

Minutes of the 363th meeting of the State Level Expert Appraisal Committee held on 16.02.2022 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 16.02.2022 at 13.30 hrs.

The 363th meeting of the State Level Expert Appraisal Committee (SEAC) was held online by Video conferencing on 16th February 2022 at 13.30 hrs. Following members joined the meeting:

1. Shri Akshay Kumar Saxena, Chairman, SEAC
2. Dr. S. C. Pant, Vice Chairman, SEAC
3. 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 B2 category cases and Appraisal 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.

01	SIA/GJ/IND2/169025/2020	M/s. Apnar Pharma Private Limited Unit-2 Block No. 471, At & PO. Gavasad, Padra Jambusar Road, Ta. Padra, Dist. Vadodara,	EC -Reconsideration
<p>Category of the unit: 5(f)</p> <p>Project status: Expansion</p> <ul style="list-style-type: none"> • Project proponent (PP) submitted online application vide no. SIA/GJ/IND2/169025/2020 on dated 30/03/2021 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 API unit and now proposes for new manufacturing plant of synthetic organic chemicals 			

[API and API Intermediates] as below,

Sr. No.	Name of the Product	CAS No. (Product)	Type/ Category of Product (API/ Intermediate)	Quantity in MT/Month	Said API is used for End Use of said API
1.	Bupropion	34841-39-9	API	19.0 MT/Month (Either Or)	Bupropion is approved for the treatment of major depressive disorder (MDD)
2.	Divalproex Sodium	76584-70-8	API		Divalproex sodium is used to treat certain types of seizures (epilepsy). This medicine is an anticonvulsant that works in the brain tissue to stop seizures
3.	Doxepin	1668-19-5	API		Doxepin (Silenor) is used to treat insomnia (difficulty falling asleep or staying asleep) in people who have trouble staying asleep. Doxepin (Silenor) is in a class of medications called tricyclic antidepressants.
4.	Duloxetine HCl	136434-34-9	API		Duloxetine HCl is a medication used to treat major depressive disorder, generalized anxiety disorder, fibromyalgia, and neuropathic pain
5.	Famotidine	76824-35-6	API		Famotidine is a medication that decreases stomach acid production. It is used to treat peptic ulcer disease, gastroesophageal reflux disease, and Zollinger-Ellison syndrome.
6.	Fluoxetine	54910-89-3	API		Fluoxetine is an antidepressant of the selective serotonin reuptake inhibitor class. It is used for the treatment of major depressive disorder, obsessive-compulsive disorder, bulimia nervosa, panic disorder, and premenstrual dysphoric disorder.
7.	Fluphenazine	69-23-8	API		Fluphenazine is an antipsychotic medication. It is used in the treatment of chronic psychoses such as schizophrenia
8.	Hydroxychloroquine	118-42-3	API		Hydroxychloroquine is in a class of drugs called antimalarials.
9.	Ibuprofen	15687-27-1	API		Ibuprofen is a medication in the nonsteroidal anti-inflammatory drug class that is used for treating pain, fever, and inflammation.

10.	Metoprolol Succinate	98418-47-4	API		It is used to treat high blood pressure, chest pain due to poor blood flow to the heart, and a number of conditions involving an abnormally fast heart rate.
11.	Sucralfate	54182-58-0	API		Sucralfate is a medication used to treat stomach ulcers, gastroesophageal reflux disease, radiation proctitis, and stomach inflammation and to prevent stress ulcers.
12.	Terazosin HCl	63074-08-8	API		Terazosin HCl is Lowering high blood pressure helps prevent strokes, heart attacks, and kidney problems
13.	Atorvastatin	134523-00-5	API		It is used for preventing cardiovascular disease in those at high risk and treating abnormal lipids.
Fermentation Product					
14	Pravastatin	81093-37-0	API	2.0	Pravastatin is a statin medication used to prevent cardiovascular disease in those at high risk and treat abnormal lipid levels
15	R& D Products	---	----	0.05	----
TOTAL				21.05	
				MT/Month	

