen flushing will be done. • Flame arrestor will be provided on vent line of reactor and it will be extended up to roof level. • Open well ventilated and fragile roofs will be provided to on reactor. • Safe Catalyst charging method will be adopted.

	• SOP will be prepared and operators will be trained for the same. • Static earthing and electric earthing (Double) provided. • Reactor vent extended outside the process area and flame arrestor provided on vent line. • Dumping vessel arrangement will be made. • Dumpers for static earthing on pipeline flanges of flammable chemical will be provided.
Bromination	Bromine handling areas will be clearly marked and restricted to qualified, trained personnel only. • Bromine process area will be done with good ventilation • We will maintain bromine vapor concentration in the work area to less than 0.1 ppm with adequate exhaust hoods, ventilation systems and scrubbers. Analyze air for proper control. • Transfer or repackage bromine only in a controlled, closed environment. • Exhaust ventilating systems will be used in enclosed areas where bromine is handled. • Personal Protective Equipment are to be made compulsory when handling Bromine
Nitration	○ The Reactor will have Temperature control system cascaded with cooling water system consisting of Cooling tower, pumps and circulating system. In case of high temperature, the steam will get cut off and cooling water will start circulating through the reactor coils. Alternately Chilled water system is also provided for extreme emergencies. ○ The Reactor will have rupture disc and safety valves which will take care of excess pressure and the outlet of which is connected to the scrubbers. ○ The Reactor will also have a separate high local vent with pressure relief valve which is connected to a catch pot with water. The catch pot contents will be separated for recycle purpose. ○ In case of contact with eyes, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention immediately. ○ In case of contact with skin, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Cold water may be used. Wash

	clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately. o Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Get medical attention. o If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately. o • Evacuate the victim to a safe area as soon as possible.

H-3	**Details of Fire Load Calculation**

Total Plot Area:	25570.50sq m
Area utilized for plant activity:	1000 sq m
Area utilized for Hazardous Chemicals Storage:	248 sq m
Number of Floors:	3
Water requirement for firefighting in KLD :	5929.75 litres
Water storage tank provided for firefighting in KLD:	200 KL
Details of Hydrant Pumps:	Fire water Pump will be available. We will have 01 No‘s of electrical fire water Pump located at pump house having capacity 1800 litres/min and 01 No‘s of Diesel pump having capacity 1800 litres/min.
Nearest Fire Station :	Panoli GIDC Fire Station
Applicability of Off Site Emergency Plan:	Applicable

Comments:

The project proponent has proposed fire safety plan which includes fire hydrant line, sprinkler system, fire extinguishers, fire suits, covering the project area and provides for fire water storage tank of 200 KL. SEAC found it as per the requirement.

H-4	**Details of Fire NOC/Certificate:**

Shall be obtained after receipt of EC.

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

-

Number of permanent Employee :	18

Number of Contractual person/Labour :	25
Area provided for OHC:	35 m2
Number of First Aid Boxes :	18
Nearest General Hospital :	Welcare Hospital, Kharod
Name of Antidotes to be store in plant :	Artificial respiration, First Aid, Activated charcoal, Methylene blue, Calcium Chloride, Calcium Gluconate, etc. Adequate antidotes will be stored within premises.

-

Comments

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

- During meeting, Committee noted that PP presented point wise query reply which was raised during SEAC meeting dated 08.06.2021. Looking to product profile not mentioning end use of API intermediate, spent solvent reused in process details and fire extinguisher details for which PP is agreed upon and later on submitted revised product profile, revised Hazardous waste matrix and fire and safety details, through e-mail.
- Also Committee insisted for submission of membership certificate of CETP membership certificate for effluent disposal which was not submitted by PP.
- **After detailed discussion, Committee unanimously decided to consider the project in one of upcoming meeting after submission of following documents,**
    1. CETP of GIDC Dahej Membership certificate for effluent treatment and its disposal which is generated from proposed project.
- PP submitted reply of above query generated on SEAC VC meeting dated 09.09.2021, through e-mail.
- This proposal is reconsidered in SEAC meeting dated **21.01.2022**. PP along with their technical expert/consultant, M/s. Biohm Consultare Pvt. Ltd remains present in the meeting and made presentation before Committee.
- During meeting, Committee noted that PP presented notarized undertaking stating that they will obtain CETP membership. Hence Committee asked for submission of provisional CETP membership certificate, PP told that they have approached many times for issuance of membership of CETP certificate but till date they have not allotted effluent booked load certificate for treatment at CETP.
- Looking to PP remarkable approach for CETP membership certificate, Committee told PP that they will

submit CETP membership certificate for proposal of effluent disposal, at a time of CTE application applied at GPCB.

- PP submitted an undertaking ensuring proposed product profile is in line with MoEF&CC's Notification vide S.O. 1223 (E) dated 27/03/2020 in respect of Active Pharmaceutical Ingredients (API) as category B2 projects. Undertaking as proposal of said product are eligible to consider under B2 category as per the notification of MoEF&CC dated 27.03.2020.

After detailed discussion, Committee unanimously decided to recommend the project to SEIAA, Gujarat for grant of Environment Clearance with the following specific condition:

SPECIFIC CONDITIONS:

1. PP shall comply conditions of any subsequent amendment or expansion or change in product mix, after the 30th September 2020, considered as per the provisions in force at that time as mentioned in the Notification vide S.O. 1223 (E) dated 27/03/2020.
2. PP shall carry out proposed project/activities in respect of Active Pharmaceutical Ingredients (API) as per the amended EIA Notification vide S.O. 1223 (E) dated 27/03/2020 and any subsequent amendments.
3. PP shall submit six monthly compliance report of Environmental Clearance without fail and the same shall be critically assessed by the regulatory authority.
4. Close loop solvent recovery system with adequate condenser system shall be provided to recover solvent vapours in such a manner that recovery shall be maximum and recovered solvent shall be reused in the process within premises.
5. Leak Detection and Repair (LDAR) program shall be prepared and implemented as per the CPCB guidelines. LDAR Logbooks shall be maintained.
6. All measure shall be taken to avoid soil and ground water contamination within premises.
7. Project proponent (PP) shall commission production plant after getting CETP membership certificate for proposed effluent disposal to CETP as per notarised undertaking submitted by PP.

WATER

8. Total water requirement for the project shall not exceed 13.998 KLD. Unit shall reuse 4 KLD of treated industrial effluent within premises. Hence, fresh water requirement shall not exceed 9.998 KLD and it shall be met through GIDC water supply only. Prior permission from concerned authority shall be obtained for withdrawal of water.

9. The industrial effluent generation from the project shall not exceed 3.35 KLD.

10. Total Industrial effluent shall be treated in ETP followed by solvent stripper and then shall be sent to CETP of GIDC Dahej for further treatment and disposal.

11. Domestic wastewater generation shall not exceed 0.65 KL/day for proposed project and it shall be treated in ETP. It shall not be disposed off through soak pit/ septic tank.

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

13. Unit shall provide ETP with adequate capacity.

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

AIR

15. Unit shall not exceed fuel consumption and provide APCM and Stack height as mentioned in flue gas matrix.

16. Unit shall provide APCM and stack height as mentioned in process gas matrix.

HAZARDOUS & SOLID WASTE

17. All hazardous solid waste shall be managed as mentioned in hazardous waste matrix.

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

GREENBELT AREA

19. The PP shall develop green belt (8757.90 Sq. m i.e. 34 % of the total plot area) as per the undertaking submitted before SEAC. Green belt shall be developed with native plant species that are significant and used for the pollution abatement as per the CPCB guidelines. It shall be implemented within 3 years of operation phase in consultation with GPCB.

20. Safety & Health:

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

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

c) PP shall obtain fire safety certificate / Fire No-Objection certificate (NOC) from the concern

authority as per the prevailing Rules / Gujarat Fire Prevention and Life Safety Measures Act, 2016.

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

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

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

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

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

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

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

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

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

m) Unit shall provide safety valve & rupture disc to the Hydrogenation vessel.

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

10.	SIA/GJ/IND2/200146/2021	**M/s Kanchan Cera Coat Pvt Ltd**. Plot no- 2318, Panoli GIDC, Ta- Ankleshwar ,Dist - Bharuch	EC-Reconsideration

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

Project status: New

- Project proponent (PP) submitted online application vide no. SIA/GJ/IND2/200146/2021on dated 02.03.2021for obtaining Environmental Clearance.

- Project proponent has submitted Form – 1, Pre-Feasibility Report & Environment Management Plan as per Notification issued by MoEF&CC vide S.O. 1223(E) dated 27th March, 2020 regarding consideration of proposals or activities in respect of Active Pharmaceuticals Ingredients (API) as B2 category.
- This is a new project proposed for manufacturing of synthetic organic chemicals **[API & its Intermediates]** as tabulated below.

Sr. No.	Name of the Products	API OR INTERMEDIATE	CAS no.	Quantity MT/Month	*End-use of products
1	Erythromycin Base	API	114-07-8	10	As antibiotic for pneumonia, ear infection, skin problem etc.
2	Inositol Nicotinate	API	6556-11-2		For Raynaud syndrome
3	Phenoxy Acetic Acid	Intermediate (N-2)	122-59-8		Used in pharmaceuticals and antifungal
4	4,7-Dichloroquinoline	API	86-98-6		Antimicrobial Activity
5	2-Amino-3, 5-Dibromo-Benzaldehyde	Intermediate (N-1)	50910-55-9		Ambroxol and Bromhexine
6	4-(4-aminophenyl) morpholin-3-one	Intermediate (N-1)	438056-69-0		Morpholine based pharmaceuticals
7	2-(oxiran-2-ylmethyl)-1H-isoindole-1,3(2H)-dione	Intermediate (N-1)	161596-47-0		Used in antibiotic Linezolid
8	Imidazol-1-yl-Acetonitrile	Intermediate (N-1)	98873-55-3		Used in antifungal

Brief Note of Product Profile:

1. **No of Manufacturing Plants: __01__ no.s**
2. **Brief Note regarding number of Products to be manufactured considering plant capacity:**

- **There will be not manufacture all products at the same time in Manufacturing Plant. Unit has sufficient area to manufacture 10 Nos. of product with production capacity 10TPM.**

- **End use of proposed products**

Sr. No.	Name of the Product	CAS No. (Product)	Type/ Category of Product (API/ Intermediate)	In case of Intermediate stage of API			Said API is used for/End Use of said API
				Stage i.e. n-1, n-2, etc.	Name of API in which Intermediate Used/ End use of said Intermediate	CAS no. (API)	
1	Erythromycin Base	114-07-8	API	-	-	114-07-8	As antibiotic for pneumonia, ear infection, skin problem etc.
2	Inositol Nicotinate	6556-11-2	API	-	-	6556-11-2	For Raynaud syndrome
3	Phenoxy Acetic Acid	122-59-8	Intermediate (N-2)	n-2	2-phenoxyethanol	122-99-6	Used in pharmaceuticals and antifungal
4	4,7-Dichloroquinoline	86-98-6	API	-	-	86-98-6	Antimicrobial Activity
5	2-Amino-3, 5-Dibromo-Benzaldehyde	50910-55-9	Intermediate (N-1)	n-2	Ambroxol HCl	23828-92-4	Ambroxol and Bromhexine
6	4-(4-aminophenyl) morpholin-3-one	438056-69-0	Intermediate (N-1)	n-1	Morpholine	110-91-8	Morpholine based pharmaceuticals
7	2-(oxiran-2-ylmethyl)-1H-isoindole-1,3(2H)-dione	161596-47-0	Intermediate (N-1)	n-1	Rivaroxaban (Anticoagulant)	366789-02-8	Used in Anticoagulant
8	Imidazol-1-yl-Acetonitrile	98873-55-3	Intermediate (N-1)	n-1	Luliconazole (Antifungal)	187164-19-8.	Used in antifungal

- The project falls under Category B2 of project activity 5(f) as per the schedule of EIA Notification 2006 and amendment dated 27th March, 2020.
- PP submitted an undertaking ensuring proposed product profile is in line with MoEF&CC's Notification vide S.O. 1223 (E) dated 27/03/2020 in respect of Active Pharmaceutical Ingredients (API) as category B2 projects. Undertaking as proposal of said product are eligible to consider under B2 category as per the notification of MoEF&CC dated 27.03.2020
- The proposal was considered in the SEAC video conference meeting dated 08.06.2021.
- During the meeting dated 08.06.2021, 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 their Technical Expert from M/s Biohm Consultare Pvt. Ltd. remain present during video conference meeting.
- This is Greenfield project proposed for manufacturing of synthetic organic chemicals **[API& its Intermediate]** at GIDC Panoli. Total plot area is 25,570.50 Sq. m.
- Committee noted the following:
  - ✓ Product profile with specific End-use of product. Committee deliberated on Product No-3: 2-(Dimethyl Amino) Ethyl Chloride Hydrochloride having end-use as Intermediate and starting reagent for organic synthesis and Product No-4: 2-(Diethylamino) Ethyl Chloride Hydrochloride considered as API Intermediate (n-2) and having end-use as a catalyst in combination with CuBr for polymerization which is not acceptable as API Intermediate.
  - ✓ Site Plan/ layout with fire plan & floor plans and provision of separate entry & exits, 6 m wide peripheral road, OHC, assembly points, production area, raw material & finished goods storage areas, ETP area, utility area, hazardous waste storage area, 34% greenbelt within premises, etc.
  - ✓ Stream wise segregation of effluent will be carried out.
  - ✓ Concentrated effluent from process will be treated in stripper and further treated with dilute stream.
  - ✓ Treated effluent from stripper, dilute stream from utilities, washing & scrubber and domestic effluent will be treated in primary, secondary & Tertiary ETP and sent to CETP. Upon asking regarding compliance of 18(1)(b) direction, PP could not reply satisfactorily.
  - ✓ Briquette is proposed as fuel in boiler.
  - ✓ Two stage scrubbing system is proposed for control of process gas emission.
  - ✓ Scrubbing liquor will be treated in ETP or sold as per hazardous waste Rules.
  - ✓ PP submitted hazardous waste matrix mentioning source of generation, quantity and Mode of disposal and committed to comply the Hazardous and Other Wastes (Management and Transboundary Movement) Rules 2016.
  - ✓ Fire load calculation mentioning fire water storage (Cap: 100 KL) and 10 Nos of foam type extinguishers (Cap: 9 Litres).
  - ✓ Risk assessment of hazardous chemicals.
- Committee deliberated on Product profile, Layout plan, Storage details, Process safety, Fire safety, water balance & waste water management, Flue gas and process gas emission & Air Pollution Control System, Hazardous waste matrix, EMP, CER, Green belt, etc.

- Committee insisted to provide the following details:
  - ✓ Product profile by removing Product No-3: 2-(Dimethyl Amino) Ethyl Chloride Hydrochloride and Product No: 4 2-(Diethylamino) Ethyl Chloride Hydrochloride considered as API Intermediate (n-2).
  - ✓ Provision of water sprinklers in all components in fire protection plan.
  - ✓ Compliance of 18(1)(b) direction for sending treated effluent to CETP-Panoli.
  - ✓ Hazardous waste matrix mentioning quantity & mode of disposal of process residue, distillation residue and bleed liquors.
  - ✓ Increase capacity of fire water storage looking to plot size and storage of hazardous chemicals.
  - ✓ EMP including cost of CER as per MoEF&CC OM dated: 30.09.2020.
- **After detailed discussion, Committee unanimously decided to defer the proposal and consider the same in one of the upcoming SEAC meeting only after satisfactory submission of the following:**
  1. GIDC Plot allotment letter in the name of the unit.
  2. Revised Product profile by removing Product No-3: 2-(Dimethyl Amino) Ethyl Chloride Hydrochloride and Product No: 4 2-(Diethylamino) Ethyl Chloride Hydrochloride considered as API Intermediate (n-2).
  3. Revised Site Plan/ layout with provision of water sprinklers in fire protection plan.
  4. Sound management of waste water keeping in view direction under section 18 (1) (b) of the Water (Prevention and Control of Pollution) act, 1974 issued by CPCB regarding compliance of CETP.
  5. Revised Hazardous waste matrix mentioning quantity & mode of disposal of process residue, distillation residue and bleed liquors.
  6. Revised fire load calculation mentioning adequate capacity of fire water storage and foam type trolley looking to plot size and storage of hazardous chemicals.
  7. Revised EMP including cost of Fire & Safety and CER.
- PP submitted reply of above query generated on SEAC VC meeting dated 08.06/2021 through e-mail.
- This proposal is reconsidered in SEAC meeting dated **09.09.2021**. PP along with their technical expert/consultant, M/s. Biohm Consultare Pvt. Ltd remains present in the meeting and made presentation before Committee.

- PP submitted revised salient features of water, air and Hazardous waste management are as under,

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

Total Project
Rs. 2.75 Crores

Break-up of proposed project Cost:

Details	Project Cost (Rs. In Crores)
Land	1.26
Building	0.14
Machinery	0.87
Env. & Safety	0.48
Miscellaneous	-
Total	**2.75**

-

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

-

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 + CETP membership	10.00	12.00	0.50	11.50
2	Air	Cyclone, Bag Filter & Water Scrubber	10.00	2.00	1.45	3.45
3	Hazardous Management	Proper collection, Safe Handling, Storage within premises and disposal of waste at approved TSDF, recyclers, re-processors and Solvent management	-	6.00	-	6.00
4	Fire & Safety	Fire Extinguishers, Fire hydrant system	15.50	0.50	1.50	2.00
5	AWH Monitoring	-	-	5.00	-	5.00
6.	Green Belt Development	Plantation	1.50	0.50	1.00	1.50

7.	Occupational Health	PPE, Check ups	5.50	0.50	0.50	1.00	
8	CER	Solar Panel & Avenue Plantation	5.50	-	-	-	
9	DCS	Already Included in Project Cost	-	-	-	1.0	
Total			**48.00**	**-**	**-**	**31.45**	

Comments:

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

A-3	**Details of CER** -

PP shall carry out CER activities as below:

- ✓ Solar street lights, Community plantation activity, Solar panels installation at schools in Galenda and Jolva.

S. No.	**Planned Activities under CER as per specific needs**	**Location**	**Cost for 1st Year (Lakhs)**	**Cost for 2nd Year (Lakhs)**	**Total (Lakh)**
1.	Avenue Plantation programme	Galenda	1.5	-	1.5
2.	Infrastructure- • Solar Panel to Gram Panchayat Offices: 6 KW X 2Nos (2 lakh each)	Galenda &Jolva	2.0	2.0	4.0
	Total		3.5	2.0	5.5

B	**Land / Plot ownership details:** Land Possession Documents from Gujarat Industrial Development Corporation vide letter no. GIDC/RM/ANK/2321 on dated 31/03/2011.
B-1	**Plot area** Total Plot area: 21944.17 sq. m. -
B-2	**Area adequacy** ➢ Company will store its major Consumable raw material in Drums & Tanks (We procure Raw Materials from the local market. 90% of these raw materials are easily available from this market. Hence, no excess quantity of

raw materials will be stored). The manufacturing unit will be established in only 1000 sq m. and approx. 50% area is open for future expansion. Hence there no shortage of land for the unit and utilities.

Area Adequacy table:

- Hence, adequate area is available for proposed new Facility.

Comments:

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

B-3 **Green belt area**

	Total (Sq. meter)
Area in Sq. meter	7719.88
% of total area	35

Comments:

The condition shall be given that -

The PP shall develop green belt (7719.88Sq. m i.e. 33 % of the total plot area) as per the undertaking submitted before SEAC. Green belt shall be developed with native plant species that are significant and used for the pollution abatement as per the CPCB guidelines. It shall be implemented within 3 years of operation phase in consultation with GPCB.

C **Employment generation**

Total
18

-

D **WATER**

D-1 **Source of Water Supply**

- GIDC Water Supply.

Comments:

- For water supply, the requisite permission shall be obtained from GIDC.

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

-

Category	Quantity

	KLD
(P) Domestic	0.81
(Q) Gardening	5.0
(R)	
Process	2.778
Washing	0.2
Boiler	3.0
Cooling	2.20
Others (Scrubber)	-
Industrial Total	8.178
Grand Total (A+B+C)	13.988

-

Comments:

Total Water Requirement of the proposed project will be 13.988 KLD, out of which Water Consumption for Process will be 2778 KLD. The worst-case scenario water consumption for full operation of unit is 13.988 kLD for one time and during recycling, the fresh water requirement will be 9.998 kLD. The maximum requirement of water product wise is given below-

S. No.	Name of the Product	Water Requirement (KL/Batch)
1	Erythromycin Base	0.4
2	Inositol Nicotinate	2.778
3	Phenoxy Acetic Acid	0.25
4	4,7-Dichloroquinoline	0.5
5	2-Amino-3, 5-Dibromo-Benzaldehyde	1.5
6	4-(4-aminophenyl) morpholin-3-one	1.4
7	2-(oxiran-2-ylmethyl)-1H-isoindole-1,3(2H)-dione	1.5
8	Imidazol-1-yl-Acetonitrile	1.9

Comments,

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

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

-

Category	Waste water KLD	Remarks
(K) Domestic	0.65	ETP
(L) Industrial		
Process	1.95	Will be treated in ETP, and will be sent to CETP for final disposal
Washing	0.2	
Boiler	1.0	
Cooling	0.2	

Others	0.2	
Total Industrial waste water	3.35	
Total [A + B]	4.00	

-

Comments:

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

The below table shows maximum waste water generation in worst case scenario for manufacturing is calculated and given below as –

S.No.	Product Name	Water Consumption (kL/Batch)
1	Erythromycin Base	0.4
2	Inositol Nicotinate	1.95
3	Phenoxy Acetic Acid	0.03
4	4, 7-Dichloroquinoline	0.4
5	2-Amino-3, 5-Dibromo-Benzaldehyde	0.8
6	4-(4-aminophenyl) morpholin-3-one	1.0
7	2-(oxiran-2-ylmethyl)-1H-isoindole-1,3(2H)-di-one	1.1
8	Imidazol-1-yl-Acetonitrile /1-H-Imidazol-1-yl-Acetonitrile	0.2

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

0.65 KLD Domestic Waste Water will be treated in ETP & treated wastewater will be sent to CETP.

Comments:

Domestic wastewater generation shall not exceed 0.81 KL/day for proposed project and it shall be treated in ETP. It shall not be disposed off through soak pit/ septic tank.

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

Sr. no.	Quantity KLD	Facility
1	4	ETP and then will be sent to CETP Dahej for final disposal
Total	4	-

Membership Certificate no. & Date (For CETP/CMEE/CSD etc.)

	Provisional assurance of M/s: CETP of Dahej Industrial Estate vide no. Ref. DEE/DRG/2021 dated 15.07.2021	

Comments:

1. Management of Industrialeffluent shall be as under:

Concentrated Stream (1.95 KLD)

- 1.95 KLD from process stream collected, neutralized and treated in Stripper, In-house ETP Plant and then will be sent to common facility of CETP Dahej for further treatment and disposal.
- Unit shall feed wastewater to in-house MEE only after ensuring content of effluent for COD/VOC so as not to get air borne during evaporation in order to achieve no adverse impacts on Environment and Human Health.

Dilute Stream (2.05 KLD):

- 2.05 KLD industrial effluent generated from scrubber, washing, Cooling tower and Boiler + Sewage shall be neutralized and then sent to Common facility of CETP Dahejfor further treatment and disposal.
- Treated waste water shall be sent to CETP of Dahej only after complying with the inlet norms of CETP prescribed by GPCB to ensure no adverse impact on Human Health and Environment

2. Unit shall provide ETP with adequate capacity.
3. The PP shall ensure to dispose off Waste water to the Common Facilities having valid CTO of GPCB.

E	**AIR**
E-1	Power (Electricity) requirement: 96.95 kW or 122 KVA
E-2	**Flue gas emission details**

-

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

1	Boiler (1.5 TPH)	30	Briquette of bio coal	5 TPD	SPM-150 mg/Nm^3, SOx-100 ppm, NOx – 50 ppm	Multi-cyclone Separator with Bag Filter + Water Scrubber
2	DG Set	9	HSD	6 Litre/hr		Adequate Stack Height

-

E-3	**Process gas**

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Sr. no.	Specific Source of emission (Name of the Product & Process)	Type of emission	Stack/Vent Height (meter)	Air Pollution Control Measures (APCM)
1	Process Vent –1	HCl, HBr	11	2 Stage Water Scrubber (Water+Alkali)
2	Process Vent –2	SO_2, HCl	11	2 Stage Water Scrubber (Chilled Water+Alkali)

-

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

- For Fugitive emission such as VOCs, VOC detectors will be installed.
- Leak Detection and Repair (LDAR) program shall be implemented to comply with environmental regulations for reducing the fugitive emissions of targeted chemicals into the environment.
- To control fugitive emission from process / reaction, all reactor condensers shall be connected to a scrubber to minimize loss of solvents / fugitive emission in to the atmosphere.

Comments for E2, E3 & E4:

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

F	**Hazardous waste**
F-1	**Hazardous waste management matrix**

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S. no.	Type/Name of Hazardous waste	Specific Source of generation (Name of the Activity, Product etc.)	Category and Schedule as per HW Rules.	Quantity (TPA)	Management of HW
1	Used Oil	From machine/ D.G. set	5.1	0.2	Collection, Storage & Selling to authorized recycler
2	Residue (Contaminates, Organic solvent)	Process Plant	26.4	24	Collection, storage, Transportation and Dispose by sending for Co Processing or Active CHWIF
3	Bleed Liquor	From Scrubber	-	7.3	Collection, Storage, Transportation & Disposed at TSDF site.
4	Spent Catalyst	Process plant	26.5	1	
5	ETP Sludge	ETP	35.3	30	
6	Spent Solvent	Process Plant	28.6	33+16 = 49	Collection, Storage, & recover by distillation & Reuse in process within the premises. Or Collection, storage and sold to purifying distillation unit having valid

					CTO from GPCB and rule 9 permission to receive this waste
7	Discarded Containers (Damaged Containers, Liners, Drums, containers with hazardous waste)	Raw material storage and from utility	33.1	15	Collection, Storage & Selling to GPCB approved scrap dealer.