- The project falls under B2 category of project activity 5(f) as per the schedule of EIA Notification 2006 and its amendment dated 27/03/2020.
- PP was called for Video conference meeting for presentation on dated 20.12.2021.
- During the meeting, 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 M/s. Trade stone Enviroremained present during video conference meeting.
- This is an expansion project at Vil - Gavasad, Ta- Padra, Dist- Vadodara located at outside notified area. Committee noted that proposed project located in Padra Region and there is Environmental pollution issue of ground water contamination in Padre Region and permission for new and expansion project of polluting industries are not permitted by GPCB. Also Committee noted that the matter is under process at GPCB regarding permission of new or expansion polluting units in Padra region.
- During the meeting, PP claimed that MoEF&CC issued Environment Clearances to units located in Padra Region and requested to grant them EC. Committee deliberated on the issue and found that GPCB is not accepting CTE/CCA applications of Red category units of Padra Region, for not permitting new pollution

load or increase in pollution load due to new or expansion of units in Padra Region based on the decision taken by GPCB in year 2016 regarding not allow Red category (new unit or expansion units) in Padra Region. It was also observed that GPCB issued CTE rejection order to the units to which EC order accorded by MoEF&CC in past for units located in Padra Region with reason mentioning “As per Padra Policy, CTE-amendment application shall not be acceptable”.

After detailed discussion, Committee unanimously decided to call project proponent after decision by GPCB regarding permission of new or expansion polluting units in Padra Region.

- Again, PP was called for Video conference meeting for presentation on dated 16.02.2022.
- Form – 1, Pre-Feasibility Report, Environment Management Plan and details submitted by e-mail.
- Project proponent (PP) and Technical expert of M/s. Trade stone Enviroremained present during video conference meeting.
- Committee noted that proposed project located in Padra Region and there is Environmental pollution issue of ground water contamination in Padre Region and permission for new and expansion project of polluting industries are not permitted by GPCB. Also Committee noted that the matter is under process at GPCB regarding permission of new or expansion polluting units in Padra region.
- During the meeting, PP claimed that MoEF&CC issued Environment Clearances to units located in Padra Region and requested to grant them EC. Committee deliberated on the issue and found that GPCB is not accepting CTE/CCA applications of Red category units of Padra Region, for not permitting new pollution load or increase in pollution load due to new or expansion of units in Padre Region based on the decision taken by GPCB in year 2016 regarding not allow Red category (new unit or expansion units) in Padra Region. It was also observed that GPCB issued CTE rejection order to the units to which EC order accorded by MoEF&CC in past for units located in Padra Region with reason mentioning “As per Padra Policy, CTE-amendment application shall not be acceptable”.

After detailed discussion, Committee unanimously decided to call project proponent after decision by GPCB regarding permission of new or expansion polluting units in Padra Region.

2.	SIA/GJ/IND2/175517/2020	M/s. Aims Chem and Ink Plot No. – C1B/1514, GIDC Ankleshwar, Tal: Ankleshwar, Dist: Bharuch	EC-Reconsideration
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Category of the unit: **5 (f)**

Project status: **New**

In context to above subject matter, find below the recommendation of SEAC for your perusal.

1. Details of Application:

1.1. Type of application:	EC-New
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1.2. Proposal no.	SIA/GJ/IND2/175517/2020
1.3. Category of Project :	5 (f) – B2
1.4. Date of application : (Online accepted by SEAC)	30/03/2021
1.5. Documents Submitted by Project Proponent(PP)	Form -1, Pre-feasibility Report, EMP
1.6. TOR No. & Date :	Not applicable as project is categorized as B2
1.7. Technical expert / Environmental Consultant :	M/s.Jyoti Om Chemical Research Centre Pvt. Ltd.
1.8. SEAC Meeting No. and Date:	245th meeting&22.07.2021
1.9. ADS vide letter dated :	245th meeting MOM dated 22.07.2021
1.10. Reply Submitted by PP dated:	07.02.22
1.11. Revised Consideration SEAC Meeting No. and Date:	16.02.2022