-

Comments:

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

F-2	Non- Hazardous waste management matrix

- ✓ Fly Ash generation will be 55 TPA.
- ✓ Poly-bag generation will be 0.15 TPA

Comments:

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

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

Solvent Recovery Table

S. No.	Name of Solvent	Consumption MT/Month	Generation MT/Month	Recovery (%)	Loss (%)
1	Toluene	4.55	4.34	95.43	4.6
2	Methylene dichloride	6.00	5.7	95.00	5
3	Meso inositol	0.40	0.38	95.00	5
4	Isopropanol	2.1	1.89	90.01	10

5	Thionyl Chloride	0.4	0.29	72.50	27.5
6	Acetone	3.00	2.7	88.73	12
7	Methanol	7.04	5.8	82.54	17
8.	Chloro acetonitrile	2.1	1.87	88.65	12

G-2	**VOC emission** sources and its mitigation measures

Measures for achieving maximum solvent recovery and minimize VOC generation:

- The entire manufacturing activities & distillation process will be carried out in a totally closed system.
- Maintenance of the pipeline and valves & fittings will be carried out regularly to avoid any leakages.
- Reactor will be connected with three numbers of condensers where in the first condenser chilled water will be used whereas in second and third condenser brine solution will be used as media and it will be also equipped with vacuum system as per requirement.
- The condenser will be provided with sufficient HTA and residence time to achieve more than 90% recovery.
- All the Flange joints of the pipe lines which carry solvents will be covered with flange guards.
- VOC detectors will be installed at various places to identify any fugitive emissions.
- Minimum number of flanges, joints and valves in pipelines shall be provided.

-

G-3	**LDAR proposed:**

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:

15. Process Controls
16. Emissions control program
17. Selection of appropriate method for leak detection
18. Scheduling and checklist for Leak Detection
19. Methods for rectification of identified leaks
20. Frequency of Monitoring
21. Record keeping of LDAR Program

-
-

Comments:

1. Measures for achieving maximum solvent recovery and minimize VOC generation, inclusive of VOC detectors, pumps, maintenance of pipelines, proper ventilation etc., provided are as per requirement.
2. Spent solvents shall be recovered by in-house distillation in such a manner that recovery shall not be achieved to the maximum extent and recovered solvent shall be reused in the process. Solvent recovery system with adequate reflux condensers shall be provided for controlling escape of low boiling solvents (VOCs).

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

S. No	Name of Chemical	Capacity of Tank	Number of Tanks	Hazardous Characteristics of Chemical
1	Toluene	5 KL	1 No.	Flammable
2	Methylene dichloride	5 KL	1 No.	Flammable
3	Methanol	5 KL	1 No.	Flammable
4	Isopropanol	5 KL	1 No.	Flammable
5	Thionyl Chloride	5 KL	1 No.	Flammable
6	Acetone	5 KL	1 No.	Flammable
7	Meso inositol	5 KL	1 No.	Flammable
8	Chloro Acetonitrile	5 KL	1 No.	Flammable

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

Brief note on storage of Hazardous chemicals in Tanks

PESO Tank- 3 Nos. (Underground)

Non-PESO- 5 Nos

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

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

Comments:

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

H-2	**Types of hazardous Processes involved and its safety measures:**
Hydrogeneration	• FLP type area will be provided. • Total enclosed process system. • Instrument & Plant Air System. • Nitrogen blanketing in Hydrogenation reactor. • Safety valve and Rupture disc provided on reactor. • Cooling Chilling and power alternative arrangement have been made on reactor. • Hydrogen and Nitrogen Cylinder bank away from the auto clave reactor. • PRV station with shut off valve, safety valve provision will be made for hydrogenation reaction safety. • Before Hydrogen Gas charging in to reactor and after completion of reaction Nitrogen flushing will be done. • Flame arrestor will be provided on vent line of reactor and it will be extended up to roof level. • Open well ventilated and fragile roofs will be provided to on reactor. • Safe Catalyst charging method will be adopted. • SOP will be prepared and operators will be trained for the same. • Static earthing and electric earthing (Double) provided. • Reactor vent extended outside the process area and flame arrestor provided on vent line. • Dumping vessel arrangement will be made. • Dumpers for static earthing on pipeline flanges of flammable chemical will be provided.
Bromination	Bromine handling areas will be clearly marked and restricted to qualified, trained personnel only. • Bromine process area will be done with good ventilation • We will maintain bromine vapor concentration in the work area to less than 0.1 ppm with adequate exhaust hoods, ventilation systems and scrubbers. Analyze air for proper control. • Transfer or repackage bromine only in a controlled, closed environment. • Exhaust ventilating systems will be used in enclosed areas where bromine is handled. • Personal Protective Equipment are to be made compulsory when

	handling Bromine
Nitration	o The Reactor will have Temperature control system cascaded with cooling water system consisting of Cooling tower, pumps and circulating system. In case of high temperature, the steam will get cut off and cooling water will start circulating through the reactor coils. Alternately Chilled water system is also provided for extreme emergencies. o The Reactor will have rupture disc and safety valves which will take care of excess pressure and the outlet of which is connected to the scrubbers. o The Reactor will also have a separate high local vent with pressure relief valve which is connected to a catch pot with water. The catch pot contents will be separated for recycle purpose. o In case of contact with eyes, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention immediately. o In case of contact with skin, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately. o Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Get medical attention. o If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately. o • Evacuate the victim to a safe area as soon as possible.

H-3 Details of Fire Load Calculation

Total Plot Area:	21944.17 sq m
Area utilized for plant activity:	1000 sq m
Area utilized for Hazardous Chemicals Storage:	248 sq m
Number of Floors:	3
Water requirement for firefighting in KLD :	5929.75 litres
Water storage tank provided for firefighting in KLD:	200 KL

Details of Hydrant Pumps:	Fire water Pump will be available. We will have 01 No's of electrical fire water Pump located at pump house having capacity 1800 litres/min and 01 No's of Diesel pump having capacity 1800 litres/min.
Nearest Fire Station :	SEZ Fire Station
Applicability of Off Site Emergency Plan:	Applicable

Comments:

The project proponent has proposed fire safety plan which includes fire hydrant line, sprinkler system, fire extinguishers, fire suits, covering the project area and provides for fire water storage tank of 200 KL. SEAC found it as per the requirement.

H-4	**Details of Fire NOC/Certificate:**

Shall be obtained after receipt of EC.

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

-

Number of permanent Employee :	18
Number of Contractual person/Labour :	25
Area provided for OHC:	35 m2
Number of First Aid Boxes :	18
Nearest General Hospital :	Dahej Health & Welfare Society Hospital
Name of Antidotes to be store in plant :	Artificial respiration, First Aid, Activated charcoal, Methylene blue, Calcium Chloride, Calcium Gluconate, etc. Adequate antidotes will be stored within premises.

-

Comments

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

- During meeting, Committee noted that PP presented point wise query reply which was raised during SEAC meeting dated 08.06.2021. Looking to product profile not mentioning end use of API inter mediate, spent solvent reused in process details and fire extinguisher details for which PP is agreed upon and

later on submitted revised product profile, revised Hazardous waste matrix and fire and safety details, through e-mail.

- Also Committee insisted for submission of membership certificate of CMEE membership certificate for effluent disposal which was not submitted by PP.
- **After detailed discussion, Committee unanimously decided to consider the project in one of upcoming meeting after submission of following documents,**
    1. CMEE Membership certificate for effluent treatment and its disposal which is generated from proposed project.
- PP submitted reply of above query generated on SEAC VC meeting dated 09.09.2021, through e-mail.
- This proposal is reconsidered in SEAC meeting dated **21.01.2022**. PP along with their technical expert/consultant, M/s. Biohm Consultare Pvt. Ltd remains present in the meeting and made presentation before Committee.
- During meeting, Committee noted that PP presented NOC of CMEE of M/s, BEIL membership certificate.

After detailed discussion, Committee unanimously decided to recommend the project to SEIAA, Gujarat for grant of Environment Clearance with the following specific condition:

SPECIFIC CONDITIONS:

1. Project Proponent (PP) shall strictly abide by the outcome/decision of Hon'ble Supreme Court of India in Civil Appeal no. 8478/2020 regarding operation of the Hon'ble NGT orders dated 10/07/2019 & 14/11/2019.

2. PP shall comply conditions of any subsequent amendment or expansion or change in product mix, after the 30th September 2020, considered as per the provisions in force at that time as mentioned in the Notification vide S.O. 1223 (E) dated 27/03/2020.

3. PP shall carry out proposed project/activities in respect of Active Pharmaceutical Ingredients (API) as per the amended EIA Notification vide S.O. 1223 (E) dated 27/03/2020 and any subsequent amendments.

4. PP shall submit six monthly compliance report of Environmental Clearance without fail and the same shall be critically assessed by the regulatory authority.

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

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

7. All measure shall be taken to avoid soil and ground water contamination within premises.

8. Project proponent (PP) shall not have GIDC underground drainage connection within premises.

WATER

9. Total water requirement for the project shall not exceed 13.998 KLD. Unit shall reuse 4 KLD of treated industrial effluent within premises. Hence, fresh water requirement shall not exceed 9.998 KLD and it shall be met through GIDC water supply only. Prior permission from concerned authority shall be obtained for withdrawal of water.

10. The industrial effluent generation from the project shall not exceed 3.35 KLD.

11. Total Industrial effluent shall be treated in ETP followed by solvent stripper and then shall be sent to CMEE of M/s. BEIL fitted tanker, for evaporation.

12. Domestic wastewater generation shall not exceed 0.65 KL/day for proposed project and it shall be treated in ETP. It shall not be disposed off through soak pit/ septic tank.

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

14. Unit shall provide ETP with adequate capacity.

15. The PP shall ensure to dispose off Waste water to the Common Facilities having valid CTO of GPCB.

AIR

16. Unit shall not exceed fuel consumption and provide APCM and Stack height as mentioned in flue gas matrix.

17. Unit shall provide APCM and stack height as mentioned in process gas matrix.

HAZARDOUS & SOLID WASTE

18. All hazardous solid waste shall be managed as mentioned in hazardous waste matrix.

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

GREENBELT AREA

20. The PP shall develop green belt (7719.88Sq. m i.e. 33 % of the total plot area) as per the undertaking submitted before SEAC. Green belt shall be developed with native plant species that are significant and used for the pollution abatement as per the CPCB guidelines. It shall be implemented within 3 years of operation phase in consultation with GPCB.

21. Safety & Health:

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

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

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

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

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

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

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

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

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

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

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

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

m) Unit shall provide safety valve & rupture disc to the Hydrogenation vessel.

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

11.	SIA/GJ/IND2/223517/2021	**M/s. Shreeji World Incorporation**	EC- Reconsideration

		Survey No: 1677, Dhinoj , Ta- Chanasma, Dist - Patan	

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

Project status: New

- Project proponent (PP) submitted online application vide no. SIA/GJ/IND2/223517/2021on dated 16/09/2021 for obtaining Environmental Clearance.
- Project proponent has submitted Form – 1, Pre-Feasibility Report & Environment Management Plan as per Notification issued by MoEF&CC vide S.O. 1223(E) dated 27th March, 2020 regarding consideration of proposals or activities in respect of Active Pharmaceuticals Ingredients (API) as B2 category.
- This is a new unit proposed for manufacturing of synthetic organic chemicals **[API and API Intermediates]** as tabulated below.

Sr. No.	List of Product	CAS No.	Production Capacity (MT/Month)
1.	ATORVASTATIN CALCIUM	134523-00-5	40.0
2.	4-CHLOROBUTYROYL CHLORIDE	4635-59-0	
3.	TRIFLUORO ACETYL L-LYSINE	10009-20-8	
4.	4-CHLORO-3-NITRO BENZOIC ACID	96-99-1	
5.	4-HYDROXY COUMARINS	1076-38-6	
6.	1-BOC PIPERAZINE	57260-71-6	
7.	N-ACETYL 4 (4-HYDROXYPHENYL) PIPERAZINE	67914-60-7	
8.	2 AMINO 4, 6 DICHLOROPHENOL	5930-28-9	
9.	CHLOROHEXIDINE BASE	55-56-1	
10.	FLUCONAZOLE	86386-73-4	
11.	TELMISARTAN	144701-48-4	
12.	META BROMO ANISOLE	2398-37-0	
13.	TRAMADOL	27203-92-5	
14.	4-(2-METHOXYETHYL) PHENOL	56718-71-9	
15.	METOPROLOL TARTRATE	37350-58-6	
16.	THEOBROMINE	83-67-0	
17.	((3S)-3-CYANO-2- (ETHOXY CARBONYL)-5-METHYL HEXANOIC ACID)	181289-37-2	
18.	R & D	--	0.1
Total			**40.1**

 # Brief Note of Product Profile:

1. No of Manufacturing Plants:1 nos
2. Brief Note regarding number of Products to be manufactured considering plant capacity: There will be not manufacture all products at the same time in Manufacturing Plant. Unit has sufficient area to manufacture 8 Nos. of product with production capacity 40.1 MT/Month.

Specific end-uses of the products:

Sr. No.	Name of the Product	CAS No.	Type/ Category of Product (API/ Intermediate)	In case of Intermediate stage of API			End-use/ Application of Product
				Stage i.e. n-1, n-2, etc.	Name of API in which Intermediate Used/ End use of said Intermediate	CAS no. (API)	
1.	ATORVASTATIN CALCIUM	134523-00-5	API	---	---	---	cholesterol and fats
2.	4-CHLOROBUTYROYL CHLORIDE	4635-59-0	API Intermediate	N – 2	Pyrazinamide	98-96-4	**Pyrazinamide** is a medication used to treat tuberculosis. For active tuberculosis, it is often used with rifampicin, isoniazid, and either streptomycin or ethambutol
3.	TRIFLUORO ACETYL L-LYSINE	10009-20-8	API Intermediate	N – 1	Lisinopril	83915 - 83-7	It's used to treat high blood pressure.
4.	4-CHLORO-3-NITRO BENZOIC ACID	96-99-1	API Intermediate	N – 2	Mebendazole	31431 - 39-7	It is used to treat several types of worm infections
5.	4-HYDROXY COUMARINS	1076-38-6	API Intermediate s	N – 2	Acenocoumarin	152-72-7	Anticoagulant
6.	1-BOC PIPERAZINE	57260-71-6	API	---	---	---	Used to synthesize monosubstituted piperazine inter mediates of many bioactive molecules and piperazine containing drug substances, such as trazodone.
7.	N-ACETYL 4 (4-HYDROXYPHENYL) PIPERAZINE	67914-60-7	API Intermediate	N – 1	Ketoconazole	65277 - 42-1	Antifungal
8.	2 AMINO 4, 6 DICHLOROPHENOL	5930-28-9	API Intermediate	N – 2	Oxyclozanide	2277-92-1	anthelmintic
9.	CHLOROHEXIDINE BASE	55-56-1	API	--	--	--	antimicrobial
10.	FLUCONAZOLE	86386-73-4	API	--	--	--	It is used to treat serious fungal or yeast infections
11.	TELMISARTAN	144701-48-4	API	--	--	--	It is used to lower high blood pressure

12.	META BROMO ANISOLE	2398-37-0	API Intermediate	N – 1	Raloxifene	84449-90-1	**Raloxifene** is used by women to prevent and treat bone loss (osteoporosis) after menopause
13.	TRAMADOL	27203-92-5	API	--	--	--	Painkiller
14.	4-(2-METHOXYETHYL) PHENOL	56718-71-9	API Intermediate	N – 2	METOPROLOL TARTRATE	37350-58-6	By blocking catecholamine-induced increases in heart rate, in velocity and extent of myocardial contraction, and in blood pressure, **Lopressor** reduces the oxygen requirements of the heart at any given level of effort, thus making it useful in the long-term management of angina pectoris
15.	METOPROLOL TARTRATE	37350-58-6	API	--	--	--	
16.	THEOBROMINE	83-67-0	API	--	--	--	**Theobromine** is used as a vasodilator (a blood vessel widener), as an aid in urination, and as a heart stimulant
17.	((3S)-3-CYANO-2-(ETHOXY CARBONYL)-5- METHYL HEXANOIC ACID)	134523-00-5	API Intermediate	N – 1	Pregabalin	148553-50-8	It is used to treat pain caused by nerve damage due to diabetes or shingles (herpes zoster) infection

Brief summary regarding End-Uses of Product Profile:

1. Total No of API: 8
2. Total No of Intermediates (n-1): 4
3. Total No of Intermediates (n-2): 5

- The project falls under Category B2 of project activity 5(f) as per the schedule of EIA Notification 2006 and amended time to time.
- PP submitted an undertaking ensuring proposed product profile is in line with MoEF&CC's Notification vide S.O. 1223 (E) dated 27/03/2020 in respect of Active Pharmaceutical Ingredients (API) as category B2 projects. Undertaking as proposal of said product are eligible to consider under B2 category as per

the notification of MoEF&CC dated 27.03.2020

- The proposal was considered in the SEAC video conference meeting dated 28.09.2021.
- **N.B. Though the proposal was scheduled on Parivesh portal vide dated 28.09.2021, the proposal considered on 29.09.2021 due to time constraint.**
- During the meeting dated 29.09.2021, the project was appraised based on the information furnished in Form – 1, Pre-Feasibility Report, Environment Management Plan.
- Project proponent (PP) and their Technical Expert from M/s. Ashva Environment Consultancy remain present during video conference meeting.
- Committee noted that there is a discrepancy in distance of nearest habitat shown in Format and presentation. Upon asking regarding such misleading information, PP as well as their Consultant could not reply satisfactorily. PP has not submitted siting criteria in their presentation.
- Later on, PP submitted siting criteria. It was observed that District Highway is @ 19 meter away from the project boundary. Upon asking regarding the NOC from Highway Authority, PP ensured that they will submit the same.
- **After detailed discussion, it was decided to defer the proposal and consider the project for appraisal only after submission of NOC from the Highway Authority and ensuring siting criteria in line with the all Environmental parameters.**
- PP submitted reply of above query generated on SEAC VC meeting dated 29.09.2021, through e-mail.
- This proposal is reconsidered in SEAC meeting dated **21.01.2022**. PP along with their technical expert/consultant, M/s. Ashva Environment Consultancy remains present in the meeting and made presentation before Committee.
- PP submitted salient features of water, air and hazardous waste management are as under,

<table>
<tr><td>Sr. no.</td><td>Particulars</td><td>Details</td></tr>
<tr><td>A-1</td><td>Total cost of Proposed Project
(Rs. in Crores):

<table><tr><td>Total Project</td></tr><tr><td>7.0 Crores</td></tr></table>
Break-up of proposed project Cost:

<table><tr><td>Details</td><td>Project Cost
(Rs. In Crores)</td></tr><tr><td>Land</td><td>1.5</td></tr><tr><td>Building</td><td>1.2</td></tr><tr><td>Machinery</td><td>3.8</td></tr><tr><td>other</td><td>0.5</td></tr></table></td><td></td></tr>
<tr><td>A-2</td><td>Details of Environmental Management Plan (EMP)</td><td>As below:</td></tr>
</table>

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Sr. No	Unit	Detail	Capital Cost (Rs. In Crores)	Operating Cost (Rs. In Crores)	Maintenance Cost (Rs. In Crores)	Total Recurring Cost (Rs. In Crores)
1	Waste Water	Effluent treatment plant (ETP) consists of primary treatment units.	0.80	0.01	0.005	0.25
2	Air	Unit will use Natural gas as fuel. Adequate stack height will be provided for better dispersion of pollutants.	0.16	0.004	0.0025	0.03
3	Hazardous Management	Proper collection, Safe Handling, Storage within premises and disposal of waste at approved TSDF, re-cyclers, re-processors.	0.077	----	----	0.07
4	Fire & Safety	Fire Extinguishers, Fire hydrant system, PLC (Programmable Logically Control) system in Plant area	0.2858	0.02	0.05	0.098
5	AWH Monitoring	----	----	----	----	----
6.	Green Belt Development	13.39 % of the plant area will be developed as greenbelt into premises &26.61% will be developed to outside of the premises	0.021	----	----	0.006
7.	Occupational Health	Antidotes, Medical kits & PPEs etc	0.38	0.005	0.001	0.1
8.	CER Activity	Unit will provide fund 4% of total project cost to Environmental activities	0.14	----	----	----
Total			1.8638	0.039	0.0585	0.554

Comments:

1) …
2) ….

A-3	Details of CER -

Unit will allocate fund for three years for following activities

- Project proponent will be carried out below mentioned proposed activities under corporate environment responsibility in nearby village having total budget of Rs. 14.0 Lakh for Three Years
- Dhinoj @ 1.7 KM in NW direction from the project site.
- Gorad @ 4.3 KM in NW direction from the project site.

Type of Activity	1st year (INR)	2nd year (INR)	3rd year (INR)
Provision of Solar Panel Street Light at various location of villages Dhinoj&Gorad	12.0		
Providing OWC for facilitation of solid waste management (Village Dhinoj&Gorad)	16.0		
TOTAL	28.0		

B	Land / Plot ownership details: land Possession Document No. 7 (VF – 7) NA order No: 236/03/08/061/2020, Date: 02/11/2020
B-1	Plot area Total Plot area: 5995 Sq. m.
B-2	Brief note on Area adequacy in line to proposed project activities: • Total Plot Area: 5995 Sq. m • MFG Area (F.F): 570 Sq. m • Raw materials Storage Area (F.F): 450 Sq. m • PESO Area: 50 Sq. m • Solvent Storage Area: 112 Sq. m

Area Statement

Area No.	Name of Area	Area Sq. m.
1.	OHC	35.0
2.	Admin	90
3.	Lab	90
4.	Drying And Packing Area	323
5.	Boiler	80
6.	Under Ground Water Tank	100
7.	DG Set	42
8.	Utility Area	49
9.	Finished Product Storage Area	351
10.	Cooling Tower	50
11.	Hazardous Chemical Storage Area	225

12.	Solvent Storage Area	112
13.	ETP& STP	130
14.	PESO Area	50
15.	Bromine Glass Bottle Storage Area	20
16.	Hydrogen Cylinder Storage Area	20
17.	Security Cabin	25
18.	MEE Area	80
19.	Green Belt Area	2058
20.	Open & Road Area	2065
Total		5995

Area Statement First Floor

Area No.	Name of Area	Area Sq. m.
1.	Manufacturing Plant	570
2.	Raw Material Storage Area	450

B-3 Green belt area

	Total (Sq. meter)
Area in Sq. meter	*2058*
% of total area	*34.32 %*

Comments:

1) …
2) ….

C Employment generation

Total
40

-

D WATER

D-1 Source of Water Supply

- .Tanker Supply

	Comments: 3) … 4) ….
D-2	Water consumption (KLD)
	-

Category	Quantity KLD
(S) Domestic	4.0
(T) Gardening	3.0
(U) Industrial	
Process	25.0
Washing	4.0
Boiler	6.0
Cooling	3.0
Others (Scrubber)	2.0
Industrial Total	40.0
Grand Total (A+B+C)	47.0

	- *Comments:* 1) … 2) ….
D-3	Waste water generation (KLD)
	-

Category	Waste water KLD
(M) Domestic	3.2
(N) Industrial	
Process	23.0
Washing	4.0
Boiler	0.6
Cooling	0.3
Others (Scrubber)	1.8
Total Industrial waste water	29.7
Total [A + B]	32.9

	- *Comments:* 1) … 2) ….
D-4	Break-up of waste water disposal & facility (For Domestic)

- 3.2 KLD Domestic Waste Water will be treated in STPIt will be treated to in-house STP Plant & treated water will be reuse in gardening & toilet flushing/ washing.

1) …
2) ….

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

-

Sr. no.	Quantity KLD	Facility
1	29.7 KLD Industrial	In House MEE
2	Process Effluent – 23.0 KLD	solvent stripper
3	Utilities Effluent – 6.7KLD	In House ETP
4		
Total	28.7 KLD	

Total Effluent generation: 32.9 KLD

- 3.2 KLD effluent will generate as sewage effluent from Domestic activity. It will be treated to in-house STP Plant & treated water will be reuse in gardening & toilet flushing/ washing.
- Process effluent @ 23.0 KLD will be neutralized & then after sent to the solvent stripper for extraction of solvents from the effluent. Then after extracted effluent @ 22.0 KLD will be sent to in-house MEE Plant. Mix solvent about 1.0 KLD extracted from Stripper.
- Utilities effluent (Boiler/Cooling tower, Washing, Scrubber Bleed liquor) @ 6.7 KLD will be treated to in-house ETP having primary treatment units. Then after primary treated effluent will be sent to in-house MEE Plant.
- Total 28.7 KLD effluent will be sent to in-house MEE plant from which 25.26 KLD MEE Condensate water will be reuse in the premises.
- There will no effluent discharge to outside of the premises. Hence unit will achieve Zero Liquid Discharge (ZLD) unit.

Comments:

1) …
2) ….

E	AIR
E-1	Power (Electricity) requirement:250 KW
E-2	Flue gas emission details

-

Sr. no.	Source of emission With Capacity	Stack Height (meter)	Type of Fuel	Quantity of Fuel MT/Day	Type of emissions i.e. Air Pollutants	Air Pollution Control Measures (APCM)
1	Boiler – 2 Nos. (1.0 TPH)	21	Natural Gas	2400 SCM/Day	Particular matter SO_2 NO_X	Adequate Stack Height
2	Thermic Fluid Heater (4 Lakh. K. Cal)	21				
2	DG Set (Capacity: 125 KVA)	11	Diesel	11 Liter/hr.	Particular matter SO_2 NO_X	Adequate Stack Height

-

E-3	Process gas

-

Sr. no.	Specific Source of emission (Name of the Product & Process)	Type of emission	Stack/Vent Height (meter)	Air Pollution Control Measures (APCM)
1	Reaction Vessel from Product of 4 – Chlorobutyroyl Chloride	SO_2	11	Alkali Scrubber
2	Reaction Vessel from Product of 4 – Chloro – 3 Nitro Benzoic Acid	NOx	11	Two Stage Water + Alkali Scrubber
3	Reaction Vessel from Product of Fluconazole	HCl	11	Water Scrubber
4	Reaction Vessel from Product of ((3S)-3-CYANO-2- (ETHOXY CARBONYL)-5-METHYL HEXANOIC ACID)	Hbr	11	Alkali Scrubber

-

E-4	Fugitive emission details with its mitigation measures.

- Adequate ventilation will be provided.
- Regular maintenance of valves, pumps, flanges, joints and other equipment will be done to prevent leakages and thus minimizing the fugitive emissions.
- Periodic monitoring of work area will be carried out to check the fugitive emission.
- Close feeding system will be provided for centrifuges. Centrifuge and filtrate tank vents will be connected to vent chillers.
- Fugitive emission over reactors, formulation areas, centrifuges, chemical loading and transfer area will be collected through hoods and ducts by induced draft and controlled by scrubber.
- Dedicated scrubber will be provided are used for fugitive emissions to control

Comments for E2, E3 & E4:

1) …
2) ….

F	Hazardous waste
F-1	Hazardous waste management matrix

Sr. No.	Particulars	Source of Generation	Category	Generation Qty. (Annum)	Hazardous Waste disposal/Management
1.	ETP Sludge	From Effluent treatment plant	35.3	119 MT	Collection, Storage, Transportation & Disposal at active TSDF site.
2.	MEE Salt	From MEE Plant	35.3	520 MT	Collection, Storage, Transportation & Disposal at active TSDF site.
3.	Used/ Spent Oil	From plant machineries as lubricant	5.1	0.3 KL	Collection, Storage, Transportation, Disposal by selling to GPCB/ MoEF approved recycler/ reuse as lubricant within premises.
4.	Discarded Containers/ Bags/ Barrels	From raw material storage area	33.1	15 MT	Collection, Storage, Transportation, Decontamination, Disposal by send to the authorized dealer.
5.	Spent Carbon/Catalyst/Hy – Flow	During manufacturing process	28.3	48 MT	Collection, Storage, Transportation & Disposal by send it for co-processing / disposal at active TSDF site.
6.	Spent Solvent	From distillation process/ Solvent	20.2	2296 MT	Collection, Storage & reuse in process again

		recovery system			OR sell to authorized users having rule 9 permission
7.	Mix Solvent	From Stripper	20.2	360 MT	Collection, Storage & reuse in process again OR sell to authorized users having rule 9 permission.
8.	Distillation Residue	During distillation process	36.1	153 MT	Collection, Storage & disposal by send it to CHWIF site for incineration.
9.	Sodium Acetate	From process of product like 1 – BOC Piperazine	26.1	1750 MT	Collection, Storage, Transportation & Disposal by selling to authorized users having rule 9 permission.
10.	Organic Residue/Process Residue	During Manufacturing process	36.1	281 MT	Collection, Storage & disposal by send it to CHWIF site for incineration.
11.	Potassium Chloride (10%)	During manufacturing process of FLUCONAZOLE	26.1	339 MT	Collection, Storage, Transportation & Disposal by selling to authorized users having rule 9 permission.
12.	Potassium Iodide (10%)	During manufacturing process of FLUCONAZOLE	26.1	1511 MT	Collection, Storage, Transportation & Disposal by selling to authorized users having rule 9 permission.
13.	Spent Sulphuric Acid	During manufacturing process of 4-(2-METHOXYETHYL) PHENOL	26.1	591 MT	Collection, Storage, Transportation & Disposal by selling to authorized users having rule 9 permission.
14.	Acetic Acid	During manufacturing process of THEOBROMINE	26.1	640 MT	Collection, Storage, Transportation & Disposal by selling to authorized users having rule 9 permission.
15.	Inorganic residue	During manufacturing process of FLUCONAZOLE	28.1	2.5 MT	Collection, Storage, Transportation & Disposal at active TSDF site.
16.	Sodium Nitrite (10 – 15%)	From scrubber attached to reaction vessel	26.1	348 MT	Collection, Storage & send to ETP for further treatment.
17.	Dilute HCl (25 – 30%)	From scrubber attached to reaction vessel	26.1	568 MT	Collection, Storage & send to ETP for further treatment.
18.	Sodium Bi – Sulfite (30%)	From scrubber attached to reaction vessel	26.1	720 MT	Collection, Storage & send to ETP for further treatment.

19.	Sodium Bromide	From scrubber attached to reaction vessel	26.1	280 MT	Collection, Storage & send to ETP for further treatment.

F-2	Non- Hazardous waste management matrix

2. Fly Ash generation will be ……MTPA: N.A
3. STP sludge generation will be …….. MTPA: N.A

Comments:

2) …
3) ….

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

Name Of Product	Monthly quantity (MT)	Batch Size (Kg)	Name of Solvent	Use Qty. Kg/Batch	Recovery (Kg)
ATORVASTATIN CALCIUM	40	100	Toluene	100	97
	40	100	Methanol	130	124
	40	100	THF	40	38
	40	100	Cyclohexane	40	38
	40	100	IPA	120	114
	40	100	DIPE	40	37
TRIFLUORO ACETYL L-LYSINE	40	1	IPA	0.6295	0.598
4-HYDROXY COUMARINS	40	350	Toluene	1500	1455
1-BOC PIPERAZINE	40	135	Toluene	400	380
N-ACETYL 4 (4-HYDROXYPHENYL) PIPERAZINE	40	480	Toluene/IPA	1500	1455
2 AMINO 4, 6 DICHLOROPHENOL	40	80	MCB	200	195
CHLOROHEXIDINE BASE	40	400	Butanol	1170	1124
	40	400	Methanol	830	789
Fluconazole	40	200	Ethyl Acetate	100	95
	40	200	IPA	200	190
	40	200.00	DCM	100.00	96.00
	40	200.00	Toluene	100.00	97.00
	40	200	Dimethyl formamide	100	94
TELMISARTAN	40	222.2	Dimethyl formamide	200.2	194.19

	40	222.2	Acetone	100.3	95.28
	40	222.2	Methanol	300	285
	40	222.2	Acetic Acid	100	97
META BROMO ANISOLE	40	1	Toluene	1.73	1.65
	40	1	Methanol	0.328	0.312
TRAMADOL	40	270.00	Toluene	400.00	388.00
	40	270.00	Acetone	300.00	285.00
4-(2-METHOXYETHYL) PHENOL	40	100.00	1,2-Dichloromethane	100.00	96.00
	40	100.00	Methanol	80.00	76.00
	40	100.00	Toluene	100.00	97.00
METOPROLOL TARTRATE	40	220	IPA	140	133
	40	220	MONO ISOPROPYL	175	165
	40	220	Acetone	500	470

G-2	LDAR proposed:

LDAR Program

- ❑ Solvent lossesmonitoring
- ✓ In awarding, storage and consumption of solvents in various products shall be measured through Level Transmitters and Load cells weighing systems resp. The quantity at each stage shall be reconciled periodically to arrive atLosses.
- ✓ Batch outputs shall be monitored and reconciled with quantity of input raw materials added. Any variation beyond 5% shall be analyzed in detail and action plan shall be prepared to reduce thevariation.
- ✓ Workplace VOC monitoring through handheld VOC meter (photoionization detection (PID) sensor technology) shall be carried out at the shopfloor.
- ✓ Periodic Leakage Audit at Plant and PDCA approach to be followed for control ofleakages
- ❑ PreventiveMaintenance
- ✓ In order to prevent leakage from Pump, Seals, Valves etc, preventive maintenance shall be carried out periodically as per plan. In case of any recurring problem, action plan shall be prepared or frequency shall berevised.
- ❑ Immediate Corrections in case ofLeakages
- ✓ Plant shall have an internal competent team of Technicians and Engineers to handle different types of leakages round theclock.
- ✓ Plant shall also maintain adequate number of spares and consumables required

G-3	VOC emission sources and its mitigation measures

Measures for achieving maximum solvent recovery and minimize VOC generation:

No.	Emission Source	Probable Pollutant Emission	Control measures
1	Solvent Storage area	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 *(Air Pollutant)*	Routine & periodic inspection to check leakage. Preventive maintenance,followSOP for maintenance. Pumps & motors mechanical seal type. LDAR program will be followed.

Comments:

2) …
3) ….

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

-

Sr. no	Name of Chemical	Capacity of Tank	Number of Tanks	Hazardous Characteristics of Chemical
1	Acetic Acid	40 KL	1	Corrosive
2	HCl	30 KL	1	Corrosive
3	Acetic Anhydride	15 KL	1	Corrosive
4	Sulphuric Acid	50 KL	1	Toxic

Brief note on storage of Hazardous chemicals in Tanks

- There will be separate storage area for Liquid Materials.

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

Safety Measures for Drum Storage area:

- Some chemicals will be received at plant in drums by road truck and stored in a separate drum storage area.
- FLP type light fittings will be provided.

- Proper ventilation will be provided in go down.
- Proper label and identification board /stickers will be provided in the storage area.
- Conductive drum pallets will be provided.
- Drum handling trolley / stackers/fork lift will be used for drum handling. Separate dispensing room with local exhaust and static earthing provision will be made.
- Materials will be stored as per its compatibility study and separate area will be made for flammable, corrosive and toxic chemical drums storage.
- Smoking and other spark, flame generating item will be banned from the Gate.

Safety details of Hazardous Chemicals:

Type of Hazardous Chemicals	Safety measures
PESO Tank	Safety Measures for PESO Underground storage tank farm: ✓ The underground vessels shall be placed within concrete or brick masonry pit with a gap of 1.0 meter between the walls of the pit and the vessel as well as in between the vessels. ✓ The underground vessels shall be installed on a firm foundation and firmly secured to the foundation so as to prevent movement of floatation. ✓ Class A Petroleum products will be received through road tanker and stored in u/g storage tank as per PESO Rule. ✓ Tank farm will be constructed as per explosive department requirement and separation distance will be maintained. ✓ The underground vessels covered by earth (Mound) shall be a designed to withstand external pressure due to load of the earth cover. o Provided with external anti-corrosive coating or cathodic protection to prevent corrosion ; o Covered by earth, sand or any other non-corrosive material free from abrasive particles likely to damage the anti-corrosive coating of the vessel-the thickness of the covering material above the top surface of the vessel shall not be less than 0.5 meter; o Having the discharge level of the safety relief valves at least 2 meters above the top surface of the vessel, but in any case not less than 3 meters from the ground level; o Fitted with the necessary piping's, fittings, valves and other mounting on top of vessel in such a manner that they can be operated and maintained without disturbing the earth cover. In case of above ground vessel with earth cover (mound), liquid outlet pipe at the bottom may be allowed provided the control valve and emergency valve of this line is just outside the earth cover for the purpose of operation and maintenance from outside. ✓ Static earthing provision will be made for road tanker as well as storage tank. ✓ Flame arrestor with breather valve will be provided on vent line. ✓ Road tanker unloading procedure will be prepared and implemented. ✓ Fire load calculation will be done and as per fire load hydrant system will be provided as per NFPA std. and fire extinguishers will be provided as per fire load calculation. ✓ Spark arrestor will be provided to all vehicles in side

premises

- ✓ Lightening arrestor will be provided on the top.
- ✓ Flame proof type equipment and lighting will be provided.
- ✓ Trained and experience operator will be employed for tank farm area.
- ✓ NFPA label (hazard identification) capacity and content will be displayed on tanks
- ✓ Solvents will be transferred by pump only in plant area and day tank will be provided. Overflow line will be return to the storage tank or Pump On-Off switch will be provided near day tank in plant.
- ✓ Jumpers will be provided on solvent handling pipe line flanges & Flexible SS hose will be used for road tanker unloading purpose and other temp. connection

PESO Area Storage & Handling Safety: (UNLOADING)

- ✓ Ensure that the transfer of petroleum takes place only through electrically continuous sound hose having oil tight couplings at both ends.
- ✓ Couplings of the hose at the discharge ends of the tank trucks as well as at the fill pipe end of the underground tank shall not be leaky.
- ✓ Unloading operations should not commence without ensuring earthing of the tanker body to a proper earthing point. For this purpose, a proper earthing point shall be provided near filling points.
- ✓ Before commencing unloading operations tanker should be parked in the retail outlet in such a manner that it can be taken out of the retail outlet immediately in case of emergency.
- ✓ Dip pipe of the underground tank shall not be kept open during unloading operations.
- ✓ The dealer, supervisors and pump attendants shall be trained in all aspects of safety in RO including the provisions of Petroleum Rules, 2002 in Chapter IV on Electric Installation, Rules 117 to 119,122,125 and conditions 6 to 12, 15,16,18 to 21of licence Form XIV for the RO's under the said Rules.
- ✓ Before starting unloading of petroleum, it must be ensured that at least a safe distance of 3 M is kept clear of any kind of movement of other vehicles that come for fuelling and that there is no source of any spark in the area. In case of retail outlets that are in congested areas operations of fuelling automobiles in the retail outlet may be discontinued.
- ✓ Do not use plastic hose pipes for unloading purposes.
- ✓ Do not use hose pipe fitted with metallic pipe (bent pipe) at the discharge end.
- ✓ Do not use Hose pipes not conforming to OISD 135.
- ✓ Proper tightening of hose connections using screwed/cam lock couplings.
- ✓ Make sure that there shall be no collection of leaked petroleum through hose pipe connection at tanker

	discharge faucet end in the plastic bucket kept on the ground below. ✓ Provision of electrical earthing / bonding by means of flexible cable between tanker chassis and earth boss/fill pipe. ✓ Proper training to the retail outlet staff regarding hazards associated with the petroleum road tanker decantation operation in the retail outlets.
Non-PESO tank	Safety measures for Acid storage Tank: ✓ Storage tank will be stored away from the process plant. ✓ Tanker unloading procedure will be prepared and implemented. ✓ Caution note and emergency handling procedure will be displayed at unloading area and trained all operators. ✓ NFPA label will be provided. ✓ Required PPEs like full body protection PVC apron, Hand gloves, gumboot, Respiratory mask etc. will be provided to operator. ✓ Neutralizing agent will be kept ready for tackle any emergency spillage. ✓ Safety shower, eye wash with quenching unit will be provided in acid storage area. ✓ Material will be handled in close condition in pipe line. ✓ Dyke wall will be provided to all storage tanks, collection pit with valve provision. ✓ Double drain valve will provide. ✓ Level gauge will be provided on all storage tanks. ✓ Safety permit for loading unloading of hazardous material will be prepared and implemented. TREM CARD will be provided to all transporters and will be trained for transportation Emergency of Hazardous chemicals. ✓ Fire hydrant system with jockey pump as per TAC norms will be installed. Safety Measures of Non-PESO Tank ✓ Leakage / spillage mitigation plan ✓ Tank shall be rubber lined to prevent the corrosion ✓ Dyke wall shall be provided for containment ✓ Rubber type hand gloves and chemical splash goggles and full-face cartridge type mask and PVC apron shall be used while manual handling ✓ Lime shall be readily available during leak to neutralize the spill material ✓ Safety shower, eye wash with quenching unit will be provided in acid storage area. ✓ Material will be handled in close condition in pipe line. ✓ Double drain valve will provide. ✓ Level gauge will be provided on all storage tanks. ✓ Fire hydrant system with jockey pump as per TAC norms will be installed

Applicability of PESO: Will be obtained

H-2	Types of hazardous Processes involved and its safety measures:

Type of Process	Safety measures including Automation
Hydrogenation	✓ DCS (Distributed Control System) will be installed for handling of Hydrogenation Process. ✓ All electrical equipment shall be installed as per Hazardous Area Classification. ✓ Total enclosed process system. ✓ Instrument & Plant Air System. ✓ Nitrogen blanketing in Hydrogenation reactor. ✓ Safety valve and Rupture disc provided on reactor. ✓ Cooling, Chilling and alternate power arrangement have been made on reactor. ✓ Process area and Hydrogen cylinder bank shall be far away as per standards practice. ✓ PRV station with shut off valve, safety valve provision will be made for hydrogenation reaction safety. ✓ Standard Operating procedure shall be followed during operation of Hydrogen Gas charging in to reactor and after completion of reaction Nitrogen purging will be done. ✓ Flame arrestor will be provided on vent line of reactor and it will be extended above the roof level. ✓ Safe Catalyst charging method will be adopted. ✓ SOP will be prepared and operators will be trained for the same. ✓ Static earthing and electric earthing (Double) will be provided. ✓ Jumpers for static earthing on pipeline flanges of flammable chemical will be provided. ✓ Hydrogen gas detector will be installed for early detection of gas leak.
Nitration	✓ Nitration process will be done in closed S.S vessels. Nitration process will be carried out with adequate process control and instrumentation to provide inbuilt safety and process efficiency. For this purpose, DCS (Distributed Control System) will be provided in plant. ✓ DCS should have emergency shutdown button enclosed in a glass cabinet with break glass. ✓ Nitration process is exothermic reaction. In Nitration process, exothermic reaction is controlled by adequate dosing of reaction chemicals in a fixed time (not short duration) having adequate cooling water circulation in jacket of reaction vessels. Thus, any energy generated due to exothermic reaction is controlled by external cooling circulation and therefore vessels are not pressurized. ✓ Safety valve and Rupture Disc (Bursting Disc) is also been provided on reactor for zero process leakage to the atmosphere. Adequate pressure relief valve is provided for each vessels having pressure release capacity will be kept below -3 kg/cm2 than that of reaction vessels. ✓ The nitration reaction is controlled by systematic cooling design to withdraw the energy evolved.
Sulphonation / Chlorination (Thionyl Chloride)	✓ DCS (Distributed Control System) will be installed for handling of Hydrogenation Process. ✓ Total enclosed process system. ✓ Safety valve, rupture disk provided on reactor and pressure storage tanks. ✓ Static earthing and electric earthing (Double) will be provided. ✓ Jumpers for static earthing on pipeline flanges of flammable

		chemical provided. ✓ Flame proof light fitting installed where ever it is required. ✓ Scrubbers provided on all process vents Storage area is away from the process plant ✓ Fencing and caution notes and hazard identification boards displayed near storage area. ✓ Only authorized person are permitted in storage area. ✓ Safety permit for hazardous material loading unloading is prepared and implemented. ✓ Static earthing provision is made at all loading unloading points of flammable chemical storage area. ✓ Caution note, safety posters, stickers and emergency preparedness plan will be displayed. ✓ Emergency facilities and medical emergency facilities are available at site. ✓ Wind direction indicators to be provided. ✓ Emergency siren installed at main gate as well as in all plant. ✓ Training to be provided to all employees on chemical safety and process safety.		
	Bromination	✓ DCS (Distributed Control System) will be installed for handling of Brominaiton Process. ✓ All end nozzles in bromine charging hose will be blinded after use. ✓ Charging of bromine will be done when reactor is in vacuum and POP coated funnel will be used during charging. ✓ Excess bromine will be neutralize or discharged by adding Sodium Bisulfite. ✓ Make sure the absorber unit (scrubber) is working and capable of handling vented bromine fumes. ✓ Structure of bromine bottle area will be periodically inspected to ensure stability. ✓ Personnel employed with bromine handling are made aware of potential hazards of bromine and of appropriate first-aid measure. ✓ Exhaust hood connected with alkali scrubber and ventilation system will be available. Exhaust hood has been provided to maintain to concentration of bromine vapor well below PEL (Permissible Exposure Limit). ✓ Work instructions for bromine charging will be displayed in local language Gujarati/Hindi. ✓ Safety shower and eye-wash fountains will be available nearby handling and charging facility. The location of such item will be inspected and tested at fixed interval to make sure that it is in good condition. ✓ 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. ✓ Personal Hygiene – the following personal protective equipment will be used.		

	✓ Chemical safety goggles, face shields, SCBA sets, Aprons, rubber gloves, etc. ✓ Only trained employees handled bromine charging. Training will be given to employees for bromine handling and charging. ✓ Evacuate the area in down wind direction: ✓ For Bromine evacuate area in down wind direction up to 0.6 km (600 meter) in small spillage and in case of large spillage, evacuate the area in down wind direction 3.1 kms (3100 meters). ✓ In emergency situations resulting from vehicle accidents: ✓ Notify the local police, fire departments, emergency responders and the carrier. ✓ Isolate the area. ✓ Any person not dressed in proper protective clothing and not using an approved self-contained breathing apparatus should be kept a safe distance away. ✓ Call to the supplier. ✓ Seek immediate medical assistance for those injured and follow recommended first aid procedures.

H-3	Details of Fire Load Calculation

Total Plot Area:	5995 m^2
Area utilized for plant activity:	2767.0 m^2
Area utilized for Hazardous Chemicals Storage:	765.0 m^2
Number of Floors:	02
Water requirement for firefighting in KLD:	207.52 KL for 1.5 hr.
Water storage tank provided for firefighting in KLD:	350
Details of Hydrant Pumps:	90 HP (2 Nos.) Electric jockey pump
Nearest Fire Station:	Mehsana Fire Station (within13 KM from Project Site)
Applicability of Off-Site Emergency Plan:	----

Comments:

1)…
2)….

H-4	Details of Fire NOC/Certificate:
Unit will obtain Fire NOC after receipt of EC and before getting CTO.	
H-5	Details of Occupational Health Centre (OHC):

-

Number of permanent Employee:	40
Number of Contractual person/Labour:	12
Area provided for OHC:	35.0
Number of First Aid Boxes:	As per require
Nearest General Hospital:	General Hospital Mehsana @ 14 KM
Name of Antidotes to be store in plant:	As per require

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- During meeting, Committee noted that PP presented letter from NHAI to District megistrate in place of NOC from NHAI to PP.
- Also Committee noted that PP has not presented Google image showing nearby Amravati River distance from proposed project boundary.
- Deliberation of Committee,
  - ✓ NA permission letter is in name of project proponent and hence Committee asked for submission of authenticated document for linkage between project proponent and World Corporation. Technical expert of PP could not able to explain properly.
  - ✓ Site Plan/ layout with fire plan & floor plans and provision of separate entry & exits, 6 m wide peripheral road, distillation area, OHC, tank farm, production areas, raw material & finished goods storage areas, ETP area, utility area, hazardous waste storage area, fresh & spent solvent storage areas, hazardous waste storage area, 33 % greenbelt within premises etc.
  - ✓ Source of water will be tanker supply.
  - ✓ Domestic Waste water will be treated in STP.
  - ✓ Total effluent will be segregated and high COD stream will be evaporated in MEE after ETP and solvent stripper. Low COD stream will be treated in ETP and then evaporated in MEE.
  - ✓ Natural gas is proposed as fuel in boiler and TFH.
  - ✓ Single Stage Scrubber system is proposed for control of process gas emission. Hence Committee

insisted for provision of adequate two stage scrubber for each process reactor considering unit located outside notified area.

- ✓ PP submitted hazardous waste matrix mentioning source of generation, quantity and Mode of disposal and committed to comply the Hazardous and Other Wastes (Management and Trans boundary Movement) Rules 2016.
- ✓ Fire hydrant plan, fire load calculation, Water balance diagram, , storage of Hazardous chemicals and its safety and Area adequacy was discussed.
- ✓ CER fund allocation, EMP, Green belt area was discussed. LDAR and solvent recovery also discussed.
- ✓ Looking to risk assessment for bromine, chlorine and hydrogen storage is not presented by technical expert of PP, Committee insisted for submission of it.

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

A. Submission of NOC letter from the Highway Authority to unit with mentioning its recommendation.
B. Authenticated Google image showing nearby Amravati River distance from proposed project boundary.
C. NA permission letter in name of proposed unit in place of personnel name.
D. Revised process emission matrix with mentioning provision of adequate two stage scrubber for each process reactor considering unit located outside notified area.
E. Details of Risk assessment of bromine, chlorine and hydrogen storage & its handling considering worst case scenario of any blast, leakage or fire and super impose of satellite image for dispersion model with mentioning its impact on surrounding village's residential habitat area and its mitigation measures. Also standard operating procedure (SOP) for handling and storage of bromine, chlorine and hydrogen storage and details of offsite emergency plan details considering population affected due to proposed Hazardous chemicals storage along with its remedial measures, considering project located outside notified area.
F. Revised EMP with mentioning revised APCM cost and safety measures cost for storage and handling of bromine, chlorine and hydrogen.

12.	SIA/GJ/IND2/60892/2019	**M/s. Shreeji Pigment** Plot No. 5906/3A, GIDC, Ankleshwar, Ta-	EC-Reconsideration

		Ankleshwar, Dist: Bharuch	

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

Project status: **Expansion**

- Project proponent (PP) has submitted online application vide no. SIA/GJ/IND2/60892/2019 on dated 02/03/2021 for obtaining Environmental Clearance.
- SEIAA issued TOR to PP vide letter dated 13/05/2019.
- Project proponent has submitted EIA Report prepared by M/s. Aqua Air Environmental Engineers Pvt. Ltd based on the TOR issued by SEIAA.
- This is an existing unit and now proposed for expansion in manufacturing of synthetic organic chemicals as mentioned below:

Sr. no.	Name of the Products	CAS no. / CI no.	Quantity MT/Month			End-use of the products
			Existing	Proposed	Total	
1	Beta Blue	147-14-8	5.0	55.0	60.0	In Paint & Plastic Mfg. Industries.
2	Beta Blue (only through Ball Milling of CPC)	147-14-8	100	--	100.0	In Paint & Plastic Mfg. Industries.
3	Standardization of Pigments	147-14-8	50	--	50.0	In Paint & Plastic Mfg. Industries.
	Total		155.0	55.0	210.0	

- The project falls under B1 category of project activity 5(f) as per the schedule of EIA Notification 2006.
- PP was called for Video conference meeting for presentation on dated 01.06.2021.
- During the SEAC Video conference meeting dated 01.06.2021, Project Proponent (PP) and their technical expert and EIA consultant from M/s. Aqua Air Environmental Engineers Pvt. Ltd remain present and made technical presentation before the Committee.
- During the meeting, the project was appraised based on the information furnished in the EIA Report and details presented during the meeting.
- The baseline environmental quality has been assessed for various components of the environment viz. air, noise, water, biological and socioeconomic aspect. The baseline environmental study has been conducted for the study area of 10 km radial distance from project site for the period March 2019 to May 2019. Ambient Air Quality monitoring was carried out for PM_{10}, $PM_{2.5}$, SO_2, NOx, CO, HC and VOCs at

Eight locations, including the project site. Values conform to the prescribed standards for Ambient Air Quality. The incremental Ground Level Concentration (GLC) has been computed using "AERMOD".The resultant concentrations are within the NAAQS. The modeling study proved that the air emissions from the proposed plant would not affect the ambient air quality of the region in any significant manner. The ambient air quality around the proposed project site will remain within the National Ambient Air Quality Standards (NAAQS).