2. This is proposal for manufacturing of synthetic organic chemicals [API and API Intermediates] as tabulated below,

Sr. No.	Name Of Product	CAS No.	Total Quantity (MT/Month)	Said API is used for/End Use of said API	
Group-1 (15 MT/Month And/Or)					
1.	Valsartan And/or its Intermediates	137862--53-4	15 MT/Month (Either/Or)	Anti-Hypertensive	
	N-[2'-cyano[1,1'-biphenyl-4-yl]methyl]-L-Valine methyl ester And/or	137863-90-2		Valsartan	
	L-Valine methyl ester hydrochloride And/or	17846-68-3			
2.	Oxcarbazepine And/or its Intermediates	28721-07-5		Anti Convulsant	
	10-oxo-10,11-dihydro-5H-dibenzo[b,f]azepine-5-carboxamide (Stage –A)	28721-07-5		Oxcarbazepine	
3.	Atorvastatin And/or its Intermediates	134523-00-5		15 MT/Month (Either/Or)	Peptic Ulcer Diseases
	(3S,5S)-7-[2-(4-fluorophenyl)-3-phenyl-4-(phenylcarbamoyl)-5-propan-2-yl-pyrrol-1-yl]-3,5-dihydroxy-heptanoic acid calcium salt And/or	125995-13-3			Atorvastatin
	(6-{2-[2-(4-fluorophenyl)-5-isopropyl-3-phenyl-4-phenylcarbamoyl-pyrrol-1-yl]-ethyl}-2,2-dimethyl-[1,3] dioxan-4-yl)-acetic acid tert-butyl ester	125971-95-1			
4.	Gabapentin And/or its Intermediates	60142-96-3		15 MT/Month (Either/Or)	Anti convulsants
	1,1-Cyclohexanediactic acid monoamide And/or	99189-60-3			Gabapentin
	2-Azaspiro[4.5]decan-3-one	64744-50-9			

5.	Telmisartan And/Or Its intermediates	144701-48-4		Anti Hypertensive
	2-Cyano-4-methyl biphenyl Or OTBN (o-tolyl benzonitrile)	93717-55-6		Telmisartan
6.	Torsemide And/Or Its intermediates	56211-40-6		Diuretic
	4-chloropyridine-3-sulfonyl chloride And/or	33263-44-4		Torsemide
	4-chloropyridine-3-sulfonamide And/or	33263-43-3		
	4-[(3-methylphenyl)amino] pyridine-3-sulfonamide	72811-73-5		
7.	Nateglinide And/or Its intermediates	105816-04-4		Anti Diabetic
	trans-4-Isopropyl cyclohexane carbonyl chloride	105746-47-2		Nateglinide
8.	Luliconazole And/Or Its intermediates	187164-19-8		Antifungal
	(1S)-2-chloro-1-(2,4-dichlorophenyl) ethyl methane sulfonate	229334-55-8		Luliconazole
9.	Hydroxychloroquine Sulphate And/Or Its intermediates	118-42-3		Anti malaria
	Hydroxy chloroquine base	118-42-3	Hydroxychloroquine Sulphate	
10.	CH Base		15	Use in Anti-Septic, Anti-Bacterial, use for Disinfectant , sanitizer,
11.	R & D Product	----	0.1	
TOTAL			30.1	

ENDUSE OF PRODUCTS

Sr. No.	Name of the Product	CAS No. (Product)	Type/ Category of Product (API/ Intermediate)	Stage of Intermediate 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	Valsartan And/or its Intermediates	137862-53-4	API	----	---	---	Anti-Hypertensive
	N-[2'-cyano[1,1'-biphenyl-4-yl]methyl]-L-Valine methyl ester	137863-90-2	Intermediate	n-2	Valsartan	137862-53-4	
	L-Valine methyl ester hydrochloride	17846-68-3	Intermediate	n-3	Valsartan	137862-53-4	
2	Oxcarbazepine And/or its Intermediates	28721-07-5	API	----	---	---	Anti Convulsant
	10-oxo-10,11-dihydro-5H-dibenzo[b,f]azepine-5-carboxamide (Stage – A)	28721-07-5	Intermediate	n-1	Oxcarbazepine	28721-07-5	
3	Atorvastatin And/or its Intermediates	134523-00-5	API	----	---	---	Peptic Ulcer Diseases
	(3S,5S)-7-[2-(4-fluorophenyl)-3-phenyl-4-(phenylcarbonyl)-5-propan-2-yl-pyrrol-1-yl]-		Intermediate	n-2	Atorvastatin	134523-00-5	

	3,5-dihydroxy-heptanoic acid calcium salt						
	(6-{2-[2-(4-fluorophenyl)-5-isopropyl-3-phenyl-4-phenylcarbamoyl-pyrrol-1-yl]-ethyl}-2,2-dimethyl-[1,3] dioxan-4-yl)-acetic acid tert-butyl ester	125971-95-1	Intermediate	n-1	Atorvastatin	134523-00-5	
4	Gabapentin And/or its Intermediates	60142-96-3	API	----	---	---	Anti convulsants
	1,1-Cyclohexanediamic acid monoamide	99189-60-3	Intermediate	n-2	Gabapentin	60142-96-3	
	2-Azaspiro[4.5]decan-3-one	64744-50-9	Intermediate	n-1	Gabapentin	60142-96-3	
5	Telmisartan And/Or Its intermediates	144701-48-4	API	----	---	---	Anti Hypertensive
	2-Cyano-4-methyl biphenyl Or OTBN (o-tolyl benzonitrile)	93717-55-6	Intermediate	n-1	Telmisartan	144701-48-4	
6	Torsemide And/Or Its intermediates	56211-40-6	API	----	---	---	Diuretic
	4-chloropyridine-3-sulfonyl chloride	33263-44-4	Intermediate	n-3	Torsemide	56211-40-6	
	4-chloropyridine-3-sulfonamide	33263-43-3	Intermediate	n-2	Torsemide	56211-40-6	
	4-[(3-methylphenyl)amino]pyridine-3-sulfonamide	72811-73-5	Intermediate	n-1	Torsemide	56211-40-6	
7	Nateglinide And/or Its intermediates	105816-04-4	API	----	---	---	Anti Diabetic
	trans-4-Isopropyl cyclohexane carbonyl chloride	105746-47-2	Intermediate	n-2	Nateglinide	105816-04-4	
8	Luliconazole And/Or Its intermediates	187164-19-8	API	----	---	---	Antifungal
	(1S)-2-chloro-1-(2,4-dichlorophenyl) ethyl methane sulfonate	229334-55-8	Intermediate	n-1	Luliconazole	187164-19-8	
9	Hydroxychloroquine Sulphate And/Or Its intermediates	118-42-3	API	----	---	---	Anti malaria
	Hydroxy chloroquine base	118-42-3	Intermediate	n-1	<u>Hydroxychloroquine Sulphate</u>	118-42-3	
10	CH Base	55-56-1	API	--	--	--	Use in Anti-Septic, Anti-Bacterial, use for Disinfectant , sanitizer,

		extinguisher, Automation system				0.10
6	Environment Monitoring & Management	Environment Monitoring & Management	0.00	0.05	0.00	0.05
7	Green Belt Development	Green belt development	0.01	0.005	0.005	0.01
8	Occupational Health	OHC, first Aid	0.05	0.02	0.01	0.03
9	DCS Automation System	DCS automation system for Chlorination through Thionyl Chloride, Bromination,scrubb er, solvent recovery.	0.25	0.045	0.005	0.05
10	Noise Control	Acoustic Enclosure	0.05	0.008	0.002	0.01
11	CER Funds	CER Activity	0.06	0.04	--	0.04
Total			1.86	2.588	0.302	2.89

Comments:

- 1) ...
- 2)

A-3 Details of CER -

PP shall carry out CER activities of 10 Lacs as below:
Solar panel Installation in Navadiva Village.

B Land / Plot ownership details:

Plot is already attoted to **Aims Chem & Ink** vide **GIDC/RM/ANK/TRF/FTO/ANK1/1597** dated **21/10/2021**

B-1 Plot area

Total Plot area
855 Sq. m.

B-2**Area adequacy**

- **Production area**
- Total plot area of the unit is 855 Sq.mt.
- Total production capacity will be 30.1 MT/Month.
- The unit will developed of manufacturing facilities of total area 100 Sq.mt with G+2 Facility.

- Unit has allotted total 50 Sq. mt area for raw material (G+1) and 40 sq. mt. area for solvent storage.
- Total 70 Sq.mt area will be allotted for ETP & hazardous waste storage.
- Utility area will be 60 Sq.mt.
- Manufacturing facility will be G+2 facility.
- **Goods Carrier Movement**

Unit has proposed 5 m & 6 m wide road and two gates for easily Goods Carrier Movement.