- Risk assessment including prediction of the worst-case scenario and maximum credible accident scenarios has been carried out. The detail proposed safeguard measures including On-Site / Off-Site Emergency Plan has been covered in the RA report.
- Upon asking regarding QCI/NABET accreditation for preparation of EIA preparation for proposed project, technical expert of PP informed that they have obtained QCI/NABET accreditation for preparation of EIA/EMP report as per the amended EIA Notification vide S.O. 648 (E) Dated 03.03.2016.
- This is an expansion project proposed for manufacturing of synthetic organic chemicals at GIDC Ankleshwar. Unit is having Valid CCA of the Board for existing plant. PP submitted CC&A compliance report for existing plant. Product profile with its end-use is discussed in depth. Source of water supply is GIDC. Committee noted that PP has addressed there is no legal court case, public complaint against unit. PP presented one closure order and one Show Cause Notice (SCN) issued by the Board and also unit obtained revocation of closure order from GPCB in year of 2016. Committee noted that PP has addressed area adequacy with layout plan for proposed project site.Upon asking regarding ata atime how many products will be manufactured, PP informed that they will manufacture one products at a time in Production plant.
- Committee deliberated on Process safety, area adequacy and layout plan, Fire safety, water balance & waste water management, Flue gas and process gas emission & Air Pollution Control System, Hazardous waste matrix, EMP, CER, LDAR and solvent recovery, Green belt, Risk assessment, baseline data etc.
- Committee noted the following:
    - ✓ PP has proposed total industrial effluent will be treated in ETP and then treated effluent will be discharged into GIDC drainage leading to FETP of M/s NCT for further treatment and disposal..
    - ✓ Domestic effluent will be treated in STP and treated sewage will be used for gardening purpose within premises.
    - ✓ Natural gas as fuel for Boiler and hot air generator.
    - ✓ There is no process gas emission.
    - ✓ Exhausted scrubbing media will be selling out as per the HW Rules.
    - ✓ PP submitted hazardous waste matrix mentioning source of generation, quantity and Mode of disposal and committed to comply the Hazardous and Other Wastes (Management and Trans boundary Movement) Rules 2016.

- Committee asked for submission of following documents and information,
  1. Submission of each and every specific ToR compliance report precisely with technical details of ToR accorded by SEIAA vide ToR letter dated 03/05/2019.
  2. Revised flue gas emission matrix with mentioning adequate stack height.
- **After detailed discussion, Committee unanimously decided to consider the project in one of upcoming meeting after submission of following documents:**
  A. Submission of each and every specific ToR compliance report precisely with technical details of ToR accorded by SEIAA vide ToR letter dated 03/05/2019.
  B. Revised flue gas emission matrix with mentioning adequate stack height.
- PP submitted the reply of the said points of meeting dated 01.06.2021 along with other supporting documents.
- This proposal is reconsidered in SEAC meeting dated **05.08.2021**. PP along with their technical expert/consultant from M/s Aqua Air Environmental Engineers Pvt. Ltdremains present in the meeting and made presentation before committee.
- PP submitted revised salient features of water, air and Hazardous waste management are as under,

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

Existing	Proposed	Total
1.0 Crores	0.5 Crores	1.5 Crores

Break-up of proposed project Cost:

Details	Project Cost (Rs. In Crores)
Land	0.5
Building	0.2
Machinery	0.6
Env. & Safety	0.1
Miscellaneous	0.1
Total	1.5

-

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

-

Sr. No	Unit	Detail	Capital Cost (Rs. In Crores)	Operating Cost (Rs. In Crores)	Maintenance Cost (Rs. In Crores)	Total Recurring Cost (Rs. In Crores)

1	Waste Water	Primary treatment units and treated waste water will be sent to Treated effluent will be sent to FETP of M/s. NCT, Ankleshwar.	0.36	0	0	1.10
2	Air	Cost of Dust Collector, stack installation, Spin Flash Dryer, &Cost of maintenance of APCM System	0.05	0	0	0.059
3	Hazardous Management	Construction of Hazardous waste storage yard	0.05	0	0	--
4	Fire & Safety	Cost of Fire Hydrant System, fire extinguisher, fire proximity suites	0.38	0	0	0.02
5	AWH Monitoring	pH, COD apparatus, BOD Incubator, RDS, TDS meter, Flow Meter	0.10	0	0	0.02
6.	Green Belt	33 % of	0.054	0	0	0.025

	Development	the plant area will be developed as greenbelt.				
7.	Occupational Health	Cost of PPE, 1 Beds, Oxygen cylinder, & Antidote(OHC)	0.02	0	0	0.022
8.	CER		0.015	0	0	--
Total			1.041	0	0	1.266

Comments:

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

A-3	Details of CER -

PP shall carry out CER activities as below:

FUND FOR CER ACTIVITIES	
Description (2021-2023)	Amount (INR in Lakh)
Green belt development on village periphery in Uchhali village	1.5
Total	1.5 Lakh

B	Land / Plot ownership details: GIDC/RM/ANK/ATL/5648 dated 04/08/2009
B-1	Plot area

Existing	Proposed	Total
2600 Sq. m.	0 Sq. m.	2600 Sq. m.

-

B-2	Area adequacy Area break up for Raw Material Storage 152.4 m^2 area is available for raw material and finished good storage.

Area for free movement (m^2) -60.81 m^2

Area Dedicated for Storage (m^2)- 91.59 m^2

Sr. No.	Storage Details	No. of Drum/ Bags/Carboy	Total Storage (MT)	Total Area (m^2)	Area for free movement (m^2)	Area Dedicated for Storage (m^2)
1	Corrosive Raw Material in Carboy	75	1.5	152.4	38.65	52.58
2	Toxic/Flammable Raw Material in Drums	5	1.0		15.72	25.56
3	Bags Storage	10	0.5		6.44	13.45
	Total	Drums: 5 Nos. Carboy : 75 Nos. Bags: 10 Nos.	3.0	152.4	60.81	91.59

Company has storage capacity 3 MT for 3days and company has Area for free movement (m^2) - 60.81 m^2

So, Adequate Area will be provided for Storage

Comments:

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

B-3

Green belt area

	Existing	Proposed (Sq. meter)	Total (Sq. meter)
Area in Sq. meter	858	0	858
% of total area	33 %	0	33%

Comments:

The condition shall be given that –

The PP shall develop green belt within premises (858 Sq. m i.e. 33 % of the total plot area) as per the undertaking submitted before SEAC. Green belt shall be developed with native plant species that are significant and used for the pollution abatement as per the CPCB guidelines. It shall be implemented within 3 years of operation phase in consultation with GPCB.

C — Employment generation

Existing	Proposed	Total
12	8	20

-

D — WATER

D-1 — Source of Water Supply

- GIDC Water supply

Comments:

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

D-2 — Water consumption (KLD)

-

Category	Existing KLD	Proposed (Additional) KLD	Total after Expansion KLD
(V) Domestic	2.5	0.0	2.5
(W) Gardening	1.0	0.0	1.0
(X) Industrial			
Process	3.5	1.2	4.7
Washing	16.5	0.0	16.5
Boiler	1.0	0.0	1.0
Cooling	1.0	0.0	1.0
Others	0.0	0.0	0.0
Industrial Total	22.0	1.2	23.2

Grand Total (A+B+C)	25.5	1.2	26.7

-

Comments:

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

D-3 Waste water generation (KLD)

-

Category	Existing KLD	Proposed (Additional) KLD	Total after Expansion KLD
(O) Domestic	2.0	0.0	2.0
(P) Industrial			
Process	3.4	0.0	3.4
Washing	16.5	0.0	16.5
Boiler	0.1	0.0	0.1
Cooling	0.0	0.0	0.0
Others	0.0	0.0	0.0
Total Industrial waste water	20.0	0.0	20.0

-

Comments:

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

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

Domestic effluent (2 KL/Day) will be treated inETP and sent to FETP of M/s. NCT, for final treatment and final disposal

Comments:

Domestic wastewater generation shall not exceed 72 KL/day for proposed project and it shall be treated

in ETP. It shall not be disposed off through soak pit/ septic tank.

D-5	Break-up of waste water disposal & facility (For Industrialafter proposed expansion)

-

Sr. no.	Quantity KLD	Facility
1	20 KL/Day	Process effluent (20 KL/Day) and utility wastewater along with Domestic effluent (2 KL/Day)will be treated in Primary treatment and along with domestic waste water sent to FETP (22 KL/Day) of M/s. NCT, for final treatment and final disposal
Total	22 KL/Day	

Comments:

1. Industrial effluent shall be treated in ETP and then shall be sent to FETP of M/s. NCT for further rtreatment and disposal.
2. PP shall provide adequate size ETP.

E	AIR
E-1	Power (Electricity) requirement : Power required is 200 KW (Existing) Power required is 300 KW (Proposed)
E-2	Flue gas emission details

- Existing & Proposed

Existing

Sr. no.	Source of emission With Capacity	Stack Height (meter)	Type of Fuel	Quantity of Fuel MT/Day	Type of emissions i.e. Air Pollutants	Air Pollution Control Measures (APCM)
1	Boiler (500 Kg/hr)	20	Natural Gas	40 m^3/hr	PM: 150 mg/Nm^3 SO_2:100 ppm NOx: 50 ppm	Adequate Stack Height
2	Hot Air Generator	20	Natural Gas	18 m^3/hr	PM: 150 mg/Nm^3 SO_2:100 ppm NOx: 50	Adequate Stack Height

					ppm	

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 Pollutants	Air Pollution Control Measures (APCM)
1	Spin Flash Dryer	20	Natural Gas	20 m^3/hr	PM: 150 mg/Nm^3 SO_2:100 ppm NOx: 50 ppm	Adequate Stack Height

-

E-3	Process gas

- Existing & Proposed

No Process gas generation from proposed project.

E-4	Fugitive emission details with its mitigation measures.

- Airborne dust at all transfers operations/ points will be controlled either by spraying water or providing enclosures.
- Raw materials loading and unloading will be done in covered area
- Care will be taken to store construction material properly to prevent fugitive emissions, if any.
- Regular maintenance of valves, pumps, flanges, joints and other equipment will be done to prevent leakages and thus minimizing the fugitive emissions of VOCs.
- Entire process will be carried out in the closed reactors with proper maintenance of pressure and temperature.
- Periodic monitoring of work area will be carried out to check the fugitive emission.
- To eliminate chances of leakages from glands of pumps, mechanical seal will be provided at all solvent pumps.
- Minimum number of flanges, joints and valves in pipelines.
- Enclosures to chemical storage area, collection of emission from loading of raw materials in particular solvents through hoods and ducts by induced draft, and control by scrubber / dust collector to be ensured.
- Adequate ventilation will be provided.
- Periodic monitoring of work area will be carried out to check the fugitive emission as per the norms of Gujarat Factory Rules.

Comments for E2, E3 & E4:

1. The fuel to be used is approved fuel for the requirement of the heat energy and has been

proposed the Air pollution Control measures so as to achieve the emission norms prescribed by the competent authorities.

2. The air pollution control measures, has been proposed by PP for checking flue gas emission, Process gas emission, fugitive gas emission, with adequate systems of reaction/ reaction condensers, HAG, boilers, and scrubbing systems as per the requirements, to achieve the emission norms prescribed by the competent authorities.

F	Hazardous waste
F-1	Hazardous waste management matrix

-

Sr. no.	Type/Name of Hazardous waste	Specific Source of generation (Name of the Activity, Product etc.)	Category and Schedule as per HW Rules.	Quantity (MT/Annum)			Management of HW
				Existing	Proposed	Total	
1	Discarded containers /Drums / Bags / Liners	Raw Material Containers /Bags	Sch-(I)-33.1	6.0	2.0	8.0	Decontamination, Storage, Transportation and Reuse / Sale to authorized Scrap Vendor
2	ETP Waste	From ETP	Sch-(I)-35.3	0.3	3.3	3.6	Collection, Storage, disposal by Reprocess / Blend with finished product (Beta Blue).
3	Used Oil	From Machineries	Sch-(I)-5.1	--	0.5	0.5	Collection, Storage, Transportation, Reuse and sale to authorized recycles.

-

Comments:

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

F-2	Non- Hazardous waste management matrix
Not Applicable	
G	Solvent management, VOC emissions etc.
G-1	Types of solvents, Details of Solvent recovery, % recovery, reuse of recovered Solvents etc.
Not applicable, as there shall be no Solvent generated	
G-2	LDAR proposed:
Not applicable, as there shall be no Solvent generated	
G-3	VOC emission sources and its mitigation measures

Measures for achieving maximum solvent recovery and minimize VOC generation:

During operation stage, leakage through valves/pumps, leakage and emission from open drum containing chemicals, open feeding, storage tanks, etc. will be major sources of fugitive emissions and VOCs.

- Solid raw material charging will be done through closed system.
- Entire process will be carried out in the closed reactors with proper maintenance of pressure and temperature.
- Close feeding system will be provided for centrifuges.
- Fugitive emission over reactors, formulation areas, centrifuges, chemical loading, transfer area, will be collected through hoods and ducts by induced draft and controlled by scrubber/dust collector.
- Control by having proper scrubbing system.
- Condenser to trap VOC.
- Enclosures to chemical storage area, collection of emission from loading of raw materials in particular solvents through hoods and ducts by induced draft, and control by scrubber/dust collector to be ensured.
- Proper maintenance schedule will be adhered to avoid emissions through flange joints, pump seals etc.
- Minimum number of flanges, joints and valves in pipelines.
- Proper gland packing will be maintained for pumps and valves and to the extent possible pumps with mechanical seal.
- All the raw materials will be pneumatically transfer to the reactor.
- All rotating equipments like pumps will be installed with mechanical seals to arrest any sort of emissions.
- A regular preventive maintenance schedule will be in place to replace or rectify all gaskets and joints etc. as a part of ISO systems to ensure no fugitive emissions take place.
- Periodic monitoring of work area will be carried out to check the fugitive emission.
- Adequate ventilation will be provided.
- Airborne dust at all transfers operations/ points will be controlled either by spraying water or providing enclosures.

Comments:

Not applicable

H	SAFETY details after proposed expansion
H-1	Details regarding storage of Hazardous chemicals

-

Sr. no	Name of Chemical	Capacity of Tank	Number of Tanks	Hazardous Characteristics of Chemical
1	All hazardous chemicals will be stored in drums, bags, carboy. There will be no hazardous chemicals stored in tank			

-

Storage of Hazardous chemicals in Tanks

Not Applicable, All hazardous chemicals will be stored in drums, bags, carboy. There will be no hazardous chemicals stored in tank

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

- Proper ventilation will be provided in storage area.
- Proper label and identification board /stickers will be provided in the storage area.
- Conductive drum pallets will be provided.
- Drum handling trolley / stackers/forklift will be used for drum handling.
- Separate dispensing room with local exhaust and static earthing provision will be made.
- Materials will be stored as per its compatibility study and separate area will be made for flammable, corrosive and toxic chemical drums storage.
- FLP type light fittings will be provided.
- Smoking and other spark, flame generating items will be banned from the Gate.

Safety details of Hazardous Chemicals:

Type of Hazardous Chemicals	Safety measures
FLAMMABLE & EXPLOSIVE	• Fire Hydrants are available and Sand Buckets are available. • Sprinkler system is available. • FLP electrical fixtures are available. • Material Handling equipment like, Pallet stacker/Drum Trolley are available for safe handling. • Belt stripping of drums for avoid falling. • Emergency exit is available. • Spill kit is available
CORROSIVE & CHEMICALS	• Fire Extinguishers are available. • Fire Hydrants are available at outer side of the Periphery. • FLP fixtures are available. • Eye washer and safety shower are available. • Emergency exit is available. • Spill kit is available. • Well ventilated. Ventilation in storage areas, whether they are

	rooms or cabinets, helps remove any fumes at the source.
TOXIC CHEMICALS	• Prevent the release of toxic vapours, dusts, mists or gases into the workplace air. • Install properly designed ventilation in storage area • Ground and bond all work and ignition-proof equipment • Ensure that there is no smoking in work areas where flammable materials are stored or used • Use intrinsically safe and non-sparking tools • Sprinkler system is available. • FLP electrical fixtures are available.
REACTIVE CHEMICALS	--

- Applicability of PESO: PESO is not applicable

Comments:

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

H-2	Types of hazardous Processes involved and its safety measures:

Not Applicable

H-3	Details of Fire Load Calculation

Total Plot Area:	2600 Sq. mt.
Area utilized for plant activity:	152.4 Sq. mt
Area utilized for Hazardous Chemicals Storage:	135.6 Sq. mt.
Number of Floors:	G+2 floor
Water requirement for firefighting in KLD:	50 KLD*2
Water storage tank provided for firefighting in KLD:	100 KLD
Details of Hydrant Pumps:	Kirlosker make one fire pump (15 m^3/hr-88 meter head) and One Jocky pump (12 m^3/hr - 63 meter head) will be provided
Nearest Fire Station :	3.6 Kms- DPMC Fire station
Applicability of Off Site Emergency Plan:	• Available specialized equipments of fire fighting equipments, breathing apparatus, cranes, dozens ambulance etc. • Plans of evacuation, safe routes, medical treatment and rehabilitation.

Comments:

1. The project proponent has proposed fire safety plan which includes fire hydrant line, sprinkler system, fire extinguishers, fire suits, covering the project area and provides for fire water storage tank of 100 KL. SEAC found it as per the requirement.

H-4	Details of Fire NOC/Certificate:

Unit will obtain Fire NOC after receipt of EC and before getting CTO.

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

-

Number of permanent Employee:	15
Number of Contractual person/Labour:	10
Area provided for OHC:	50 Sq. meter
Number of First Aid Boxes:	5
Nearest General Hospital:	Ankleshwar General Hospital
Name of Antidotes to be store in plant:	NA

-

Comments

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

- During meeting, Committee noted that PP has addressed specific ToR compliance and revised flue gas emission matrix with mentioning adequate stack height. Looking to ToR compliance for CER showing only details of tree plantation in Uchchhali village but Uchchhali gram panchayat letter not submitted by PP, ToR regarding renewable energy showing general details in place of utilization of renewable energy considering maximum extent for proposed project and area adequacy with land break up and layout plan with color coding for existing and proposed infrastructure, Hazardous chemical and raw material storage considering type of Hazard and worst case scenario.

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

1. Readdress ToR no-2 for expansion project area adequacy along with revised layout plan with mentioning adequate size peripheral road and internal road ,color coding for existing and proposed infrastructure, storage area of Hazardous chemicals and raw material storage considering type of hazard and worst case scenario ,adequate details of storage tank to be installed and revised area adequacy considering it.

2. Readdress ToR no-1 with Uchchhali village gram panchayat letter mentioning details oftree plantation area, mentioning longitude and latitude in place of simply mentioning tree plantation in

Uchchhali village periphery and notarised undertaking for greenbelt development and its maintenance and conservation responsibility for green belt development, outside premises.

3. Readdress ToR no-3 with mentioning explore the use of renewable energy efficient to the maximum extent possible in place of general details of solar renewable energy.

- PP submitted reply of above query generated on SEAC VC meeting dated 05.08.2021, through e-mail.
- This proposal is reconsidered in SEAC meeting dated **21.01.2022**. PP along with their technical expert/consultant, M/s. Aqua Air Environmental Engineering Pvt. Ltd remains present in the meeting and made presentation before Committee.
- During meeting, Committee noted that PP presented revised area adequacy with layout plan and readdress ToR no-1 for expansion project. PP readdressed ToR no-1 regarding green belt development and readdress ToR no- 3 regarding renewable energy adoption within plant area.
- Since the proposed project is located in notified industrial area, public consultation is not required as per paragraph 7(i) (III) (I) (b) of the Environment Impact Assessment Notification 2006.
- **After detailed discussion, Committee unanimously decided to recommend the project to SEIAA, Gujarat for grant of Environment Clearance with the following specific condition:**

SPECIFIC CONDITIONS:

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

WATER

8. Total water requirement for the project shall not exceed 26.70 KLD. And it shall be met through GIDC water supply only. Prior permission from concerned authority shall be obtained for withdrawal of water.
9. The industrial effluent generation from the project shall not exceed 20 KLD after expansion.
10. Total Industrial effluent shall be treated in ETP and then treated effluent shall be sent to CETP of M/s.NCT for further treatment and disposal.
11. Treated waste water shall be discharged into CETP only after complying with the inlet norms prescribed by GPCB to ensure no adverse impact on Human Health and Environment.
12. Domestic wastewater generation shall not exceed 2 KL/day for proposed project and it shall be treated in ETP. It shall not be disposed off through soak pit/ septic tank.
13. Unit shall provide ETP with adequate capacity.
14. The PP shall ensure to dispose off Waste water to the Common Facilities having valid CTO of GPCB.

AIR

15. Unit shall not exceed fuel consumption and provide APCM and Stack height as mentioned in flue gas matrix.
16. Unit shall provide APCM and stack height as mentioned in process gas matrix.
17. PP shall use approved fuels only as fuel in boilers.

HAZARDOUS & SOLID WASTE

18. All hazardous solid waste shall be managed as mentioned in hazardous waste matrix.
19. The unit shall submit the list of authorized end users of hazardous wastes along with MoU signed with them at least two months in advance prior to the commencement of production. In the absence of potential buyers of these items, the unit shall restrict the production of the respective items.

GREENBELT AREA

20. The PP shall develop green belt [858 m2 inside plant premises i.e. 33 % of total plot area] as per the undertaking submitted before SEAC. Green belt shall be developed with native plant species that are significant and used for the pollution abatement as per the CPCB guidelines. It shall be implemented within 3 years of operation phase in consultation with GPCB.
21. **Safety & Health:**
    a) PP shall provide Occupational Health Centre (OHC) as per the provisions under the Gujarat Factories Rule 68-U.
    b) PP shall obtain fire safety certificate / Fire No-Objection certificate (NOC) from the concern authority as per the prevailing Rules / Gujarat Fire Prevention and Life Safety Measures Act, 2016.
    c) Unit shall adopt functional operations/process automation system including emergency response to eliminate risk associated with the hazardous processes.

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

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

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

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

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

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

13.	SIA/GJ/IND2/61742/2019	**M/S. Panoli Intermediates (I) Pvt.** Ltd. (**Unit-1)** Plot no. 778-1 and 756-1, GIDC Jhagadia, Dist - Bharuch	Appraisal

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

Project status: **New**

- Project proponent (PP) has submitted online application vide no. SIA/GJ/IND2/61742/2019 for obtaining Environmental Clearance on dated 19.06.2021.
- SEIAA issued ToR to PP vide letter no. SEIAA/GUJ/TOR/5(f)/91/2020 dated 06.02.2020.
- Project proponent has submitted EIA Report prepared by M/s. Aqua Air Environmental Engineers Pvt. Ltd., Surat based on the TOR issued by SEIAA.
- This is an existing unit and proposes for manufacturing of Synthetic Organic Chemicals as below:

Sr. no.	Name of the Products	CAS no. / CI no.	Quantity MT/Month			End-use of the products
			Existing	Proposed	Total	
1	Chloro benzene derivatives		3600	4400	8000	It is used in the manufacture of organic chemicals, dyestuffs. It is also used a solvent for adhesives, drugs, rubber, paints and dry cleaning, and as a fiber-swelling agents in textile processing.
	MCB	108-90-7				
	DCB	95-50-1				
	PDCB	106-46-7				
	ODCB	95-50-1				
	TCB	120-82-1				
	Acetanilide	103-84-4				It is used in the manufacture of some benzodiazepine drugs as well as the antihistamine dorastineetc.
	Amino Hydro carbon Like					
	Chloro Aniline	106-47-8				
	Toludiene	106-49-0				

	Cumidiene					
	Xylidiene	87-62-7				
	Di-Chloro Aniline	100-00-5				
2	ChloroSulphonic Acid	7790-94-5	3900	-	3900	It is used in manufacturing of Dye intermediates.
	Calcium Chloride	7440-70-2				It is used as Refrigeration Liquid.
	Poly Aluminium Chloride	1327-41-9				It is used in water & waste water treatment.
3	Captive Power Plant	--	1.4 MW	-	1.4 MW	Power generation
Total			7500	4400	11900	--

- The project falls under B1 category of project activity 5(f) as per the schedule of EIA Notification 2006.
- PP was called for Video conference meeting for presentation on dated 28.082021.
- Project proponent (PP) and Technical expert of PP, M/s. Aqua Air Environmental Engineering Pvt. Ltd. remain present during video conference meeting.
- During the SEAC Video conference meeting dated 28.08.2021, Project Proponent (PP) and their technical expert and EIA consultant from M/s. Aqua Air Environmental Engineers Pvt. Ltd., Surat remain present and made technical presentation before the Committee.
- During the meeting, the project was appraised based on the information furnished in the EIA Report and details presented during the meeting.
- The baseline environmental quality has been assessed for various components of the environment viz. air, noise, water, biological and socioeconomic aspect. The baseline environmental study has been conducted for the study area of 10 km radial distance from project site for the period October 2020 to December 2020. Ambient Air Quality monitoring was carried out for PM10, PM2.5, SO2, NOx, CO and VOCs at Nine locations, including the project site. Values conform to the prescribed standards for Ambient Air Quality. The incremental Ground Level Concentration (GLC) has been computed using ISCST2 model. The resultant concentrations are within the NAAQS. The modelling study proved that the air emissions from the proposed plant would not affect the ambient air quality of the region in any significant manner. The ambient air quality around the proposed project site will remain within the National Ambient Air Quality Standards (NAAQS).
- Risk assessment including prediction of the worst-case scenario and maximum credible accident scenarios has been carried out. The detail proposed safeguard measures including On-Site / Off-Site Emergency Plan has been covered in the RA report.
- PP ensured that there are no court cases pending and no public complaints against the project. Committee deliberated on legal action taken by GPCB in last three years including Direction under section 31(A) of Air Act, Direction under section 33(A) of Water Act and Show Cause Notices. PP

presented their reply before the Committee.