BUILDING AREA STATEMENT						
NO.	BLDG. NAME	G.F.	F.F.	S.F.	TOTAL AREA	TOTAL
1	GREEN BELT-1	129.00			129.00	11.1
2	SECURITY CABIN	12.00	12.0		24.00	2.1
3	O.H.C.	15.00	15.0		30.00	2.6
4	U.G.WATER TANK	22.95			22.95	2.0
5	PLANT BLDG.	100.00	100.0	100.0	300.00	26.1
6	R.M.STORAGE BLDG.	50.00	50.0		100.00	8.8
7	F.G.STORAGE BLDG.	20.00			20.00	1.7
8	SOLVENT STORAGE AREA	40.00			40.00	3.5
9	E.T.P.& HAZARDOUS WASTE STORAGE AREA	70.00			70.00	6.1
10	UTILITY BLDG.	60.00			60.00	5.3
11	ROAD AREA	336.05			336.05	29.1
	TOTAL	855.00	177.0	100.0	1132.00	100.0

Comments:

- 1) ...
- 2)

B-3

Green belt area

	Total (Sq. meter)
Area in Sq. meter	129 Sq.m Within Premises + 154 Sq.m Outside Premises.
% of total area	15.09% Within Premises + 18% Outside Premises.

Comments:

- 1) ...
- 2)

C

Employment generation

Total

	15																																									
D	WATER																																									
D-1	Source of Water Supply																																									
	➤ GIDC Ankleshwar																																									
	<u>Comments:</u>																																									
	1) ...																																									
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D-2	Water consumption (KLD)																																									
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		Total Industrial waste water	12.2	Total 8.7 KLD treated in ETP-2 followed by MEE. Total 1 KLD treated in ETP-1 and send to ETL. Total 2.5 KLD recycle.															
		Total [A + B]	13.5	Total 10 KLD treated in ETP-2 followed by MEE. Total 1 KLD treated in ETP-1 and send to ETL. Total 2.5 KLD recycle.															
	<p>-</p> <p><u>Comments:</u></p> <p>1) ...</p> <p>2)</p>																		
D-4	Break-up of waste water disposal & facility (For Domestic)																		
	<p>1.3 KLD Domestic Waste Water will be treated in ETP.</p> <p><u>Comments:</u></p> <p>1) ...</p> <p>2)</p>																		
D-5	Break-up of waste water disposal & facility (For Industrial)																		
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Sr. no.	Quantity KLD	Facility																	
1	1	To ETL																	
2	8.7	In-house ETP + MEE																	
3	2.5	Internal Reuse																	
Total	12.5																		
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	Type of emissions i.e. Air Pollutants	Air Pollution Control Measures (APCM)
1.	Steam Boiler (2 TPH)	20	Natural Gas	3200 Nm ³ /Day	PM SO ₂ NO _x	Adequate Stack Height
2.	Hot Air Generator (Cap. 2 Lakh K.Cal/Hr)		Natural Gas	500 Nm ³ /Day		
3.	TFH (Cap. 2 Lakh K.Cal/Hr)		Natural Gas	500 Nm ³ /Day		
4.	DG Set (200 KVA)	12	Diesel	40 Lit/ Hr.	PM SO ₂ NO _x	Acoustic Enclosure

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	Reaction Vessels	HCl, HBr SO ₂	20	2 Stage Alkali Scrubber
2	Reaction Vessels	NH ₃	20	2 Stage Acid Scrubber

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

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

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

Comments for E2, E3 & E4:

- 1) ...
- 2)

F Hazardous waste

F-1 Hazardous waste management matrix

-

Sr. no.	Name of Hazardous waste	Source of generation	Category	Quantity MT/ Annum	Management of HW
1.	ETP Waste	From ETP plant	35.3	180	Collection, Storage, Transportation, Disposal at TSDF site.
2.	MEE Salt	From MEE Plant	35.3	75	Collection, Storage, Transportation, Disposal at TSDF site.