- Self Certified Compliance report of Valid CCA is submitted.
- PP has addressed greenbelt development, CER, EMP, fire evacuation plan, fire load calculation, storage & loading/ unloading of hazardous chemicals & its safety measures, Auto control system for process hazard, risk assessment for Hazardous chemicals, baseline data and compliance of ToR.
- Committee noted that Project proponent as well as EIA consultant could not reply satisfactorily egarding chlorine handling, Risk assessment, storage of hazardous chamicals, Control mechanism for SO2 from flue gas emission, On-site/Off site emergency plan etc.
- Committee asked to submit latest membership certificate with spare capacity and
- **After detailed discussion, Committee unanimously decided to consider the project in one of upcoming meeting only after submission of following documents,**
  1. Membership Certificate from Common Facility (mentioning total capacity, consented quantity, occupied capacity and spare capacity and norms of acceptance of effluent from member units) in-line with the direction given by GPCB vide Letter No. GPCB/P-1/8-G (5)/550706 dated 08/01/2020.
  2. Source of Chlorine for existing and proposed project and permission of PESO thereof.
  3. Status of GIDC permission letter regarding above ground Chlorine conveyance pipeline for existing as well as for proposed project.
  4. Revised Risk assessment report covering all aspect as per the ToR including surrounding peaple affected.
  5. On-site/Off site emergency plan.
  6. Revised storage details for Hazardous chemicals as per Compatibility chart
  7. Revised air matrix with mentioning adequate APCM to control SO2 emission from the flue gas stacks.
- PP submitted reply of above query generated on SEAC VC meeting dated 28.08.2021, through e-mail.
- This proposal is reconsidered in SEAC meeting dated **21.01.2022**. PP along with their technical expert/consultant, M/s. Aqua Air Environmental Engineering Pvt. Ltd remains present in the meeting and made presentation before Committee.
- PP submitted revised salient features of water, air and hazardous waste management are as under,

<table>
<tr><td>Sr. no.</td><td>Particulars</td><td>Details</td></tr>
<tr><td>A-1</td><td>Total cost of Proposed Project
(Rs. in Crores):

<table>
<tr><td>Existing</td><td>Proposed</td><td>Total</td></tr>
<tr><td>5.25 Crores</td><td>10.0 Crores</td><td>15.25 Crores</td></tr>
</table>

Break-up of proposed project Cost:
<table>
<tr><td>Details</td><td>Project Cost
(Rs. in Crores)</td></tr>
<tr><td>Land</td><td>3.5</td></tr>
</table>
</td><td></td></tr>
</table>

		Building	3
		Machinery	6.96
		Env. & Safety	1.79
		Miscellaneous	--
		Total	15.25

-

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

-

Sr. No	Unit	Detail	Capital Cost (Rs. In Crores)	Operating Cost (Rs. In Crores)	Maintenance Cost (Rs. In Crores)	Total Recurring Cost (Rs. In Crores)
1	Waste Water	Primary, Secondary & Tertiary Treatment Facility	0.28	1.04	--	1.04
2	Air	1 Additional Steam Boiler (14 TPH) & 1 TFH (80 Lacs Kcal.), ESP + Water Scrubber, Two Stage Water Scrubber with Caustic Scrubber will be provide	0.415	0.01	0.02	0.03
3	Hazardous Management	Membership of TSDF & Incineration Waste and its transportation Charge	0.05	0.144	--	0.144
4	Fire & Safety	Fire hydrant and Pipeline System,	0.48	0.04	0.005	0.045

		Fire Fighting Equipments, Foam Trolley and Flame Proof electric fitting				
5	AWH Monitoring	In-house & Third Party Monitoring	0.05	--	0.01	0.01
6.	Green Belt Development	Cost of Trees and its plantation Charges	0.165	--	0.005	0.005
7.	Occupational Health	OHC, Training, Medical Checkup, Integrated DCS System	0.40	--	0.0775	0.0775
8.	CER	1% as per OM Dated 01/05/2018	0.1	--	--	--
Total			1.94			1.3515

Comments:

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

A-3	Details of CER -

Unit will work towards environment direction in the Fulwadi and Selod village in next 2 years.

PP shall carry out CER activities as below:

BUDGETARY ALLOCATION FOR CER ACTIVITIES		
The unit has planned to spend 1.0 % of cost of the proposed project (Rs.1000 Lakhs) over a period of five years towards CER activity. So, as per the project cost Rs. 10 Lakhs used in the CER activities. Budgetary allocation is given in below table.		
Sr. No.	Activity	Fund Earmarked For Activity in Lakhs
1	Solid waste management facilities and provision of sanitation [Public Toilet] in Fulwadi village.	3 Lakh

2	Contribution in the development of Rain Water Harvesting System to the village of Selod.	7 Lakh
TOTAL		Rs. 10.0 Lakh

B	Land / Plot ownership details: Vide Letter No. GIDC/RM II//ALT/1649 Dated 24/07/1999 & GIDC/RM II/ALT/649 Dated 12/02/2001
B-1	Plot area Existing: 28528 Sq. m. | Proposed: 0 Sq. m. | Total: 28528 Sq. m. -
B-2	Area adequacy Total Storage required = Storage of Hazardous waste (90 Days) + Raw Material (5 Day)+ Product (5 Days) = (108 + 12920 + 1990) MT Total Storage required= 15018 MT Total Storage Capacity= Area dedicated for (Storage of RM + FG+ chlorine shed +Coal Shed+H2 Storage+ Flakers Godown + Tank storage+ Benzene yard + HW+) *3 (Storage Capacity per meter square) =(619.5+1133.3+457.1+322+446.6+387.1+1771.7+920.5+319.2)*3 = (6377) *3 Total Storage Capacity= 19131 We have Storage area for 19131 MT but we will store 15018 MT. **Comments:** SEAC has examined it w.r.t.to total monthly production, maximum products, manufactured per month, the total raw material required, weekly storage requirement of each raw material, their mode of storage, their compatibility (flammability, corrosive, toxic), area needed by each raw material, one week storage of finished goods. Area adequacy, from overall safety perspective, has been provided in proposal and is satisfactory.
B-3	Green belt area

	Existing	Proposed (Sq. meter)	Total (Sq. meter)
Area in Sq. meter	5258.4 Sq. meter	3300 Sq. meter	9418.4 Sq. meter
% of total area	18.433 %	11.567 %	33%

860 m^2 (3.00%) area will be developed as greenbelt outside of premises

Comments:

The condition shall be given that –

The PP shall develop green belt within premises (9418 Sq. m i.e. 33 % of the total plot area) as per the undertaking submitted before SEAC. Green belt shall be developed with native plant species that are significant and used for the pollution abatement as per the CPCB guidelines. It shall be implemented within 3 years of operation phase in consultation with GPCB.

C Employment generation

Existing	Proposed	Total
270	150	420

-

D WATER

D-1 Source of Water Supply

Unit has water permission from GIDC Jhagadia.

- Letter No: NAA/CO/JHG/479 dated 27/07/2021.

Comments:

obtained

D-2 Water consumption (KLD)

-

Category	Existing KLD	Proposed (Additional) KLD	Total after Expansion KLD
(Y) Domestic	2	4	6
(Z) Gardening	0	5	5
(AA) Industrial			
Process	92.2	88	180.2
Washing	0	5	5
Boiler	70.5	65	135.5
Cooling	15.0	212	227
Others	-	235	235
Industrial Total	177.7	605	782.7
Grand Total (A+B+C)	179.7	614	793.7

Comments:

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

D-3	Waste water generation (KLD)

-

Category	Existing KLD	Proposed (Additional) KLD	Total after Expansion KLD	Remarks
(Q) Domestic	2	3	5	
(R) Industrial				
Process	4	59.2	63.2	
Washing	0	5	5	
Boiler	4.3	77.25 (7.0+70.25)	81.55	
Cooling	5	21	26	
Others	0	345	345	
Total Industrial waste water	13.3	507.45	520.75	
Total	15.3	510.45	525.75	

-

Comments:

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

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

5 KL/Day Domestic Waste Water will be treated in STP and treated waste water will be reused in Gardening.

Comments:

1. Domestic wastewater generation shall not exceed 5 KL/day for proposed project and it shall be treated in STP. It shall not be disposed off through soak pit/ septic tank. Treated sewage shall be utilized for gardening and plantation purpose within premises after achieving on-land discharge norms prescribed by the GPCB.
2. Unit shall provide STP with adequate capacity.

D-5	Break-up of waste water disposal & facility (For Industrial after proposed expansion)

-

Sr. no.	Quantity KLD	Facility
1	63.2	59.2 KL/Day distilled water stream will be generated from manufacturing process of hydrogenation product (Dichloro Aniline) and unit will be recovered & reuse by process distillation in process water and remaining 4 KL/Day will be send to ETP.

2	42.3	Utility waste water will be send to ETP and after that it will be discharged via NCT Pipeline.
3	70.25	Condensate steam will be generated from Boiler and reused back as feed water for boiler.
3	345	HCl (30-32%) will be generated after scrubbing which will be reused in manufacturing of calcium chloride & Chloro Sulphonic Acid (CSA) and excess quantity of HCl will be sold to actual Rule-9 authorized end-users.
Total	520.75 KLD	

Comments:

1. 46.30 KLD Industrial effluent shall be treated in ETP and then treated effluent shall be sent to M/s.NCT Pipeline for further treatment and disposal.
2. 59.20 KLD distilled water from process shall be directly reused back in process and 70.25 KLD, boiler condensate water shall be reused back in boiler.
3. 345 KLD exhausted scrubbing media either shall be reused back in process or shall be sold to end user having Rule-9 permission as per Hazardous waste Rules'2016.
4. Treated waste water shall be discharged into M/s. NCT pipeline only after complying with the inlet norms prescribed by GPCB to ensure no adverse impact on Human Health and Environment.

E	AIR
E-1	Power (Electricity) requirement:

SR. NO.	SOURCE	EXISTING	PROPOSE	TOTAL
1.	DGVCL	1000 KVA	2000 KVA	3000 KVA
2.	DG Set	750 KVA	--	750 KVA

E-2 Flue gas emission details

- Existing & 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 Pollutants	Air Pollution Control Measures (APCM)
Existing						
1	Thermic Fluid Heater (30 Lacs Kcal.)	30	Coal	12	PM SO2 NOx	ESP+ Water Scrubber
2	Thermic Fluid Heater (15 Lacs Kcal)	25	Natural Gas	11520 (Nm^3/Day)		Adequate Stack height
3	Thermic Fluid Heater (15 Lacs Kcal)	20				

4	Steam Boiler 3 TPH (Stand by)	20				
5	Boiler-Coal Base (5 TPH)	30	Coal	21		Multi cyclone Separator with bag filter with water scrubber
6	DG Set (750 KVA)	11	HSD	150 (Lit/Hour)		Adequate Stack height
Proposed:						
1	Steam Boiler (14 MTH)	50	Coal	60	Particular matter SO2 NOx	ESP + Water Scrubber
2	Thermic Fluid Heater 80 Lacs Kcal.)	30	Coal	40		ESP+ Water Scrubber

-

E-3	Process gas

- Existing & Proposed

Sr. no.	Specific Source of emission (Name of the Product & Process)	Type of emissions i.e. Air Pollutants (SO2, HCl, Cl etc.)	Stack/Vent Height (meter)	Air Pollution Control Measures (APCM)
Existing:				
1	Chlorinator of Chloro Benzene Plant - 1	HCl Cl_2	22	Three stage Scrubber (Water + Water + Caustic)
2	Chlorinator of Chloro Benzene Plant - 2	HCl Cl_2	22	Three stage Scrubber (Water + Water + Caustic)
3	Liq. SO_3 Storage Tanks of CSA Plant	SO_3	22	Two Stage Water + Caustic Scrubber
4	CSA Storage Tanks of CSA Plant	HCl SO_2	22	Two Stage Water + Caustic Scrubber
5	Reactor of CSA Plant	HCl SO_2	22	Two Stage Water + Caustic Scrubber
Proposed				
1	Chlorinator of Chloro Benzene Plant - 1	HCl Cl_2	21	Three stage Scrubber (Water + Water + Caustic)

2	Chlorinator of Chloro Benzene Plant - 2	HCl Cl_2	21	Three stage Scrubber (Water + Water + Caustic)

-

E-4	Fugitive emission details with its mitigation measures.

Following measures will be adopted to prevent and control fugitive emissions:

12. Airborne dust at all transfers operations/ points will be controlled either by spraying water or providing enclosures.
13. Adequate ventilation will be provided.
14. Regular maintenance of valves, pumps, flanges, joints and other equipment will be done to prevent leakages and thus minimizing the fugitive emissions.
15. Entire process will be carried out in the closed reactors with proper maintenance of pressure and temperature.
16. Periodic monitoring of work area will be carried out to check the fugitive emission.
17. Stand by pumps will be provided on all scrubbers. Besides, scrubbers will be equipped with on-line pH meter with hooter system for better operational control.
18. Close feeding system will be provided for centrifuges. Centrifuge and filtrate tank vents will be connected to vent chillers.
19. Minimum number of flanges, joints and valves in pipelines.
20. Regular inspection of floating roof seals and proper preventive maintenance of roofs and seals for tanks.
21. Fugitive emission over reactors, formulation areas, centrifuges, chemical loading and transfer area will be collected through hoods and ducts by induced draft and controlled by scrubber.
22. Dedicated scrubber will be provided for fugitive emissions to control.
    Enclosures to chemical storage area, collection of emission from loading of raw materials in particular solvents through hoods and ducts by induced draft, and control by scrubber to be ensured.

Comments for E2, E3 & E4:

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

F	Hazardous waste
F-1	Hazardous waste management matrix

-

Sr. no	Name of Hazardous waste	Source of generation	Category & Schedule	Existing (MT/Annum)	Additional (MT/Annum)	Total (MT/Annum)	Disposal Method
1	Bottom Product	Process	Sch-I/ 26.1	10	--	10	Collection, Storage within the premises, Transportation and sell to end users or disposal by incineration at common incinerator of BEIL.
2	Used bags	Process	Sch-I/ 33.3	150 Nos	--	150 Nos	Collection, Storage, decontamination & reuse within factory premises or sell to authorized vendor.
3	Used Lube Oil	Process	Sch-I/ 33.1	150 Lit	--	150 lit	Collection, Storage, Transportation & disposal by selling out to registered reprocesses.
4	Spent Catalyst	Process	Sch -I (28.2)	0.1	--	0.1	Collection, Storage within the factory premises and sale to registered recycler or disposal at TSDF Site of BEIL.
5.	Used Oil	Equipment and Machinery	Sch-I/ 5.1	--	480 Liters = 5.76 MT/ Annum	480 Liters = 5.76 MT/ Annum	Collection, Storage, Transportation and selling to authorized recyclers.
6.	Discarded Plastic Bag / Liners	Process	Sch-I/ 33.1	15 Nos.	1215 Nos.	1215 Nos.	Collection, Storage, Transportation and selling to

							authorized recyclers.
7.	ETP Sludge	ETP	Sch-I/ 35.3	--	420	420	Collection, storage, transportation and final disposal at common TSDF
8.	Off Specification Products	From mfg. Process (Batch failure)	Sch-I/ 28.4	--	10.0	10.0	Collection, Storage, Transportation and sent to Co-processing or CHWIF for incineration.
9	Sodium Hypochlorite (NaclO) (10%)	Scrubber	SCH-1/28.1	--	40	40	Captive use in ETP Treatment.
10	HCl (32%)	Scrubber	Sch-II-Class B(15)	46,800	78,000	1,24,800	Collection, Storage, Transportation & 2535MT/Month (30420 MT/Annum) will be reused within premises in the manufacturing of Calcium Chloride and CSA. And excess quantity will be sold to end users having Rule 9 Permission.
11	Acetic Acid (32%)	Mfg. Process of Acetanilide	Sch -I / (26.1)	1,704	2,076	3,780	Collection, Storage, Transportation & 1800 MT/Month will be reused within premises in the manufacturing of Acetanilide. And excess quantity will be sold to end users having Rule 9 Permission.

-

Comments:

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

F-2	Non- Hazardous waste management matrix

Fly ash 830 MT/Annum will be generating which will be collected, Stored, Transported and sell to Brick Manufacturer.

Comments:

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

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

Details of Solvent recovery
Solvent will be used as reactant.

G-2	LDAR proposed:

Not Applicable. Solvent will be used as reactant.

G-3	VOC emission sources and its mitigation measures

Measures for achieving maximum solvent recovery and minimize VOC generation:
During operation stage, leakage through valves/pumps, leakage and emission from open drum containing chemicals, open feeding, storage tanks, etc. will be major sources of fugitive emissions and VOCs. Excess use of solvent/s may also results fugitive emission from the process vessels.

- Solid raw material charging will be done through closed system.
- Entire process will be carried out in the closed reactors with proper maintenance of pressure and temperature.
- Close feeding system will be provided for centrifuges. Centrifuge and filtrate tank vents will be connected to vent chillers.
- Fugitive emission over reactors, formulation areas, centrifuges, chemical loading, transfer area, will be collected through hoods and ducts by induced draft and controlled by scrubber/dust collector.
- Emphasis will be given to solvent management/solvent loss prevention.
- Control by having proper scrubbing system.
- Condenser to trap VOC.
- Enclosures to chemical storage area, collection of emission from loading of raw materials in particular solvents through hoods and ducts by induced draft, and control by scrubber/dust collector to be ensured.

- Proper maintenance schedule will be adhered to avoid emissions through flange joints, pump seals etc.
- Minimum number of flanges, joints and valves in pipelines.
- Proper gland packing will be maintained for pumps and valves and to the extent possible pumps with mechanical seal.
- All the raw materials will be pneumatically transfer to the reactor.
- All rotating equipments like pumps will be installed with mechanical seals to arrest any sort of emissions.
- A regular preventive maintenance schedule will be in place to replace or rectify all gaskets and joints etc. as a part of ISO systems to ensure no fugitive emissions take place.
- Periodic monitoring of work area will be carried out to check the fugitive emission.
- Solvent tank vents will be connected to vent chillers.
- Adequate ventilation will be provided.
- Airborne dust at all transfers operations/ points will be controlled either by spraying water or providing enclosures.
- Breather valves will be provided on solvent tanks.

Comments:

1. Measures for achieving maximum solvent recovery and minimize VOC generation, inclusive of VOC detectors, pumps, maintenance of pipelines, proper ventilation etc., provided are as per requirement.
2. Spent solvents shall be recovered by in-house distillation in such a manner that recovery shall not be achieved to the maximum extent and recovered solvent shall be reused in the process. Solvent recovery system with adequate reflux condensers shall be provided for controlling escape of low boiling solvents (VOCs).

H	SAFETY details after proposed expansion
H-1	Details regarding storage of Hazardous chemicals

-

- Adequate dyke walls (with acid proof coating) provided.
- Level indicator with high level alarm provided on the tank.
- Water curtain system installed on southern extreme of site in front of tank farm to avoid gas dispersing on general road traffic.
- Scrubber system installed for HCL storage tank & used during road tanker unloading.
- Adequate flexible SS hose provided for tanker connection for unloading.
- Dedicated pumps are provided and located with its close proximity to the respective tank to avoid unintentional mistake of mixing of chemicals.
- Leakage / Spillage handling kit provided.
- To avoid chemical exposure, closed handling system is provided.
- Fire hydrant system provided including water curtain system.

Storage of Hazardous chemicals in Tanks

SR. NO.	NAME OF THE HAZARDOUS SUBSTANCE	CAPACITY KL	TYPE OF STORAGE TANK	ACTUAL STORAGE	POSSIBLE TYPE OF HAZARDS
1.	Benzene	592 KL	SS Underground	37 KL*16 No. of Tank	Flammable / Explosion

			Tank		
2.	Hydrogen	9 MT	Pipeline & Cylinder	60 Kg*150 No. of Cylinder	Explosive
3.	SO_3 (100%)	100 KL	Tank	100 KL*1 No. of Tank	Flammable / Corrosive
4.	HCl	350 KL	SS Tank	50 KL*7 No. of SS Tank	Corrosive
5.	Chlorine	90 MT	MS Tonner & Pipeline	900 Kg*100 No. of MS Tonner	Toxic
6.	DCNB	600 KL	SS Tank	100 KL*6 No. of SS Tank	Toxic / Flammable
7.	Aniline	100 KL	SS Tank	50 KL*2 No. of SS Tank	Toxic / Flammable
8.	Acetic Acid	300 KL	SS Tank	150 KL*2 No. of SS Tank	Toxic / Flammable
9.	Palladium (Catalyst)	53 MT	Drums	50 Kg*1060	Toxic / Flammable

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

Storage details	Name of major Hazardous chemicals	Remarks
Drum	Palladium(Catalyst)	
Tonner	Chlorine	
Hydrogen Bank	hydrogen	

- The Occupational Safety and Health Administration has comprehensive rules and guidelines for the handling of hazardous material such as chemical drums. Chemical drums can contain materials that are toxic, radioactive, corrosive, and explosive. In handling them, personnel should use the proper equipment, techniques, and protection
- Keep separate hazardous chemicals like Toxic, Flammable, corrosive etc..
- For filling from drums, special filling stations can also be used, which simultaneously serve as a storage unit.
- In order to absorb spills as quickly as possible, suitable absorbents should also be provided.
- Flexible shut-off barriers or duct covers also serve to prevent environmental damage caused by the release of hazardous liquids.
- Sufficient amount of sand/soil are kept to control any spillage.
- Flame proof fitting provided.
- Eye washer cum shower will be provided near storage area.
- Spark arrester will be installed on all vehicles inside the premises.
- SBA set; Canister mask and airline mask will be provided.
- Earthing will be provided.
- Vent line dipped in water will be provided.

Safety details of Hazardous Chemicals:

Type of Hazardous Chemicals	Safety measures
Chlorine	• Chlorine will be stored in 900 kgs. Tonners at site. • Chlorine tonner storage area will be away from the process plant. • Chlorine KIT, HOOD, PIT, SCBA sets will be kept ready and

		maintained in tiptop working condition. • Chlorine Hood with blower will be provided with scrubbing arrangement. • Safety Shower and eye wash will be provided in Chlorine shed area. • Tonner handling EOT crane will be installed in Chlorine shed area for safe tonner handling. • Safety Valve will be provided on chlorine header line and it will be connected to caustic scrubber. • Barometric lag height will be maintained up to maximum height of the process building. • SCBA sets will be kept ready at chlorine handling area. • Safety valve will be provided on vaporizer header and outlet of safety valve connected to scrubber. • Flow and temperature controllers will be provided on process line. • SOP will be prepared for safe handling of Chlorine tonners. 14. Caution note and emergency handling procedure will be dwell be played and trained all employees. • Neutralizing chemicals will be kept ready in tonner storage area. • Regular Mock-drill conducted for chlorine emergency.		
	H2SO4	• Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. • Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits. • Use a corrosion-resistant ventilation system. • Fire extinguishers		
	Benzene	• Store in underground storage tank, dry, well-ventilated area away from incompatible substances. • Flammables-area. Keep containers tightly closed. • Stable under normal temperatures and pressures		
	HCl (30%)	• Dyke wall provided. • Dyke wall with sufficient size is provided. • Tank, valve, pipeline are checked and maintain, in good condition. • Apron, Hand gloves, gumboot, goggles and helmet will be provided. • ISI Portable fire extinguisher & Hydrant line is • Provided as per TAC norms. • Sufficient amount of sand/soil are kept to control • Any spillage. • Eye washer cum shower is provided near tank-farm area. • Level indicator provided. • Vent line dipped in water will be provided. • RCC foundation will be provided. • Transfer material to another empty tank/ Vessel		
	Acetic Acid & Aniline	• Proper ventilation provided in go down. • Only general shift material is being handled. • FLP type light fittings will be provided. • Proper label and identification board /stickers will be provided in the storage area. • Drum pallets will be provided. • Drum handling trolley will be for drum handling. • No dispensing provision in go down area. • Materials will be stored as Compatibility and separate area for flammable, corrosive and toxic chemical drums in store. • No smoking area will be classified and no hot work will be allowed in store.		

Hydrogen Gas	• Hydrogen cylinders will be stored in cylinder storage area. Cylinder storage license will be obtained from PESO as per Gas cylinder rules. • Hydrogen cylinder storage area will be made well ventilated and safe distance will be maintained as per gas cylinder rule. • Hydrogen detector will be provided for leak test. • Sprinkler system provision will be made in cylinder storage area. • Gas detectors will be provided in Hydrogen cylinder storage area. • Copper tube will be used for Hydrogen cylinder connection with header. PRV station will be provided for Hydrogen and nitrogen cylinder header. • Non sparking tools will be used for cylinder connection with header. • FLP type area will be provided.

Applicability of PESO: Unit has PESO License of Chlorine & Benzene Vide Letter No. G/WC/GJ/06/829/(G13958) Dated 13th September, 2019 and Valid up to 30th September, 2021 and P/HQ/GJ/15/1994 (P12316) Dated 5th December, 2018 and Valid up to 31st December of 2023 Respectively.

Comments:

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

H-2	Types of hazardous Processes involved and its safety measures:

Type of Process	Safety measures including Automation
Hydrogenation	• FLP type area will be provided. • Total enclosed process system. • Instrument & Plant Air System. • Nitrogen blanketing in Hydrogenation reactor. • Safety valve and Rupture disc provided on reactor. • Cooling Chilling and power alternative arrangement have been made on reactor. • Hydrogen and Nitrogen Cylinder bank away from the auto clave reactor. • PRV station with shut off valve, safety valve provision will be made for hydrogenation reaction safety. • Before Hydrogen Gas charging in to reactor and after completion of reaction Nitrogen flushing will be done. • Flame arrestor will be provided on vent line of reactor and it will be extended up to roof level. • Open well ventilated and fragile roofs will be provided to on reactor. • Safe Catalyst charging method will be adopted. • SOP will be prepared and operators will be trained for the same. • Static earthing and electric earthing (Double) provided. • Reactor vent extended outside the process area and flame arrestor provided on vent line. • Dumping vessel arrangement will be made. • Jumpers for static earthing on pipeline flanges of flammable

	chemical will be provided.
Chlorination	• Chlorine will be stored in 900 kgs. tonners at site. • Chlorine tonner storage area will be away from the process plant. • Chlorine KIT, HOOD, PIT, SCBA sets will be kept ready and maintained in tiptop working condition. • Chlorine Hood with blower will be provided with scrubbing arrangement. • Safety Shower and eye wash will be provided in Chlorine shed area. • Tonner handling EOT crane will be installed in Chlorine shed area for safe tonner handling. • Safety Valve will be provided on chlorine header line and it will be connected to caustic scrubber. • Barometric lag height will be maintained up to maximum height of the process building. • SCBA sets will be kept ready at chlorine handling area. • Safety valve will be provided on vaporizer header and outlet of safety valve connected to scrubber. • Flow and temperature controllers will be provided on process line. • SOP will be prepared for safe handling of Chlorine tonners. 14. Caution note and emergency handling procedure will be dwell be played and trained all employees. • Neutralizing chemicals will be kept ready in tonner storage area. • Regular Mock-drill conducted for chlorine emergency.
Exothermic Reaction	• All the Plant Personnel will be provided with Personal Protection. • Safety Valve and pressure gauge will be provided on reactor and its jacket (if jacket is provided). • All solvents and flammable material storage tanks will be stored away from the process plant and required quantity of material will be charge in reactor by pump. • Utility like Chilling, cooling, vacuum, steaming and its alternative will be provided to control exothermic reaction parameters in a safe manner. • Equipments to protect against any adverse health effect during operations, leakage, spillages or splash. PPE like Helmets, Safety Shoes, Safety • Glasses, Acid-Alkali Proof Gloves etc. will be provided to the employees. • All employees will be given and updated in Safety aspects through periodic training in safety. • Material Safety Data Sheets of Raw Materials & Products will be readily available that the shop floor • Caution note, safety posters, stickers, periodic training & Updation in safety and emergency preparedness plan will be displayed and conducted.