3.	Used Oil	From Lubrication	5.1	1	Collection, Storage & Reused within the premises.
4.	Discarded Drums/Empty Barrels/ Containers / Bag/Liners	Packing of raw materials.	33.1	20	Collection, storage, decontamination & disposal by selling to GPCB authorized recycler
5.	Spent Carbon / Hyflo	From Production, Solvent Recovery and ETP Plant.	28.3	50	Collection, Storage, Transportation & send to Co-processing.
6.	Distillation Residue	From Solvent Recovery Unit	28.1	30	Collection, storage, Transportation & Send to Co-processing unit.
7.	Recoverable Solvent	From Distillation unit	28.6	1200	Collection, Storage and reused within process.
8.	Spent Catalyst	From Manufacturing Process	28.2	10	Collection, Storage, and sell to regenerator unit.
9.	Stripped Solvent	From Stripper	28.6	75	Collection, storage, transportation, and send for common Co-processing.
10.	Date expired Product/ Off-specification Product	From Manufacturing activity	28.5	12	Collection, storage, transportation, and send for common Co-processing.
11.	Scrubber Solution – Ammonium Sulphate Solution	From Scrubber	B15	73	Collection, storage, and send to ETP.
12.	Scrubber Solution –Sodium Chloride Solution/ SBS solution / Sodium Bromide solution	From Scrubber	B15	475	Collection, storage and send into ETP.

Comments:

- 1) ...
- 2) ...

F-2

Non- Hazardous waste management matrix

1. Glass Waste generation will be 0.5MTPA
2. Paper Waste generation will be 1 MTPA

Comments:

- 1) ...
- 2)

G								
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 The Product	Name of the Raw Material	Total Solvent MT/Month	Recover Solvent MT/Month	Percentage Recovery	% loss in Air	% loss in Water	% loss in Hazardous waste
1.	Valsartan	Methanol	14.65	14.06	96	0.004	1.996	2
		Acetone	5.60	5.38	96	0.003	1.997	2
		Toluene	5.60	5.43	97	0.002	0.998	2
		Isopropanol (IPA)	6.00	5.70	96	0.002	1.998	1
		Ethyl acetate	5.60	5.38	96	0.002	1.998	2
2.	Oxcarbazepine	Acetic Acid	32.51	31.21	96	0.001	1.999	2
		Methanol	15.66	15.19	97	0.003	0.997	2
		Dimethyl formamide	6.77	6.50	96	0.002	2.998	1
		Toluene	12.92	12.53	97	0.001	0.999	2
3.	Atorvastatin	Methanol	34.91	33.16	95	0.004	1.996	3
		Methylene Chloride	10.02	9.72	97	0.002	0.998	2
		Cyclohexane	18.28	17.37	95	0.002	1.998	3
		Methyl Tert Butyl Ether	19.54	18.95	97	0.001	0.999	2
4.	Gabapentine	Methylene Dichloride (MDC)	121.21	115.15	95	0.002	1.998	3
		Ethyl Acetate	121.21	116.36	96	0.002	0.998	3
5.	Telmisartan	Tetrahydrofuran	11.82	11.47	97	0.003	0.997	2
		Toluene	5.92	5.62	95	0.018	1.982	3
		MDC	12.19	11.70	96	0.002	0.998	3
		Ethyl acetate	17.52	16.99	97	0.003	1.997	1
		Methanol	22.89	21.75	95	0.00	1.99	3

						1	9	
		n-butanol	4.44	4.31	97	0.00 4	0.99 6	2
6.	Torseamide	EDC (Ethylene dichloride)	116.67	113.17	97	0.00 3	1.99 7	1
		Toluene	66.67	63.34	95	0.00 2	1.99 8	3
		Methylene Dichloride	86.67	84.07	97	0.00 2	0.99 8	2
7.	Nateglinide	Toluene	34.48	33.10	96	0.00 2	1.99 8	2
		Ethyl acetate	2.76	2.68	97	0.00 1	0.99 9	2
		cyclohexane	41.38	39.31	95	0.00 3	1.99 7	3
8.	Luliconazole	Methylene Dichloride	39.39	38.21	97	0.00 2	0.99 8	2
		Acetone	60.61	57.58	95	0.00 1	1.99 9	3
		DMF	18.18	17.45	96	0.00 4	1.99 6	2
9.	Hydroxychloroquine Sulfate	Ethyl Acetate	11.03	10.59	96	0.00 2	0.99 8	3
		Acetic Acid	1.01	0.98	97	0.00 2	1.99 8	1
		Isopropyl alcohol	19.31	18.34	95	0.00 1	1.99 9	3
10.	CH Base	Butanol	37.50	36.19	96.	0.00 2	0.99 8	3
		Methanol	26.25	25.41	96	0.00 2	1.99 8	2

G-2 | **LDAR proposed:**

- To prevent losses of these solvents in atmosphere, following infrastructure shall be used in addition to LDAR program
- Company will be installed double mechanical seal and MSW Gaskets in solvent pipelines to prevent leakage from flanges
- All the rotating equipment like pumps will be installed with double Mechanical Seals to arrest any sort of emissions.
- Flanges will be sealed so less losses will be there.
- Closed loop system.
- Immediate Repair of devices in case of Leakages
- A regular preventive maintenance schedule will be in place to replace or rectify all

gaskets and joints etc to ensure no fugitive emissions shall take place.