-

H-3	Details of Fire Load Calculation

Total Plot Area:	28528 Square meter
Area utilized for plant activity:	15667 Square meter
Area utilized for Hazardous Chemicals Storage:	4215.4
Number of Floors:	G + 3
Water requirement for firefighting in KLD :	59.74 KL
Water storage tank provided for firefighting in KLD:	UG Water Tank: 500 KL*2

Details of Hydrant Pumps:	Kirloskar main pump (30 m^3/Hr, 70-meter head) and one jockey pump (50 m^3/hr, 80-meter head) will be provided and Kirloskar make engine driven fire pump (30 m^3/Hr, 70 Meter Head) is being provided
Nearest Fire Station :	Jhagadia Fire Station – 2.05 KM
Applicability of Off Site Emergency Plan:	Not Applicable (Prepared by Local authority)

Comments:

The project proponent has proposed fire safety plan which includes fire hydrant line, sprinkler system, fire extinguishers, fire suits, covering the project area and provides for fire water storage tank of 140 KL. SEAC found it as per the requirement.

H-4	Details of Fire NOC/Certificate:

Unit has existing Fire NOC/Certificate. Fire NOC/Certificate no N.A.O/CO/JHG/1244 dated 18/12/2020

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

-

Number of permanent Employee :	295
Number of Contractual person/Labour :	125
Area provided for OHC:	68 Sq m
Number of First Aid Boxes :	5 Nos.
Nearest General Hospital :	Primary health centre, Jhagadia
Name of Antidotes to be store in plant :	Yes we have required anti-dots as guided by our FMO.

-

Comments

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

- During meeting, Committee noted that PP presented revised NCT membership certificate for disposal of 50 KL/Day effluent to existing pipeline. PP also presented Source of Chlorine for existing and proposed requirement is and will be met through pipeline from M/s. DCM Shriram Ltd. to M/s. Panoli Intermediates (India) Pvt. Ltd.Unit will also stored 100 no. of Chlorine Tonner and PESO licence for existing plant and chlorine pipeline permission letter from GIDC.PP presented revised risk assessment for various hazardous chemicals with mentioning population affected and revised storage of hazardous chemicals as per compatibility chart. PP presented revised air matrix with mentioning adequate APCM to control SO2 emission from the flue gas stacks and onsite /off site emergency plan details.
- Since the proposed project is located in notified industrial area, public consultation is not required as per

paragraph 7(i) (III) (I) (b) of the Environment Impact Assessment Notification 2006.

- **After detailed discussion, Committee unanimously decided to recommend the project to SEIAA, Gujarat for grant of Environment Clearance with the following specific condition:**

SPECIFIC CONDITIONS:

1. Project proponent (PP) shall install CEMS **[Continuous Emission Monitoring System]** in line to CPCB directions to all SPCB vide letter no. B-29016/04/06PCI-1/5401 dated 05/02/2014 for effluent discharge and air emission as per pollutants discharge/emission from respective project and an arrangement shall also be done for reflecting the online monitoring results on the company's server, which can be assessable by the GPCB/CPCB on real time basis. **[For Small/Large/Medium (Red Category) & Whichever (Air emission & Effluent discharge) is applicable]**.
2. Leak Detection and Repair (LDAR) program shall be prepared and implemented as per the CPCB guidelines. LDAR Logbooks shall be maintained.
3. Close loop solvent recovery system with adequate condenser system shall be provided to recover solvent vapours in such a manner that recovery shall be maximum and recovered solvent shall be reused in the process within premises.
4. The National Ambient Air Quality Emission Standards issued by the Ministry vide G. S. R. No. 826 (E) dated 16th November, 2009 shall be complied with.
5. National Emission Standards for Organic Chemicals Manufacturing Industry issued by the Ministry vide G. S. R. 608 (E) dated 21/07/2010 and amended from time to time shall be followed.
6. Unit shall have to adhere to the prevailing area specific policies of GPCB with respect to the discharge of pollutants, and shall carry out the project development in accordance & consistence with the same.
7. The project proponent must strictly adhere to the stipulations made by the Gujarat Pollution Control Board, State Government and/or any other statutory authority.
8. All measures shall be taken to avoid soil and ground water contamination within premises.
9. PP shall take care of no fugitive or source emission of carcinogenic compound benzene from proposed project premises looking to huge amount of benzene usage and storage within premises and shall strictly follow up standard operating procedure for benzene storage and its handling as per prevailing guidelines of competent authority.
10. PP shall procure chlorine through pipeline from M/s. DCM Shriram Ltd. to M/s. Panoli Intermediates (India) Pvt. Ltd as per PESO guideline for pipeline route and shall submit MoU between M/s. DCM Shriram Ltd and M/s. Panoli Intermediates (India) Pvt. Ltd for procure chlorine for expansion project considering legal and GPCB aspect at a tim of commissioning of expansion project stage.

WATER

11. Total water requirement for the project shall not exceed 793.70 KLD. Unit shall reuse 129.45 treated effluent and boiler condensate within premises. Hence fresh water requirement shall not exceed

664.25 KL/Day and it shall be met through GIDC water supply only. Prior permission from concerned authority shall be obtained for withdrawal of water.

12. The industrial effluent generation from the project shall not exceed 520.75 KLD after expansion.
13. 46.30 KLD Industrial effluent shall be treated in ETP and then treated effluent shall be sent to M/s.NCT Pipeline for further treatment and disposal.
14. 59.20 KLD distilled water from process shall be directly reused back in process and 70.25 KLD, boiler condensate water shall be reused back in boiler.
15. 345 KLD exhausted scrubbing media either shall be reused back in process or shall be sold to end user having Rule-9 permission as per Hazardous waste Rules'2016.
16. Treated waste water shall be discharged into M/s. NCT pipeline only after complying with the inlet norms prescribed by GPCB to ensure no adverse impact on Human Health and Environment.
17. Domestic wastewater generation shall not exceed 2 KL/day for proposed project and it shall be treated in ETP. It shall not be disposed off through soak pit/ septic tank.
18. Unit shall provide ETP with adequate capacity.
19. The PP shall ensure to dispose off Waste water to the Common Facilities having valid CTO of GPCB.

AIR

20. Unit shall not exceed fuel consumption and provide APCM and Stack height as mentioned in flue gas matrix.
21. Unit shall provide APCM and stack height as mentioned in process gas matrix.
22. PP shall use approved fuels only as fuel in boilers.

HAZARDOUS & SOLID WASTE

23. All hazardous solid waste shall be managed as mentioned in hazardous waste matrix.
24. The unit shall submit the list of authorized end users of hazardous wastes along with MoU signed with them at least two months in advance prior to the commencement of production. In the absence of potential buyers of these items, the unit shall restrict the production of the respective items.

GREENBELT AREA

25. The PP shall develop green belt [8558 m2 inside plant premises and 860 sq. Meter outside premises in GIDC area i.e. 33 % of total plot area] as per the undertaking submitted before SEAC. Green belt shall be developed with native plant species that are significant and used for the pollution abatement as per the CPCB guidelines. It shall be implemented within 3 years of operation phase in consultation with GPCB.
26. Safety & Health:
    a) PP shall obtain PESO permission for the storage and handling of hazardous chemicals
    b) PP shall provide Occupational Health Centre (OHC) with full time medical officer within premises as per the provisions under the Gujarat Factories Rule 68-U.
    c) PP shall obtain fire safety certificate / Fire No-Objection certificate (NOC) from the concern authority as per the prevailing Rules / Gujarat Fire Prevention and Life Safety Measures Act,

	2016. d) Unit shall adopt functional operations/process automation system including emergency response to eliminate risk associated with the hazardous processes. e) PP shall carry out mock drill within the premises as per the prevailing guidelines of safety and display proper evacuation plan in the manufacturing area in case of any emergency or accident. f) PP shall install adequate fire hydrant system with foam trolley attachment within premises and separate storage of water for the same shall be ensured by PP. g) PP shall take all the necessary steps for control of storage hazards within premises ensuring incompatibility of storage raw material and ensure the storage keeping safe distance as per the prevailing guidelines of the concerned authority. h) PP shall take all the necessary steps for human safety within premises to ensure that no any harm is caused to any worker/employee or labor within premises. i) Flame proof electrical fittings shall be provided in the plant premises, wherever applicable. j) Unit shall never store drum/barrels/carboys of incompatible material/chemical together. k) Unit shall provide chlorine leakage control emergency kit and FRP hood with scrubber system for chlorine safety. l) Unit shall provide safety valve & rupture disc to the Hydrogenation vessel. m) (1) Unit shall provide effective fire hydrants, water monitors & foam application system at solvent storage tank farm area. (2) Unit shall provide adequate safety system such as water sprinklers, water curtains, foam pouring system etc. to restrict cascade fire emergency in solvent tank farm.		
14	SIA/GJ/IND2/63452/2021	**M/S. Hemal Impex** Plot No. C1B -7812, GIDC Ankleshwar-393002, Tal: Ankleshwar, Dist: Bharuch	EC-Reconsideration

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

Project status: **Expansion**

- Project proponent (PP) has submitted online application vide no. SIA/GJ/IND2/63452/2021 on dated 23.06.2021 for obtaining Environmental Clearance.
- ToR issued by SEIAA to proposed project vide letter no- SIA/GJ/55003/2021, Dated: 21/03/2021.
- Project proponent has submitted EIA Report prepared by M/s. Aqua-Air Environmental Engineers P. Ltd based on the TOR issued by SEIAA.
- This is an existing unit and proposed for expansion in manufacturing of synthetic organic chemicals as mentioned below:

Sr. No	Products	CAS NO.	END-USE OF PRODUCT	Production Capacity (MT/Month)		
				EXISTING	PROPOSED	TOTAL
1.	Sodium Sulphite	7757-83-7	Food preservative	500	-1195	305
2.	Potassium Nitrate	7757-79-1	Glass Industries			
3.	Copper Sulphate	7758-98-7	Pharma ,Electroplating			
4.	Zinc Sulphate	7446-19-7	Industrial			
5.	Copper Nitrate	10031-43	Electroplating, ceramics industries	200		
6.	Cobalt Nitrate	10026-22	Electroplating, ceramics industries			
7.	Nickel Nitrate	13478-00-7	Ceramics industries			
8.	Zinc Nitrate	7779-88-6	Catalyst, Dye			
9.	Manganese Nitrate	20694-39	Ceramics Industries			
10.	Magnesium Nitrate	13446-18	Industrial			
11.	Silver Nitrate	7761-88-8	Glass industries			
12.	Barium Nitrate	10022-31-8	Ingredient in the explosive			
13.	Calcium Nitrate	13477-34	Industrial			
14.	Boric Acid & Sodium Nitrate	10043-35-3 & 7632-00-0	Electroplating	500		
15.	Copper Chloride	7447-39-4	Pigments industries	100		
16.	Cobalt Chloride	7646-79-9	Electroplating			
17.	Nickel Chloride	7791-20-0	Nickel Plating			
18.	Zinc Chloride	7646-85-7	Plating and Textile industries			
19.	Silver Sulphate	10294-26	Industrial use	100		
20.	Calcium Sulphate	13397-24-5	Industrial use			

21.	Mono Ammonium Phosphate	7722-76-1	Industrial use	100		
22.	Di Ammonium Phosphate	7783-28-0	Industrial use			
23.	Calcium Acetate	5743-26-0	Industrial use	--	50	50
24.	Copper Acetate	6046-93-1	Ceramics			
25.	Potassium Acetate	127-08-2	Pharma Industries			
26.	Manganese Acetate	638-38-0	Plating and Textile industries			
27.	Magnesium Acetate	142-72-3	Industrial use			
28.	Sodium Acetate	127-09-3	Additives in food, dyes industries			
29.	Zinc Acetate	557-34-6	Industrial use			
30.	Calcium Citrate	5785-44-4	Industrial use			
31.	Potassium Citrate	866-84-2	Industrial use			
32.	Sodium Citrate	68-04-2	Industrial use			
33.	Calcium Formate	544-17-2	Construction chemicals			
34.	Potassium Formate	590-29-4	Oil & gas industries			
35.	Sodium Formate	141-53-7	Dying & printing			
36.	TBAB	1643-19-2	Pharma Industries			
37.	2,4 Di Nitro Aniline	97-02-9	Azo dyes and disperse dyes, Pigments raw materials			
38.	6 Bromo 2, 4 DNA	1817-73-8	Disperse dyes intermediates			
39.	2,6 DI Bromo PNA	827-94-1	Disperse dyes intermediates	--	5	5
40.	CarbamolePyridone OR Sulpho methyl Pyridone	532-03-6	Reactive dyes raw materials			
41.	Fast Bordeaux (GP Base)	96-96-8	Intermediate dyes for yarn dyeing			
Total				1500 MT/M	- 1140MT/M	360 MT/M

Note- As per the Machinery & Equipment that are to be installed, 1 products from Inorganic & 1 product from Specialty Chemicals can be manufactured at a time.

- The project falls under B1 category of project activity 5(f) as per the schedule of EIA Notification 2006.
- PP was called for Video conference meeting for presentation on dated 07.09.2021.
- Project Proponent (PP) did not send their presentatation on time. Upon asking regarding the justification

for late submission, PP as well as their EIA consultant M/s. Aqua Air Environmental Engineers Pvt. Ltd. could not replied satisfactory.

- Committee decided to not consider the presentation as members have not received their presentation timely.
- **After deliberation, SEAC unanimously decided to defer the proposal and consider the same in one of the upcoming meeting of SEAC.**
- PP was called for Video conference meeting for presentation on dated 21.01.2022.
- PP submitted salient features of water, air and hazardous waste management are as under,

<table>
<tr><td>Sr. no.</td><td>Particulars</td><td>Details</td></tr>
<tr><td>A-1</td><td>Total cost of Proposed Project
(Rs. in Crores):
<table><tr><td>Existing</td><td>Proposed</td><td>Total</td></tr><tr><td>1.0858 Crore</td><td>0.60 Crore</td><td>1.6858 Crore</td></tr></table>
Break-up of proposed project Cost:
<table><tr><td>Details</td><td>Existing
(Rs. In Crores)</td><td>Proposed
(Rs. In Crores)</td><td>Total
(Rs. In Crores)</td></tr><tr><td>Land</td><td>0.07</td><td>--</td><td>0.07</td></tr><tr><td>Building</td><td>0.0985</td><td>--</td><td>0.0985</td></tr><tr><td>Machinery</td><td>0.83</td><td>0.4</td><td>1.23</td></tr></table>
-</td><td></td></tr>
<tr><td>A-2</td><td>Details of Environmental Management Plan (EMP)</td><td>As below:</td></tr>
<tr><td colspan="3">-
<table><tr><td>Sr. No</td><td>Unit</td><td>Detail</td><td>Capital Cost (Rs. In Crores)</td><td>Operating Cost (Rs. In Crores)</td><td>Maintenance Cost (Rs. In Crores)</td><td>Total Recurring Cost (Rs. In Crores)</td></tr><tr><td>1</td><td>Waste Water</td><td>ETP</td><td>0.10</td><td>0.18</td><td>--</td><td>0.28</td></tr><tr><td>2</td><td>Air</td><td>APCM</td><td>0.10</td><td>--</td><td>0.04</td><td>0.05</td></tr><tr><td>3</td><td>Hazardous Management</td><td>--</td><td>0.05</td><td>0.05</td><td>--</td><td>0.10</td></tr><tr><td>4</td><td>Fire & Safety</td><td>--</td><td>0.15</td><td>--</td><td>0.05</td><td>0.20</td></tr><tr><td>5</td><td>AWH Monitoring</td><td>--</td><td>0.10</td><td>--</td><td>0.01</td><td>0.11</td></tr><tr><td>6.</td><td>Green Belt Developmen t</td><td>--</td><td>0.0092</td><td>--</td><td>0.010</td><td>0.102</td></tr><tr><td>7.</td><td>Occupational Health</td><td>--</td><td>0.10</td><td>--</td><td>0.002</td><td>0.102</td></tr></table></td></tr>
</table>

8.	CER	--	0.0040	--	--	--
Total			0.732			0.944

Comments:

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

A-3	Details of CER -

PP shall carry out CER activities as below:

CER Activities	Fund (Rs.)	Recurring Cost (Rs.)
Company will give fund to develop green belt at primary school of Sarangpur Village. Total Nos. (30* 2000 Rs.) of trees to be developed.	60,000	10,000
TOTAL	60,000 Rs.	Rs. 10,000/year

B	Land / Plot ownership details: GIDC/DM(CG)/ANK/SHED/TRF/2072 Dated 30/03/2007
B-1	Plot area

Existing	Proposed	Total
704 Sq. m.	0 Sq. m.	704 Sq. m.

-

B-2

Area adequacy

Sr. No.	Storage Details	No. of Drums/ Bags/Bottle/	Total Storage (MT)	Total Area (m^2)	Area for free movement	Area Dedicated for Storage
1	Corrosive Raw Material Storage in Drums	20 No. of Drums	4	10	6	4
2	Corrosive Raw Material Storage in Bags	290 No. of Bags	14.5	18	3.5	14.5

3	Flammable /Corrosive & Toxic Raw Material Storage in Drums	20 No. of Drums	4	10	6	4
4	Corrosive/Toxic Raw material Storage in Drums	40 No. of Drums	8	15	7	8
5	Flammable Raw material Storage in Drums	20 No. of Drums	4	10	6	4
6	Bromine Storage	150 No. of Bottle	0.45	12	6	6
		100 No. of Drums 290 No. of Bags 150 No. of Bottle	34.95	75	34.5	40.5

Total 75 Square Meter area will be provide for Raw Material Storage out of it 40.5 Square Meter area will be utilize for the Storage of Raw Material and 34.5 Square Meter area will be provide as free movement.

Comments:

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

B-3 Green belt area

	Existing	Proposed (Sq. meter)	Total (Sq. meter)
Area in Sq. meter	185	47	232
% of total	26.31	6.69	33

	area			

Comments:

The condition shall be given that –

The PP shall develop green belt within premises (232 Sq. m i.e. 33 % of the total plot area) as per the undertaking submitted before SEAC. Green belt shall be developed with native plant species that are significant and used for the pollution abatement as per the CPCB guidelines. It shall be implemented within 3 years of operation phase in consultation with GPCB.

C — Employment generation

Existing	Proposed	Total
5	--	5

-

D — WATER

D-1 — Source of Water Supply

- Company has GIDC Water Supply vide letter no. NTA/ANK/DEE/(WS)/449 Dated 26/03/2021

Comments:
obtained

D-2 — Water consumption (KLD)

-

Category	Existing KLD	Proposed (Additional) KLD	Total after Expansion KLD	Remarks
(BB) Domestic	1	--	1	
(CC) Gardening	0.5	--	0.5	
(DD) Industrial				
Process	20	-1.5	18.5	
Boiler	1	0.8	1.8	
Cooling	0.5	--	0.5	
Scrubber	--	1	1	
Others	--	--	--	

Industrial Total	21.5	0.3	21.8	
Grand Total (A+B+C)	23	0.3	23.3	

-

Comments:

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

D-3 Waste water generation (KLD)

-

Category	Existing KLD	Proposed (Additional) KLD	Total after Expansion KLD	Remarks
(S) Domestic	0.8	--	0.8	
(T) Industrial				
Process	--	1.5	1.5	
Boiler	0.1	0.15	0.25	
Cooling	--	--	--	
Others(Scrubber)	--	1.5	1.5	
Total Industrial waste water	0.1	3.15	3.25	
Total	0.9	3.15	4.05	

-

Comments:

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

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

0.8 KLD Domestic Waste Water will be treated in STP & treated wastewater will be reused in Cooling & Boiler purpose within premises.

Comments:

1. Domestic wastewater generation shall not exceed 72 KL/day for proposed project and it shall be treated in STP. It shall not be disposed off through soak pit/ septic tank. Treated sewage shall be utilized for gardening

and plantation purpose within premises after achieving on-land discharge norms prescribed by the GPCB.

2. Unit shall provide STP with adequate capacity.

D-5	Break-up of waste water disposal & facility (For Industrialafter proposed expansion)

-

Sr. no.	Quantity KLD	Facility
1	1.5 KL/Day	Treated in Primary ETP & send to Common MEE BEIL
2	1.5 KL/Day	Bleed liquor from scrubber will sell to end users under Rule-9.
3	0.25 KL/Day	Effluent will treat in distill unit & reuse in boiler
Total	3 KL/Day	--

Comments,

1. 1.5 KLD, Industrial effluent from process shall be treated in ETP and then treated effluent shall be sent to CMEE of M/s. BEIL, through GPS fitted tanker for evaporation.
2. 0.25 KLD of boiler blow down shall be reused back in process after distillation.
3. 1.5 KLD, exhausted scrubbing media shall be sold to end users having Rule-9 permission as per Hazardous waste Rules'2016.
4. Treated waste water shall be discharged into CMEE only after complying with the inlet norms prescribed by GPCB to ensure no adverse impact on Human Health and Environment.

E	AIR
E-1	Power (Electricity) requirement: 93.25 KVA
E-2	Flue gas emission details

- Existing & Proposed

Sr. No.	Stack Attached To	FUEL	APCM	Stack Height (meter)	Parameters	Permissible Limit
	EXISTING					

1.	IBR Boiler (600 kg)	Agro Waste/ Briquettes 800 kg/day	MCS + water scrubber	11	PM SO_2 Nox	150 mg/Nm^3 100 ppm 50 ppm
2.	Spin Flash Dryer (200 kg/hr.)	Natural Gas 1112 Nm^3/day	Adequate Stack Height	15		
	TOTAL AFTER PROPOSED					
1.	IBR Boiler (600 kg/hr.)	Agro Waste/ Briquettes 800 kg/day	MCS + water scrubber	30	PM SO_2 NOx	150 mg/Nm^3 100 ppm 50 ppm
2.	Spin Flash Dryer (200 kg/hr.)	Natural Gas 1194 Nm^3/day	Adequate Stack Height	20		
3.	D. G. Set (75 KVA)- Stand By	HSD 10 Lit/hr.	Adequate Stack Height	11		

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E-3	Process gas

- Existing & Proposed

Sr. no.	Specific Source of emission	Type of emission	Stack/Vent Height (meter)	Air Pollution Control Measures (APCM)
EXISTING				
1	Process Vent	NH3, Nox	11	Two Stage (Water + Alkali) Scrubber
PROPOSED				
2	Process Vent	HBr	11	Two Stage Alkali Scrubber

-

E-4	Fugitive emission details with its mitigation measures.

- Airborne dust at all transfers operations/ points will be controlled either by spraying water or providing enclosures.
- Raw materials loading and unloading will be done in covered area
- Care will be taken to store construction material properly to prevent fugitive emissions, if any.
- Regular maintenance of valves, pumps, flanges, joints and other equipment will be done to prevent leakages and thus minimizing the fugitive emissions of VOCs.
- Entire process will be carried out in the closed reactors with proper maintenance of pressure and temperature.
- Periodic monitoring of work area will be carried out to check the fugitive emission.

- To eliminate chances of leakages from glands of pumps, mechanical seal will be provided at all solvent pumps.
- Close feeding system will be provided for centrifuges. Centrifuge and filtrate tank vents will be connected to vent chillers.
- Minimum number of flanges, joints and valves in pipelines.
- Enclosures to chemical storage area, collection of emission from loading of raw materials in particular solvents through hoods and ducts by induced draft, and control by scrubber / dust collector to be ensured.
- Adequate ventilation will be provided.
- Periodic monitoring of work area will be carried out to check the fugitive emission as per the norms of Gujarat Factory Rules.

Comments for E2, E3 & E4:

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

F	Hazardous waste
F-1	Hazardous waste management matrix

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Sr. No	Hazardous Waste	Source of generation	Category	Quantity(MT/Year)			Mode of Disposal
				Existing	Proposed	Total	
1.	Discarded Bags/ Drums/ Containers/ liners	Raw Material and storage	Sch-1/33.1	12	10	22	Collection, Storage, Transportation &disposal by reuse/sale to authorized decontamination facility.
2.	Used Oil	Equipment and Machinery	Sch-1/5.1	30 Liter/Year (0.033 MT/Year	-	30 Liter/Year (0.033 MT/Year	Collection, Storage, Transportation &disposal by sale to CPCB registered

				)		)	recycler/ reuse for machine lubricants.
3.	Boiler Ash	Utility	Z14	30	-	30	Collection, Storage, Transportation &disposal by sale to brick manufacturing unit or for leveling.
4.	Process Waste	Process (Inorganic salt form product No. 29)	Sch-1/28.1	--	50	50	Collection, Storage, Transportation & Sent to Cement Industry for co-processing or Sent to nearest common TSDF Site.
5.	ETP Sludge	ETP	Sch-I/35.3	--	64.5	64.5	Collection, Storage, Transportation and Disposal at nearest TSDF site.
6.	Sludge	(From Distil Unit of Boiler blow down)	Sch-I/35.3	--	0.5	0.5	Collection, Storage, Transportation and Disposal at nearest TSDF site.
7.	NaBr Solution	Scrubber(Product no. 39,39)	Sch-1/28.1	--	495	495	Collection, Storage, Transportation and sent to Bromine Recovery Unit Having Rule-9 Permission.
8.	Ammonia Solution	Scrubber(Product no. 21)	Sch-1/28.1	495	--	495	Collection, Storage, Reuse/ Transportation & sent to End users having permission

							under rule-9.
9.	Dilute HNO_3Or Sodium nitrite solution	Scrubber(Product no. 41)	Sch-1/28.1	495	--	495	Collection, Storage, Reuse/ Transportation & sent to End users having permission under rule-9.
10.	Spent Solvent	Process	Sch-I/ 20.2	--	98.77	98.77	Collection, Storage & Reuse in Plant Premises.
11.	Distillation Residue	Distillation	Sch-I/ 20.3	--	2	2	Collection, Storage & Sent to Common Incineration site.

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Comments:

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

F-2	Non- Hazardous waste management matrix

1. Fly Ash generation will be 30 MTPA
2. STP sludge generation will be 2 MTPA

Comments:

1. Management of fly ash shall be as per the Fly ash Notification 2009 & its amendment time to time and it shall be ensured that there is 100% utilization of fly ash to be generated from the unit.
2. STP sludge shall be collected and reused as manure in gardening activity or send to TSDF site for landfilling.

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

SR. NO.	NAME OF SOLVENT	TOTAL INPUT	QTY. OF RECOVERED SOLVENT	QTY. OF LOSSES	% RECOVERY	% LOSSES	

1.	Tri n Butyl amine	29	28.10	0.90	96.90	3.10
2.	Acetonitrile	15	14.25	0.75	95	5.0
3.	Ethyl Acetate	20	19.10	0.90	95.50	4.5
4.	Para Nitro Aniline	5	4.75	0.25	95	5
5.	MDC	33.92	32.94	0.98	97.12	2.88

G-2	LDAR proposed:

To prevent losses of these solvents in atmosphere, following infrastructure shall be used in addition to LDAR program

- Leak Free Pumps for transfer of solvents
- MSW Gaskets in solvent pipelines to prevent leakage from flanges
- Minimum number of flanges, joints and valves in pipelines.
- To eliminate chances of leakages from glands of pumps, mechanical seal will be provided at all solvent pumps.
- All the rotating equipments like pumps will be installed with Mechanical Seals to arrest any sort of emissions.
- Condenser and scrubber post Reactor with cooling arrangement
- Enclosures to chemical storage area, collection of emission from loading of raw materials in particular solvents through hoods and ducts by induced draft, and control by scrubber / dust collector to be ensured.
- In case the small spillage or leakage observed, first pour the china clay (vermiculate) on material and collect the contaminated china clay (vermiculate) and send to ETP.
- If the spillage is of inflammable liquid, switch off all the power supply in the area to prevent Electric Spark
- Flanges will be sealed so less loss will be there.
- Two condensers will be installed with cooling water and chilled brine to recover the solvent.
- Primary Condenser HE-01: Cooling Tower water or Chilled water (at 5^0C) will be used to condense the solvents depend on the vapor pressure at its operating conditions and the non-condensed vapors will be condensed in a Secondary Condenser
- Secondary Condenser HE-02: Chilled Brine at -05 ^{0}C will be used to trap any traces of Solvent which is slipped from Secondary condenser.
- VOC Trap Condenser HE-03: Chilled Brine at -15 ^{0}C will be used to trap any traces of Solvent which is slipped from Secondary condenser.

G-3	VOC emission sources and its mitigation measures

Measures for achieving maximum solvent recovery and minimize VOC generation:

- Minimum joints/flanges
- Adequate Condenser
- Brine will be utilized as chilling agent
- Pumps with double mechanical seals
- Proper Ventilation
- PPEs

Comments:

1. Measures for achieving maximum solvent recovery and minimize VOC generation, inclusive of VOC detectors, pumps, maintenance of pipelines, proper ventilation etc., provided are as per requirement.
2. Spent solvents shall be recovered by in-house distillation in such a manner that recovery shall not be achieved to the maximum extent and recovered solvent shall be reused in the process. Solvent recovery system with adequate reflux condensers shall be provided for controlling escape of low boiling solvents (VOCs).

H	SAFETY details after proposed expansion
H-1	Details regarding storage of Hazardous chemicals

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Storage of Hazardous chemicals in Tanks

Sr. No.	Name of the Hazardous Substance	Maximum Storage (MT)	Mode of Storage	Actual Storage (MT)	State & Operating pressure & temperature	Possible type of Hazards
1	Sodium Sulphite Solution	2	Drum	200 Kg x10	NTP	Corrosive
2	Potassium Chloride	2	Drum	200 Kg x10	NTP	Corrosive
3	Sodium Nitrate	2	Bags	50 Kg x40	NTP	Corrosive
4	Copper Oxide	2	Bags	50 Kg x40	NTP	Corrosive
5	Manganese Carbonate	0.5	Bags	50 Kg x10	NTP	Corrosive
6	Barium Carbonate	2	Bags	50 Kg x40	NTP	Corrosive
7	Calcium Carbonate	2	Bags	50 Kg x40	NTP	Corrosive
8	Copper Carbonate	2	Bags	50 Kg x40	NTP	Corrosive
9	Nickel Carbonate	2	Bags	50 Kgx40	NTP	Corrosive
10	Zinc Oxide	2	Bags	50 Kg x40	NTP	Corrosive
11	Formic Acid	2	Drum	200 Kg x10	NTP	Flammable /Corrosive
12	Phosphoric Acid	2	Drum	200 Kg x10	NTP	Corrosive/Toxic
13	Liq. Ammonia	2	Drum	200 Kg x10	NTP	Corrosive/ Toxic
14	H_2SO_4	4	Drum	200 Kg x20	NTP	Corrosive/ Toxic
15	HNO_3	4	Drum	200 Kg x20	NTP	Corrosive/ Toxic
16	Bromine	0.45	Bottle	3 KG x150	NTP	Toxic

17	Butyl Bromide	2	Drum	200 Kg x10	NTP	Flammable/ Toxic
18	Ethyl Acetate	2	Drum	200 Kg x10	NTP	Flammable
19	Acetonitrile	2	Drum	200 Kg x10	NTP	Flammable

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

Safety details of Hazardous Chemicals:

Type of Hazardous Chemicals	Safety measures
Flammable Chemicals	• solated storage area, away from process area. • ull-fledged fire hydrant system with fire water storage tank will be provided • ater sprinkler system/ hydrant system will be provided at all flammable material storage area. • tatic dissipation points for control of static hazards will be provided. • ire extinguishers and foam trolleys will be provided at strategic locations. • nline gas detectors system will be provided near butene, hydrogen, ethylene and underground tank farm. • afety instruction boards will be displayed for handling & emergency response. • yke walls will be provided for containment of liquid spills. • CS based safety interlocks, control valves and emergency relief system will be provided. • lame proof fitting will be installed at all areas as per Hazardous Area Classification. • ouble earthing & grounding to the system will be provided. • arthing relays with interlock will be provided to stop transfer of material if earthing continuity is not there. • ock & key arrangements will be provided for critical chemicals pipeline valves.
Acid Storage Tanks	• torage tank will be stored away from the process plant. •

	anker unloading procedure will be prepared and implemented. • aution note and emergency handling procedure will be displayed at unloading area and trained all operators. • FPA labels will be provided. • equired PPEs like full body protection PVC apron, Hand gloves,gumboot, Respiratory mask etc. will be provided to operator. • eutralizing agents will be kept ready to tackle any emergency spillage. • afety shower, eye wash with quenching unit will be provided in the acid storage area. • aterial will be handled in close condition in the pipeline. • yke wall will be provided to all storage tanks, collection pit with valve provision. • ouble drain valve will be provided. • evel gauge will be provided on all storage tanks. • afety permit for loading unloading of hazardous material will be prepared and implemented.

- Applicability of PESO: Not Applicable.

Comments:

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

H-2	Types of hazardous Processes involved and its safety measures:

-

Type of Process	Safety measures including Automation
Bromination	• DCS System will be provided for control the process • FLP type area will be provided. • Total enclosed process system. • Instrument & Plant Air System. • Respiratory protection • Self contained breathing apparatus recommended where risk of exposure to nitric acid or decomposition fumes exits.

	• Hand protection • PVC or butyl rubber gauntlet-type gloves. • Eye protection • Chemical splash goggles (gas tight type preferred and full face shield) • Skin protection • PVC overalls or jacket and pants and butyl rubber Wellington boots.

H-3	Details of Fire Load Calculation

Total Plot Area:	704
Area utilized for plant activity:	470
Area utilized for Hazardous Chemicals Storage:	34
Number of Floors:	G+1
Water requirement for firefighting in KLD:	50
Water storage tank provided for firefighting in KLD:	20KL*1 Nos. 80 KL*1 Nos. Total (100 KL)
Details of Hydrant Pumps:	Kirloskar main pump ($100m^3$/Hr, 80-meter head) and one jockey pump (50 m^3/hr, 80-meter head) will be provided
Nearest Fire Station :	DPMC Fire Station
Applicability of Off Site Emergency Plan:	4.7 KM

Comments:

The project proponent has proposed fire safety plan which includes fire hydrant line, sprinkler system, fire extinguishers, fire suits, covering the project area and provides for fire water storage tank of 100 KL. SEAC found it as per the requirement.

H-4	Details of Fire NOC/Certificate:
Unit will obtain Fire NOC after receipt of EC and before getting CTO.	
H-5	Details of Occupational Health Centre (OHC):

-

Number of permanent Employee:	5
Number of Contractual person/Labour:	5
Area provided for OHC:	14
Number of First Aid Boxes:	5
Nearest General Hospital:	--
Name of Antidotes to be store in plant:	--

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Comments

Project proponent has proposed Occupational health center with adequate provision of

manpower, equipment and operational cost. SEAC finds it as per the provisions of Gujarat Factory Rules 1963.

- During the SEAC Video conference meeting dated **21.01.2022**, Project Proponent (PP) and their technical expert and EIA consultant from M/s. Aqua-Air Environmental Engineers P. Ltd remain present and made technical presentation before the Committee.
- During the meeting, the project was appraised based on the information furnished in the EIA Report and details presented during the meeting.
- The baseline environmental quality has been assessed for various components of the environment viz. air, noise, water, biological and socioeconomic aspect. The baseline environmental study has been conducted for the study area of 10 km radial distance from project site for the period March, 2019 to May 2019. Ambient Air Quality monitoring was carried out for PM_{10}, $PM_{2.5}$, SO_2, NOx, CO, HC, and VOCs at eight locations, including the project site. Values conform to the prescribed standards for Ambient Air Quality. The incremental Ground Level Concentration (GLC) has been computed using ISCST-3. The resultant concentrations are within the NAAQS. The modeling study proved that the air emissions from the proposed plant would not affect the ambient air quality of the region in any significant manner. The ambient air quality around the proposed project site will remain within the National Ambient Air Quality Standards (NAAQS).
- Risk assessment including prediction of the worst-case scenario and maximum credible accident scenarios has been carried out. The detail proposed safeguard measures including On-Site / Off-Site Emergency Plan has been covered in the RA report.
- Upon asking regarding QCI/NABET accreditation for preparation of EIA preparation for proposed project, technical expert of PP informed that they have obtained QCI/NABET accreditation for preparation of EIA/EMP report as per the amended EIA Notification vide S.O. 648 (E) Dated 03.03.2016.
- This is an existing unit of inorganic product and proposed for manufacturing of synthetic organic chemicals at GIDC Ankleshwar. Unit submitted CCA compliance report. PP presented undertaking stating that there is no legal court case, public complaint and legal action taken by Board in last three years.
- Deliberation of Committee:
    - ✓ Product profile with its end-use is discussed in depth. Looking to proposed products raw material, Committee insisted for usage of fresh acid and fresh raw material for proposed product and shall not manufacture proposed products from hazardous waste without permission from GPCB under Hazardous waste Rules'2016.
    - ✓ Upon asking regarding status of existing CCA, PP stated that existing inorganic plant CCA expired on 07.12.2021 and they have applied for CCA renewal at GPCB.
    - ✓ Source of water supply is GIDC.
    - ✓ Committee noted that PP has addressed area adequacy with layout plan for proposed project

site. Looking to proposal of expansion project in plot size of only 704 sq. meter, Committee asked for justify adequacy of proposed expansion project. Technical expert of PP informed that they will reduce existing inorganic production capacity from 1500 MT/Month to 305 MT/Month and proposed new synthetic organic chemical production of 55 MT/Month.

- ✓ Domestic effluent will be treated in STP.
- ✓ 1.5 KL/Day effluent will be treated in ETP and then will be sent to CMEE of M/s. BEIL for evaporation. While utility effluent will be reused after distillation and exhausted scrubbing media will be sold to end users as per H/W Rules'2016.
- ✓ Agro waste/ briquette as fuel for Boiler and spin flash dryer proposed along with APCM and stack height.
- ✓ Looking to existing APCM for process matrix showing single stage scrubber, Committee insisted for two stage scrubber as APCM with existing process reactor stack which is later on submitted by PP through e-mail.
- ✓ Exhausted scrubbing media will be selling out as per the HW Rules.
- ✓ PP submitted hazardous waste matrix mentioning source of generation, quantity and Mode of disposal and committed to comply the Hazardous and Other Wastes (Management and Trans boundary Movement) Rules 2016.
- ✓ Committee deliberated on Process safety, area adequacy and layout plan, Fire safety, water balance & waste water management, Flue gas and process gas emission & Air Pollution Control System, Hazardous waste matrix, EMP, CER, LDAR and solvent recovery, Green belt, Risk assessment, baseline data etc.
- ✓ PP presented 96 sq. meters (14%) area is developed as Greenbelt in plant premises & remaining 270 sq. meters (38%) area of green belt will be develop in GIDC allocated place.

- Looking to fire load showing inadequate fire and safety details and air matrix, Committee insisted for revised flue gas matrix and process matrix and adequate fire water tank for which PP is agreed upon and later on submitted revised details through e-mail.
- Since the proposed project is located in notified industrial area, public consultation is not required as per paragraph 7(i) (III) (I) (b) of the Environment Impact Assessment Notification 2006.
- **After detailed discussion, Committee unanimously decided to recommend the project to SEIAA, Gujarat for grant of Environment Clearance with the following specific condition:**

SPECIFIC CONDITIONS:

1. Project proponent (PP) shall install CEMS **[Continuous Emission Monitoring System]** in line to CPCB directions to all SPCB vide letter no. B-29016/04/06PCI-1/5401 dated 05/02/2014 for effluent discharge and air emission as per pollutants discharge/emission from respective project and an arrangement shall also be done for reflecting the online monitoring results on the company's server,

which can be assessable by the GPCB/CPCB on real time basis. **[For Small/Large/Medium (Red Category) & Whichever (Air emission & Effluent discharge) is applicable]**.

2. Project proponent (PP) shall not manufacture more than one inorganic product and one organic product at atime from proposed product list as per details submitted by PP.
3. Unit shall usage of fresh acid and fresh raw material for proposed products and shall not manufacture proposed products from hazardous waste without permission from GPCB under Hazardous waste Rules'2016.
4. Leak Detection and Repair (LDAR) program shall be prepared and implemented as per the CPCB guidelines. LDAR Logbooks shall be maintained.
5. The National Ambient Air Quality Emission Standards issued by the Ministry vide G. S. R. No. 826 (E) dated 16th November, 2009 shall be complied with.
6. National Emission Standards for Organic Chemicals Manufacturing Industry issued by the Ministry vide G. S. R. 608 (E) dated 21/07/2010 and amended from time to time shall be followed.
7. Unit shall have to adhere to the prevailing area specific policies of GPCB with respect to the discharge of pollutants, and shall carry out the project development in accordance & consistence with the same.
8. Close loop solvent recovery system with adequate condenser system shall be provided to recover solvent vapours in such a manner that recovery shall be maximum and recovered solvent shall be reused in the process within premises.
9. The project proponent must strictly adhere to the stipulations made by the Gujarat Pollution Control Board, State Government and/or any other statutory authority.
10. All measures shall be taken to avoid soil and ground water contamination within premises.

WATER

11. Total water requirement for the project shall not exceed 23.30 KLD. Unit shall reuse 2.35 KLD of treated industrial effluent within premises. Hence, fresh water requirement shall not exceed 20.95 KLD and it shall be met through GIDC water supply only. Prior permission from concerned authority shall be obtained for withdrawal of water.
12. The industrial effluent generation from the project shall not exceed 3.25 KLD after expansion.
13. 1.5 KLD, Industrial effluent from process shall be treated in ETP and then treated effluent shall be sent to CMEE of M/s. BEIL, through GPS fitted tanker for evaporation.
14. 0.25 KLD of boiler blow down shall be reused back in process after distillation.
15. 1.5 KLD, exhausted scrubbing media shall be sold to end users having Rule-9 permission as per Hazardous waste Rules'2016.
16. Treated waste water shall be discharged into CMEE only after complying with the inlet norms prescribed by GPCB to ensure no adverse impact on Human Health and Environment.
17. Domestic wastewater generation shall not exceed 0.80 KL/day for proposed project and it shall be treated in STP. It shall not be disposed off through soak pit/ septic tank.

18. Unit shall provide ETP and STP with adequate capacity.
19. The PP shall ensure to dispose off Waste water to the Common Facilities having valid CTO of GPCB.

AIR

20. Unit shall not exceed fuel consumption and provide APCM and Stack height as mentioned in flue gas matrix.
21. Unit shall provide APCM and stack height as mentioned in process gas matrix.
22. PP shall use approved fuels only as fuel in boilers.

HAZARDOUS & SOLID WASTE

23. All hazardous solid waste shall be managed as mentioned in hazardous waste matrix.
24. The unit shall submit the list of authorized end users of hazardous wastes along with MoU signed with them at least two months in advance prior to the commencement of production. In the absence of potential buyers of these items, the unit shall restrict the production of the respective items.

GREENBELT AREA

25. The PP shall develop green belt [96 m2 (14 %) inside plant premises + 270 m2 outside premises in GIDC i.e. 33 % of total plot area] as per the undertaking submitted before SEAC. Green belt shall be developed with native plant species that are significant and used for the pollution abatement as per the CPCB guidelines. It shall be implemented within 3 years of operation phase in consultation with GPCB.
26. **Safety & Health:**
    a) PP shall provide Occupational Health Centre (OHC) as per the provisions under the Gujarat Factories Rule 68-U.
    b) PP shall obtain fire safety certificate / Fire No-Objection certificate (NOC) from the concern authority as per the prevailing Rules / Gujarat Fire Prevention and Life Safety Measures Act, 2016.
    c) Unit shall adopt functional operations/process automation system including emergency response to eliminate risk associated with the hazardous processes.
    d) PP shall carry out mock drill within the premises as per the prevailing guidelines of safety and display proper evacuation plan in the manufacturing area in case of any emergency or accident.
    e) PP shall install adequate fire hydrant system with foam trolley attachment within premises and separate storage of water for the same shall be ensured by PP.
    f) PP shall take all the necessary steps for control of storage hazards within premises ensuring incompatibility of storage raw material and ensure the storage keeping safe distance as per the prevailing guidelines of the concerned authority.
    g) PP shall take all the necessary steps for human safety within premises to ensure that no any harm is caused to any worker/employee or labor within premises.

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

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

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

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

15.	SIA/GJ/IND2/221917/2021	**M/s. Lion Tapes Pvt. Ltd.** Plot no. 293, G.I.D.C. Industrial Estate, Chitra, Dist: Bhavnagar	EC-Amendment

- This is an existing project for manufacturing of "Synthetic Organic Chemicals" for which was accorded Environmental Clearance vide letter no. SEIAA/GUJ/EC/5(f)/689/2017, Dated 01.05.2017.
- Now, project proponent has applied online vide proposal no. SIA/GJ/IND2/221917/2021 for EC-Amendment in EC letter no. SEIAA/GUJ/EC/5(f)/689/2017, dated 01.05.2017 **for replacement of thermic fluid heater by steam boiler**.
- The details are as under:

Sr. no.	Condition no. in which Amendment is proposed.	As per EC	As per proposed amendment	Justification
1	A.3 Air: 19	Agro Briquettes 7Mt/Day shall be used as a fuel forThermic Fluid Heaters (2 Lac KCL/Hr.)	Agro Briquettes 7 Mt-Day / Or Coal 6.5 Mt/Day to be used as a fuel for Steam Boiler of Capacity 2 TPH	Replace Thermic Fluid Heaters by Steam Boiler
2	A.2 Water: 10	Total water requirement for the project shall not exceed 56.4 kl/day.	Total water requirement will be increased from 56.4 KLD to 61.4 KLD.	
3	A.2 Water: 11	The industrial effluent generation from the project shall not exceed 40 KLD.	The industrial effluent generation from the project shall not exceed 40.5 KLD.	

- PP was called for presentation in the SEAC meeting dated 21.01.2022.
- During the meeting dated 21.01.2022, technical presentation made during the meeting by technical expert of PP, M/s. San Envirotech Pvt. Ltd, Ahmadabad and Project Proponent.
- PP presented that they have applied for EC-Amendment for **for replacement of thermic fluid heater by**

steam boiler in earlier EC order.

- PP presented the following documents:
  - ✓ Technical clarification regarding proposal stating that previously they mentionedThermic Fluid Heater with capacity of 2 Lakhs Kcal/Hr but for control the temperature of reaction, Steam is far better than Thermic Fluid Heater. So, PP has proposed to get amendment. Due to above amendment request, there will be no increase in fuel consumption, only heating technology will be changed in earlier EC order.

- Looking to proposal of fire wood, Committee informed technical expert of PP for removal of fire wood as fuel and only Agro Briquettes and coal proposal is consider.
- Committee found submission of project proponent satisfactory.

After detailed deliberation, Committee unanimously decided to recommend grant of EC – Amendment to SEIAA, Gujarat with condition as mentioned below and change in "Condition No. A-3(19),A-2(10) and A-2(11)" as follows and with remaining condition unchanged in EC granted by SEIAA, Gujarat vide Letter No. SEIAA/GUJ/EC/5(f)/689/2017, Dated 01.05.2017.

Condition No.* A-2(10) *shall now be read as under:

10. Total water requirement for the project shall not exceed 61.40 KLD. Unit shall reuse 40 KLD of treated industrial effluent within premises. Hence, fresh water requirement shall not exceed 21.40 KLD and it shall be met through GIDC water supply only. Prior permission from concerned authority shall be obtained for withdrawal of water.

Condition No.* A-2(11) *shall now be read as under:

11. The industrial effluent generation from the project shall not exceed 40.50 KLD.

Condition No.* A-3(19) *shall now be read as under:

Sr. no.	Source of emission With Capacity	Stack Height (meter)	Type of Fuel	Quantity of Fuel MT/Day	Type of emissions i.e. Air Pollutants	Air Pollution Control Measures (APCM)
1	Steam Boiler (2 TPH)	21.0	Agro Briquettes **or**	7.0 Mt/Day	PM, SO_2, NO_X	Cyclone & Bag filter
			Coal	6.5 Mt/Day		
2	D. G. Sets ((31.25 kVA)	11.0	HSD	10 Lit/hr	PM, SO_2, NO_X	Adequate stack height

16	SIA/GJ/IND2/220186/2021	**M/s. Valiant Organics Limited(new name)** **Old name- M/s. Amarjyot Chemical**	EC-Merger cum EC-transfer

		Ltd(Unit-2) (EC Dated – 16.12.2020) plot No. 919, Jhagadia Notified GIDC Industrial estate, Dist: Bharuch & **M/s. Amarjyot Chemical Ltd(Unit-3)** (EC Dated – 28.05.2021) plot No. 918, Jhagadia Notified GIDC Industrial estate, Dist: Bharuch	

- **M/s. Amarjyot Chemical Ltd (Unit-2)** located at plot No. 919, Jhagadia Notified GIDC Industrial estate, Dist: Bharuch has obtained Environmental Clearance (EC) vide letter no. SEIAA/GUJ/EC/5(f)/1554/2020 dated 16-12-2020.
- **M/s. Amarjyot Chemical Ltd (Unit-3)** located at plot No. 918, Jhagadia Notified GIDC Industrial estate, Dist: Bharuch has obtained Environmental Clearance (EC) vide letter no. SEIAA/GUJ/EC/5(f)/701/2021 dated 28-05-2021.
- Now, project proponent has applied online vide proposal no. SIA/GJ/IND2/220186/2021 dated 06.10.2020 for merger of both the units due to Directors of both units are now planning to merge both plots. Hence, Unit is applying for EC Amendment (EC Merger of both units) application.
- **After merging of above two EC, unit will be known as M/s. Valiant Organics Limited**

Based on the above request following will be the product profile:

Sr. No.	Product Name	Quantity (MT/Month)			CAS No.	End use
		Plot No. 919, GIDC Estate Jhagadia, Ta. Jhagadia, dist.: Bharuch (Gujarat)	Plot no. 918, GIDC Estate Jhagadia, Ta. Jhagadia, dist.: Bharuch (Gujarat)	Total		
1.	Acetic Anhydride	3600	--	3600	108-24-7	Use as raw material for Cellulose Acetate (fibres, films plastics, cellulose and lacquers) aspirin, fragrance, pharmaceuticals & explosives
2.	Easter of Organic acid like Ethyl Acetate etc	1800	--	1800	141-78-6	Use as a solvent in coatings, links, adhesives, in cosmetic products
3.	Mono Chloro Acetic Acid(MCAA)	3000	--	3000	79-11-8	Use to manufacture carboxy methyl cellulose, Pharma intermediates,

						polymers, dye intermediates, agrochemical intermediates etc.
4.	Chloro Acetyl Chloride (CAC)	650	--	650	79-04-9	Use for many synthesis e.g. to make adrenaline, Chloro acetic acid esters and the anhydride
5.	2 Ethylexyl Nitrates (2EHN)	3000	--	3000	24247-96-7	Use to raise the cetane no. of diesel fuels (Cetane Improver)
6.	Phenyl ethyl alcohol (PEA)	500	--	500	60-12-8	Common ingredient in flavours & perfumery. Additives in Cigarattes, Preservative in Soaps
7.	Sodium Mono Chloro Acetate (SMAC)	300	--	300	3926-62-3	Thickening agent in for detergents, R.M. for personnel care, insecticide
8.1	Methyl Chloro Acetate And/Or	500	--	500	96-34-4	For pharmaceutical & crop protection agents, synthesis of organic solvents
8.2	Ethyl Chloro Acetate And/Or	500	--	500	105-39-5	It is used as a solvent for organic synthesis & as intermediate in production of pesticides (such as Sodium fluoroacetate
8.3	Di chloro Acetic Acid And/Or	500	--	500	79-43-6	Use for cosmetic treatments (Such as chemical peels & tattoo removal & as topical medication for the chemo ablation of warts including genital warts. It can kill normal cell as well.
8.4	Tri chloro Acetic Acid And/Or	500	--	500	76-03-9	Use for cosmetic treatments (Such as chemical peels & tattoo removal & as topical medication for the chemo ablation of warts including genital warts. It can kill normal cell as well.
9.	Hydrogenated Products Group					
9.1	Ortho toludene And/Or	3000	--	3000	95-53-4	In routine diagnostic testing & forensic investigation to test residual chlorine (Dyestuff Intermediates Pharma Intermediates
9.2	Meta / Ortho / Para Chloro Aniline And/Or				108-42-9/ 95-51-2/ 106-47-	Dyestuff Intermediates Pharma IOntermediates