- Plant shall also maintain adequate number of spares and consumables required to repair the leaking device
- Plant shall also have competent contractor team to handle Leakages and can repair the same immediately
- Standby equipment like Pumps, valves etc shall be kept basis the criticality and usage
- Plant shall also have access equipment like Boom lift to handle leakages at height immediately
- Monitoring of Solvent Losses
- In warding, storage and consumption of solvents in various products shall be measured through Level Transmitters and Load cells weighing systems resp. The quantity at each stage shall be reconciled periodically to arrive at Losses
- Periodic monitoring of work area will be carried out to check the fugitive emission.

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

Measures for achieving maximum solvent recovery and minimize VOC generation:

- Unit will provide proper solvent recovery system with scrubber and carbon to stop air emission.
- Due to Manufacturing process and solvent handling chances of VOC emissions. Entire process and material charging has been carried out in closed loop. Regular work place monitoring will be done. SOP will be followed to handle powder and liquid raw materials

Comments:

- 1) ...
- 2)

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
No. Unit will store all solvents in drums.				

-

Storage of Hazardous chemicals in Tanks

- Not Applicable

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

- MOC of drum will be as per compatibility of chemical and drum materials. Unit will

provide flame proof electrical fitting as and firefighting measures to eliminate fire as well as other hazard. Spillage kit will be available at require area.

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
TOXIC 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 after EC grant.

Comments:

- 1) ...
- 2)

H-2

Types of hazardous Processes involved and its safety measures:

Type of Process	Safety measures including Automation
Chlorination via Thionyl Chloride	Level gauge will be provided. Scrubber will be provided Required PPEs will be provided to all employees Full body protection will be provided to operator. Caution note and emergency first aid will be displayed and train for the same to all employees. Safety shower and eye wash will be provided in storage area and plant area. Dyke wall will be provided to storage area.
Bromination	Preventative / Mitigation Measures: Storage & Handling: Protect against physical damage. Store in cool dry area, out of direct sunlight. Separate from combustible, organic or other readily oxidizable materials. Keep above 20F to prevent freezing but avoid heating above atmospheric temperatures as vapor pressure increase could rupture container. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquid); observe all warnings and

precautions listed for the product.
 Fire fighting: Use any means suitable for extinguishing surrounding fire. Water spray may be used to keep fire exposed containers cool. Following Personal Protective Equipment are to be made compulsory when handling Bromine approved chemical safety goggles at all times when handling Br₂.
 Use a full face shield over eyewear. Full body protection PVC suite Eyewash fountains should be located in areas where bromine is handled, used or stored. When in danger of contact with liquid bromine, wear an approved chemical resistant suit. Leather or other non-woven ANSI approved steel-toed shoes or Gum boot Protective rubber boots should be worn over shoes for extra protection. Have NIOSH approved respirators and self-contained breathing apparatus available. Gloves: 100% Nitrile rubber gloves or Neoprene gloves
Safety Practices in the Work Area
 We will inform our all employees of the potential hazards of contact with bromine and train them in appropriate first-aid procedures. Bromine handling areas will be clearly marked and restricted to qualified, trained personnel only. 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.

H-3 Details of Fire Load Calculation

Total Plot Area:	855 Sq.m
Area utilized for plant activity:	100 Sq. m
Area utilized for Hazardous Chemicals Storage:	90 Sq. m
Number of Floors:	G+2
Water requirement for firefighting in KLD:	3.0 KL
Water storage tank provided for firefighting in KLD:	100 KL
Details of Hydrant Pumps:	Trailer Pump, Jockey Pump
Nearest Fire Station :	3 KM APMC
Applicability of Off Site Emergency Plan:	N.A

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:	30 Nos.
Number of Contractual person/Labour:	10 Nos.
Area provided for OHC:	15 Sq. Mt
Number of First Aid Boxes:	2 Nos.
Nearest General Hospital:	Jayaben Modi hospital – 3 KM
Name of Antidotes to be store in plant:	---