					8	
9.3	3,4 Di Chloro Aniline/ 2,3 Di Chloro Aniline/ 2,5 Di Chloro AnilineAnd/Or				95-76-1/ 608-27-5/ 95-82-9	Use in production of dyes & herbicides, pigments, Pharma etc.
9.4	2,4 Di Chloro Aniline/ 2,6 Di Chloro Aniline/ 3,5 Di Chloro AnilineAnd/Or				554-00-7/ 608-31-1/ 626-43-7	Use in production of dyes & herbicides, pigments, Pharma etc.
9.5	2,4,5 Tri ChloroAnilineAnd/ Or				636-30-6	Organic synthesis & Dyes & Intermediates for paper & colouring pigment printing
9.6	Meta / Ortho / Para Phenylene Di Amine And/Or				108-45-2/106-50-3	In the manufacturing Engineering polymers armed fibres, epoxy resins, wire enamel coatings & elastomers. PPD-in permanent hair Dye. OPD-in synthesis of fungicides, corrosion inhibitors
9.7	3,4 Diamino Diphenyl Ether/ 4,4 DiaminoDiphenyl Ether And/ Or				101-80-4	In the production of wide variety of polymers resin. In production of polyimide & polyesterlimide resins
9.8	Ortho / Para / Meta Anisidine And/ Or				90-04-0/ 536-90-3/ 104-94-9	Is used in the manufacture of Dyes
9.9	Chloro Fluoro Aniline And/Or				367-21-5	As an intermediate for the synthesis of pharmaceutical compounds
9.10	Para, ortho, Meta Cumidine And/Or				99-88-7/ 643-28-7	In the manufacture of isoproturon (Herbicide) & intermediate for 2-isopropyl thioxanthone. As an intermediate for monoazo & diazo solvent dyes
9.11	Para / Meta Amino Phenol And/Or				123-30-8/ 591-27-5	Use as developer for black & white film. In synthesis of 3(dethylamino) phenols, key intermediate for preparation of several fluorescent dyes. Hair dye colorants & stabilizer for chlorine containing thermoplastic
9.12	Toludine And/Or				95-53-4	Is as a precursor to the pesticides metoachlor & a

						cetochlor. Production of dye. They are a component for cyanoacry late glues.
9.13	Aniline And/Or				62-53-3	In the manufacture of precursors to polyurethane & industrial chemicals.
9.14	Para, Meta, Ortho Fluoro Aniline And/Or				371-40-4/ 372-19-0/ 348-54-9	Use as intermediate for the preparation of pharmaceuticals, pesticides & dyes
9.15	Di Fluoro Aniline (1:3) And/Or				367-25-9	In mono Azo dyestuff for Cellulose containing Fibers. In Fungicides
9.16	Di Fluoro Benzene (1:3) And/Or				367-11-3	Solvent for electrochemical analysis of transition metal complexes. Interesting 9.17application in the synthesis of halogenated cathinone/PPA
9.17	4-Floro-N-Isopropyl Aniline And/Or				70441-63-3	Is an intermediate used in the synthesis of Flufenacet, herbicide
9.18	4-Chloro-NIsopropyl Aniline And/Or				770-40-1	It is an intermediate used in the synthesis, pharmaceuticals.
10.	Calcium chloride	3215	--	3215	0043-52-4	Drying & dehydrating agent for organic liquids & gases & for solid desiccators. Brine for refrigeration plants, ice & dust control on roads. It is used in drying tubes in research laboratory.
11.	Paracetamol	2000	--	2000	103-90-2	Used as API
12.	Crude Paracetamol	530	--	530	103-90-2	Used as API
13.	Coal based power plant	4 MW	--	4 MW	--	--
14.	VP-31 (2-chloro-1-(3hydroxyphenyl)ethenone)	--	20	20	62932-90-5	PEP (Phenylephrine hydrochloride)
15.	MAP sulphate (Alpha Methylamino-MHydroxyacetophenone Sulfate)	--	20	20	679394-62-8	PEP (Phenylephrine hydrochloride)
16.	NCS-I/NCS-II	--	75	75	19806-	Quetiapine fumarate Life

	(2-[(2-Nitrophenyl) sulfanyl]benzoic acid)				43-0	saving drug
17.	PR-88 –I 5 ((2R,3S,4S,5R)-5(hydroxylmethyl)-2,3,4-triol-1Methoxy tetrahydropyran)	--	2	2	36468-53-8	Lucerastat
18.	PR-88 -II ((2R,3S,4S,5R)-2,3,4tribenzyloxy-5(benzyloxymethyl)-1-methoxy–tetrahydropyran)	--	3	3	4132-28-9	Lucerastat
19.	ZEN-I (1-(2-methoxyphenol)-2,3epoxypropane)	--	25	25	2210-74-4	Ranolazine
20.	ZEN-III (N-(2,6-Dimethylphenyl)-2-(1piperazinyl)acetamide)	--	25	25	5294-61-1	Ranolazine
21.	VP-25 (3-Bromo-1,3,4,5-tetrahydro2H-1-benzazepin-2-one)	--	5	5	86499-96-9	Benazepril (API) Life saving drug
22.	VP-28 (2-Fluoro-6(trifluoromethyl)benzylamine)	--	10	10	239087-06-0	Elagolix
23.	VP-32 (1-(3-amino-2hydroxyphenyl)ethenone)	--	5	5	70977-72-9	Pranlucast
24.	VP-33 (4-(4-Phenylbutoxy)benzoic acid)	--	5	5	30131-16-9	Pranlucast
25.	PR-178-III (6-benzyl-5H-pyrrolo [3, 4-b] pyridine-5, 7(6H)-dione)	--	20	20	18184-75-3	Moxifloxacin
26.	FDP-II /FDP-III (2-amino-3-chloropropanoic acid methyl ester hydrochloride)	--	20	20	33646-31-0	Ramipril
27.	PR-2017-007-I/PR-2017-007-II (METHYL 2-(3-{(E)-3-[2-(7CHLORO-	--	20	20	149968-11-6	Montelukast

	2QUINOLYL)VINYL]PHENYL}-3OXOPROPYL)BENZOATE)					
28.	7-chloro quinoline	--	20	20	4965-33-7	Montelukast
29.	PR-410 (Methyl-2-iodobenzoate)	--	20	20	610-97-9	Montelukast
30.	QN-I (1,2,3,4tetrahydroisoquinoline-3carboxylic acid)	--	1	1	74163-81-8	Quinapril
31.	VP-017 (2-Methyl 3-nitro benzoic acid)	--	2	2	1975-50-4	Tazematostat
32.	Theobromine (2,6-Dihydroxy3,7-dimethylpurine, 3,7Dihydro-3,7-dimethyl-1Hpurine-2,6-dione, 3,7Dimethylxanthine)	--	75	75	83-67-0	Pentoxifylline
33.	PR-156 -I (2,5-Dibromo-4nitro-1H-imidazole)	--	5	5	6154-30-9	Pretomanid
34.	VP-015 (5-chloro-1-methyl-4nitroimidazole)	--	5	5	4897-25-0	Azathioprine
35.	Sole3 (3-(4-fluorophenyl)--2Methylpropanoyl chloride)	--	20	20	1017183-70-8	Sulindac
36.	IB-II (8-isopropyl-8azabicyclo[3.2.1] octan-3-one)	--	2	2	3423-28-7	Ipratropium bromide
37.	PR-423-I/PR-423-II (2-[(acetyloxy)methyl]-2prpenoic Acid methyl ester)	--	10	10	10622198	Telbivudine
38.	PR-431 Stage-I & II (2-Propyl-1H-imidazole-4,5dicarboxy acid)	--	20	20	58954-23-7	Olmesartan
39.	3-chloropropiophenone (Bupropion) (3-chloropropiophenone)	--	75	75	936-59-4	Bupropion

40.	PR-232 Duloxetine Intermediate (3-(dimethylamino)-1(thiophen-2-yl)propan-1-one)	--	20	20	5424-47-5	Duloxetine
41.	Perindopril -OCI (Indole-2-carboxylic acid)	--	10	10	1477-50-5	Perindopril
42.	L-serine ((S)-2-Amino-3hydroxypropionic acid)	--	75	75	56-45-1	Ramipril
43.	PR-239 (3-hydroxyacetophenone)	--	75	75	121-71-1	Phenylephrine
44.	Ticagrelor early intermediate (PR-508) (Methyl 5-deoxy-5-iodo-2,3-O-isopropylidene-ß-Dribofuranoside)	--	30	30	13491481	Ticagrelor
45.	Sitaglptin side pyrazine Intermediate (3-(trifluoromethyl)-5,6,7,8 tetrahydro-(1,2,4) triazolo[4,3a] pyrazine)	--	360	360	762240-92-6	Sitaglptin
46.	R&D Products/Pilot plant product / New development product	--	0.1	0.1	--	PEP (Phenylephrine hydrochloride)
	Total	22095	750.1	22845.1		
	Coal based power plant	4 MW		4 MW		

- PP was called for presentation in the SEAC meeting dated 21.01.2022.
- During the meeting dated **21.01.2022**, technical presentation made during the meeting by technical expert of PP, M/s. Siddhi Green Excellence Pvt. Ltd and project proponent.
- During SEAC meeting, PP presented the point-wise merger application are as under:

Sr. No.	Parameter	M/s. Amarjyot Chemical Ltd. (Unit- 2), plot No. 919, GIDC Estate Jhagadia, Ta. Jhagadia, dist.: Bharuch (Gujarat)	M/s. Amarjyot Chemical Limited (Unit-3), plot No. 918, GIDC Estate Jhagadia, Ta. Jhagadia, dist.: Bharuch (Gujarat)	After merger of Both plots – M/s. Valiant Organics Limited, plot No. 918 & 919, GIDC Estate Jhagadia, Ta. Jhagadia, dist.: Bharuch (Gujarat)	Remarks
1	Plot Area	32898 m2	15006 m2	47904 m2	Merger of both plants.
2	List of Products & Production Capacity	Synthetic Organic Chemicals having end use for manufacturing of Pharmaceuticals, Adhesives, Cosmetics, Polymers, Dye Intermediates, Thickening Agents, Resins, Stabilizers for thermoplastics etc. Production Capacity as per EC: 22095 MTM & Coal based Power plant: 4 MW	API & its intermediates mainly used to treat schizophrenia, bipolar disorder, sudden episodes of mania or depression, heart related chest pain, Life saving drug, high blood pressure, Bacterial infection, bronchospasm, Kidney disease, Diabetes etc. Production Capacity as per EC: 750.1 MTM	Total production capacity after merging: 22845.1 MTM & Coal based Power plant: 4 MW	After merger of both plant, Company could manufacture the any granted product in both EC.
3	Project Cost	Proposed cost for this EC: (95.97+14) 109.97 Crore	Proposed cost for this EC: 39.6 Crore	Proposed cost after merging of EC: (109.97+39.6) 149.57 Crore	--
4	Water Consumption	Total water Consumption: 2458 KLD Quantity recycled: 493 KLD Total fresh water requirement: 1965 KLD	Total water Consumption: 1099 KLD Quantity recycled: 428 KLD Total fresh water requirement: 671 KLD	Total water Consumption: 3557 KLD Quantity recycled: 921 KLD Total fresh water requirement: 2636 KLD	Max. fresh water consumption from GIDC will be 2636 KLD
5	Source of water	GIDC Water supply (Fresh Water	GIDC Water supply (Fresh Water	GIDC Water supply (Fresh Water	--

		requirement: 1965 KLD) + Reused: 493 KLD	requirement: 671 KLD) + Reused: 428 KLD	requirement: 2636 KLD) + Reused: 921 KLD	
6	Wastewater generation	Total wastewater generation: 506 KLD (Domestic effluent: 5 KLD, Industrial effluent: 501 KLD)	Total wastewater generation: 465 KLD (Domestic effluent: 25 KLD, Industrial effluent: 440 KLD)	Total wastewater generation: 971 KLD (Domestic effluent: 30 KLD, Industrial effluent: 941 KLD)	--
7	Capacity of ETP	ETP Capacity (Primary, Secondary & Tertiary treatment): 313 KLD RO Capacity: 2 Nos. - 313 KLD & 193 KLD MEE Capacity: 1 No. - 173 KLD	ETP Capacity (Primary, Secondary & Tertiary treatment): 400 KLD RO Capacity: 1 No. - 450 KLD MEE Capacity: 1 No. - 480 KLD	ETP Capacity (Primary, Secondary & Tertiary treatment): 713 KLD RO Capacity: 3 Nos. – 313 KLD , 193 KLD & 450 KLD MEE Capacity: 2 Nos. - 173 KLD & 480 KLD	Company will have adequate capacity of ETP, RO & MEE.
8	Treatment & Disposal Scheme	Sewage shall be treated along with effluent in ETP. High COD & TDS effluent (313 KLD) shall be treated in ETP consisting primary, secondary & tertiary treatment followed by RO. RO permeate (202 KLD) shall be reused in cooling tower. RO Reject (111 KLD) shall be sent to in-house MEE. Low COD & TDS effluent (188 KLD) shall be treated in RO. RO permeate (148 KLD) shall be reused in cooling tower. RO Reject (40 KLD) shall be sent to in-house MEE. RO reject (151 KLD) & Effluent from filtration (17 KLD) shall be sent to in-house MEE. MEE condensate (143 KLD) shall be reused in cooling tower. MEE Reject (25 KLD) shall	Sewage stall be treated in STP and treated water shall be used for greenbelt development & maintenance purpose. High COD & TDS effluent (224 KLD) shall be directly evaporated in in-house MEE cum ATFD. MEE condensate (178 KLD) shall be treated in ETP consisting primary, secondary & tertiary treatment with low COD stream. Low COD & TDS effluent (171 KLD) along with MEE condensate (178 KLD) shall be treated in ETP consisting primary, secondary & tertiary treatment followed by RO. Boiler & cooling tower blowdown (40 KLD) along with effluent from ETP (349 KLD)	Sewage stall be treated in STP and treated water shall be used for greenbelt development & maintenance purpose. High COD & TDS effluent (426 KLD) shall be directly evaporated in in-house MEE cum ATFD. MEE condensate (390 KLD) shall be treated in ETP consisting primary, secondary & tertiary treatment with low COD stream. Low COD & TDS effluent (355 KLD) along with MEE condensate (390 KLD) shall be treated in ETP consisting primary, secondary & tertiary treatment followed by RO. Boiler & cooling tower blowdown (145 KLD) along with effluent from ETP (745 KLD) shall be sent to RO & MEE. RO Permeate (856 KLD) &	Sewage stall be treated in STP and treated water shall be used for greenbelt development & maintenance purpose. Unit shall treat effluent in ETP consist of Primary, secondary & tertiary treatment followed by RO & MEE.

		be sent for incineration and crystallization.	shall be sent to RO & MEE. RO Permeate (312 KLD) & MEE Condensate (91 KLD) shall be reused back in process within premises. MEE Salt is sent to TSDF site for disposal. 5 KLD boiler blowdown shall be utilized for scrubber make up and exhausted scrubbing media shall be directly utilized for coal ash quenching and for coal handling area.	MEE Condensate (40 KLD) shall be reused back in process within premises. MEE Salt is sent to TSDF site for disposal. 5 KLD boiler blowdown shall be utilized for scrubber make up and exhausted scrubbing media shall be directly utilized for coal ash quenching and for coal handling area.	
9	Flue gas emission	• Boilers: 2 nos. (30 TPH & 50 TPH each) • DG Set: 2 nos. (750 KVA) (standby)	• Boiler: 1 no. (20 TPH) • Thermo pack: 2 nos. (6 lakh kcal each) • DG Set: 4 nos. (3 nos. of 1010 KVA each & 1 no. of 650 KVA) (standby)	• Boiler: 3 nos. (20 TPH, 30 TPH & 50 TPH each) • Thermo pack: 2 nos. (6 lakh kcal each) • DG Set: 6 nos. (2 nos. of 750 KVA each, 3 nos. of 1010 KVA each & 1 no. of 650 KVA) (standby)	Company will utilize the existing as well proposed utility for both units.
10	Process Gas emission	Chlorination process vessel: HCl & Cl_2	Process Vessel 1: HBr & Br_2 Process Vessel 2: HCl & Cl_2 Process Vessel 3: HCl & SO_2 Process Vessel 4: NOx Process Vessel 5: NH_3	Total Process emission stacks: 6 Gaseous Pollutants: HBr, Br_2, HCl, Cl_2, SO_2, NOx & NH_3	--
11	Air Pollution Control Measures	For Flue Gas emission: Coal Based Boilers: Electrostatic Precipitator + Water Scrubber DG sets: Adequate Stack height For Process Gas Emission: Chlorination process vessel: Water scrubber followed by caustic	For Flue Gas emission: Coal Based Boiler: Electrostatic Precipitator + Water Scrubber and adequate stack height Natural Gas based Thermo pack: Adequate stack height DG sets: Adequate Stack height and Acoustic Enclosure	For Flue Gas emission: Coal Based Boiler: Electrostatic Precipitator + Water Scrubber and adequate stack height Natural Gas based Thermo pack: Adequate stack height DG sets: Adequate Stack height and Acoustic Enclosure	--

		scrubber	For Process Gas Emission: Process vessel 1, 3, 4, 5: Water scrubber followed by alkali scrubber Process vessel 2: Two stage Water scrubber followed by alkali scrubber	For Process Gas Emission: Water scrubber followed by alkali scrubber for all stacks except Process vessel 2 For Process vessel 2: Two stage Water scrubber followed by alkali scrubber	
12	Power Requirement and Source	From DGVCL: 1730 KVA DG Set: 2 nos. (750 KVA) (standby)	From DGVCL: 3000 KVA DG Set: 4 nos. (3 nos. of 1010 KVA each & 1 no. of 650 KVA) (standby)	From DGVCL: 4730 KVA DG Set: 6 nos. (2 nos. of 750 KVA each, 3 nos. of 1010 KVA each & 1 no. of 650 KVA) (standby)	Common connection after total product installation another transformer & connection required.
13	Fuel Requirement	Coal: 380 MT/Day Diesel: 300 L/h	Coal: 84 MT/Day Natural gas: 140 SCM/h Diesel: 1100 L/h	Coal: 464 MT/Day Natural gas: 140 SCM/h Diesel: 1400 L/h	Common Supplier
14	Green Belt	10493 m^2	5109 m^2	15602 m^2	After merger of both unit, company will have 33% greenbelt of total plot area
15	List of Hazardous Waste and their Quantity	ETP Sludge – 3600 MTA	ETP Sludge – 3000 MTA	ETP Sludge – 6600 MTA	Company has adequate area to store hazardous waste
		Distillation residue – 2040 MTA	Distillation residue – 1800 MTA	Distillation residue – 3840 MTA	
		Used or Spent Oil – 2.4 MTA	Used or Spent Oil – 40 MTA	Used or Spent Oil – 42.4 MTA	
		Empty barrels/ containers/ liners contaminated with hazardous chemicals/wastes – 149.7 MTA	Empty barrels/ containers/ liners contaminated with hazardous chemicals/wastes – 300 MTA	Empty barrels/ containers/ liners contaminated with hazardous chemicals/wastes – 449.7 MTA	
		MEE Salt – 5400 MTA	MEE Salt – 9000 MTA	MEE Salt – 14400 MTA	
		Spent Carbon – 0 MTA	Spent Carbon – 298 MTA	Spent Carbon – 298 MTA	
		Spent Catalyst – 91.2 MTA	Spent Catalyst – 179 MTA	Spent Catalyst – 270.2 MTA	
		Off specification products – 24 MTA	Off specification products – 200 MTA	Off specification products – 224 MTA	
		Date- expired products – 0 MTA	Date- expired products – 2 MTA	Date- expired products – 2 MTA	

		Sodium Bisulphide (SBS) – 5004 MTA	Sodium Bisulphide (SBS) – 0 MTA	Sodium Bisulphide (SBS) – 5004 MTA	
		Hydrochloric Acid – 87672 MTA	Hydrochloric Acid – 17251 MTA	Hydrochloric Acid – 104923 MTA	
		Spent Solvent – 51660 MTA	Spent Solvent – 8708 MTA	Spent Solvent – 60368 MTA	
		Acetic Acid – 21180 MTA	Acetic Acid – 859 MTA	Acetic Acid – 22039 MTA	
		Sodium Sulphate – 0 MTA	Sodium Sulphate – 50 MTA	Sodium Sulphate – 50 MTA	
		Phosphoric acid – 0 MTA	Phosphoric acid – 1704 MTA	Phosphoric acid – 1704 MTA	
		HBr –0 MTA	HBr – 285 MTA	HBr – 285 MTA	
		Aluminium Chloride – 0 MTA	Aluminium Chloride – 1784 MTA	Aluminium Chloride – 1784 MTA	
		NaBr – 0 MTA	NaBr – 1684 MTA	NaBr – 1684 MTA	
		NaHSO3 – 0 MTA	NaHSO3 – 6480 MTA	NaHSO3 – 6480 MTA	
		NaNO2 – 0 MTA	NaNO2 – 5484 MTA	NaNO2 – 5484 MTA	
		(NH4)2SO4 – 0 MTA	(NH4)2SO4 – 3295 MTA	(NH4)2SO4 – 3295 MTA	
		Tartaric acid – 0 MTA	Tartaric acid – 360 MTA	Tartaric acid – 360 MTA	
		RO Membrane – 0 MTA	RO Membrane – 20 MTA	RO Membrane – 20 MTA	
		Filter Press cloths – 0 MTA	Filter Press cloths – 40 MTA	Filter Press cloths – 40 MTA	
		Spent Resin – 0 MTA	Spent Resin – 50 MTA	Spent Resin – 50 MTA	
16	List of other Solid waste & their quantity	Fly Ash – 6048 MTA	Fly Ash – 3024 MTA	Fly Ash – 9072 MTA	
		E-waste – 30 MTA	E-waste – 60 MTA	E-waste – 90 MTA	
		Insulation waste – 10 MTA	Insulation waste – 50 MTA	Insulation waste – 60 MTA	
		STP Sludge as manure – 0 MTA	STP Sludge as manure – 60 MTA	STP Sludge as manure – 60 MTA	--
		Glass waste – 0 MTA	Glass waste – 30 MTA	Glass waste – 30 MTA	
		PPE's waste & Non recyclable plastic waste – 0 MTA	PPE's waste & Non recyclable plastic waste – 20 MTA	PPE's waste & Non recyclable plastic waste – 20 MTA	
		Batteries waste – 0 Nos.	Batteries waste – 250 Nos.	Batteries waste – 250 Nos.	
		Office waste – 0 MTA	Office waste – 15 MTA	Office waste – 15 MTA	
		Wooden waste – 0 MTA	Wooden waste – 30 MTA	Wooden waste – 30 MTA	

		Bio medical waste – 0 MTA	Bio medical waste – 1 MTA	Bio medical waste – 1 MTA	

- PP presented GIDC letter for transferring of plot no-918 and 919 from **M/s. Amarjyot Chemical Limited** to M**/s. Valiant Organics Limited**.
- PP presented M/s. Amarjyot Chemical Ltd. (Unit-2) has obtained CTE after EC vide No. 98153 date of issue 04/03/2019 & CC&A for 1 product vide Consent order No.: 112380 date of issue 08/04/2021, valid up to 31/01/2026 while EC of M/s. Amarjyot Chemical Limited (Unit-3) has not been converted into CTE & CC&A yet. Unit shall start production only after obtaining consent from Board.
- PP presented one show cause notice issued by the Board to unit and its reply submitted at GPCB presented by PP to existing operational unit.
- PP presented revised Site Plan/ layout after merger of two units mentioning separate entry & exit.
- Committee deliberated on revised water balance, air matrix and hazardous waste matrix. PP informed that there will be no change in facilities and everyhthing remain same as mentioned in two separate ECs.
- Upon asking regarding Resoulution of Board of Director for merger of units; no change in pollution load for which PP is agreed upon and later on submitted notarised undertaking stating that director of both units are remain same after merger and No objection for name change of the unit and no change in pollution load after merger, through e-mail.
- Committee found submission of project proponent satisfactory.

After detailed deliberation, Committee unanimously decided to recommend grant of EC – Amendment to SEIAA, Gujarat by granting fresh Environment Clearance by merging both the ECs and declare earlier both ECs to be treated as cancelled as well as name change in name from M/s Amarjyot chemicals (unit-2) and M/s. Amarjyot chemicals(unit-3) to M/S. Valiant Organics Limited in Environment Clearance issued by SEIAA vide letter no. SEIAA/GUJ/EC/5(f)/1554/2020 dated 16-12-2020 and SEIAA/GUJ/EC/5(f)/701/2021 dated 28-05-2021 and SEIAA/GUJ/EC/5(f)/701/2021 dated 28-05-2021with following specific condition,

- Unit shall strictly comply each and every condition accorded by SEIAA in **SEIAA vide letter no. SEIAA/GUJ/EC/5(f)/1554/2020 dated 16-12-2020 and SEIAA/GUJ/EC/5(f)/701/2021 dated 28-05-2021** by new management as per details submitted by PP.
- Unit shall strictly ahere with notarized undertaking submitted by PP stating that there shall be no change in plant machinery,pollution load and product list after merger of both units

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.	Dr. M. N. Patel, Member, SEAC	
4.	Shri D. C. Chaudhari, Member, SEAC	
5.	Shri J. K. Vyas, Member, SEAC	
6.	Shri Anand Zinzala, Member, SEAC	
7.	Shri B. M. Tailor, Member, SEAC	
8.	Shri A. V. Shah, Secretary, SEAC	