Comments

- 1) ...
- 2)

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

12. Deliberation of the Committee:

- ✓ Looking to proposal of Greenfield project and presented that unit surrender existing CCA. Unit have obtained one closer notice vide outward no. 470484 dated 29/09/2018. Unit has submitted the reply 07/05/2021. Unit have obtained revocation order vide outward no. 603504 Dated. 14/10/2021 for existing plant.
- ✓ As unit is having existing plant CCA and also obtained closure order and its revocation order and still applies as Greenfield project under B2 category project. Looking to unit is having GPCB ID for existing plant and also having existing plant infrastructure, Committee insisted for submission of revised proposal as expansion project along with subsequent changes in form-1, PFR, EMP and water, air and Hazardous waste details.
- ✓ Product profile with its end use discussed in depth.
- ✓ Site Plan/ layout with fire plan & floor plans and provision of separate entry & exits, 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, greenbelt within premises etc. Looking to layout plan showing is for proposed API plant while already existing plant is running and having CCA of GPCB, Hence Committee insisted for clarification regarding proposed layout plan is for existing infrastructure for which unit is having valid CCA or totally new proposed plant for API products and also submit actual layout plan for which having CCA of GPCB and mentioned in it proposed API plant and its EMS as well as storage details.
- ✓ Source of water will be GIDC.
- ✓ Domestic Waste water will be treated in ETP.
- ✓ Total effluent will be segregated and then high COD stream will be treated in ETP followed by

solvent stripper and then evaporated in MEE and low COD stream from washing will be sent to CETP of M/s. ETL. Looking to proposal of surrender existing CCA but still unit proposed effluent as per existing CCA will be sent to CETP of ETL, Committee asked for permission of existing effluent discharge after surrender of existing plant CCA from GPCB as it seems technically inadequate. Technical expert of PP later on submitted request letter for continue of existing discharge after existing plant CCA surrender, through e-mail. Committee asked for clarify regarding it along with compliance of CPCB Direction under section 18(1)(B) to CETP with respect to proposal of API plant considering quality and quantity of each existing as well as proposed products considering worst case scenario.

- ✓ 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. 129 sq. meter within premises and 154 sq. meter outside premises in GIDC.
- Also Committee asked for submission of GPCB permission letter regarding continue of effluent discharge for proposed API plant eventhough proposal of existing plant CCA for non EC product surrender by PP.
- 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 consider the project in one of upcoming meeting only after submission of following documents,

- A. Submission of revised proposal as expansion project along with subsequent changes in form-1, PFR, EMP, layout plan and water, air and Hazardous waste details.
- B. Clarification regarding proposed layout plan is for existing infrastructure for which unit is having valid CCA or totally new proposed plant for API products and also submit actual layout plan for which unit is having CCA of GPCB and mentioned in it proposed API plant and its EMS as well as storage details.
- C. Compliance of CPCB Direction under section 18(1)(B) to CETP with respect to proposal of API plant considering quality and quantity of each existing as well as proposed products and its worst case scenario for proposal of effluent disposal to CETP.

D. Submission of GPCB permission letter regarding continue of effluent discharge for proposed API plant eventhough proposal of existing plant CCA for non EC product surrender by PP.

3.	SIA/GJ/IND2/176760/2020	M/s. Axis pharmachem Plot No. – C1B/3906, C1/3916, GIDC Ankleshwar, Tal: Ankleshwar, Dist: Bharuch	EC
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- During SEAC VC meeting on dated 16.02.2022, Project Proponent and their technical expert remain absent. PP has submitted letter via Email stating that they would remain absent during meeting.
- **Hence, Committee decided to defer this proposal and consider this in one of the upcoming SEAC meeting.**

4.	SIA/GJ/IND2/182595/2020	M/S. Satyam Chemical Plot No.D-2/CH/109,GIDC Dahej, Ta- vagra Dist.Bharuch.	EC
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- Project proponent (PP) has e-mail, requesting for withdrawal of Environmental Clearance application vide e-mail.
- Proposal was considered in the SEAC meeting dated 16.02.2022.
- During SEAC meeting dated **16.02.2022**, Committee noted that PP stated reason for withdraw the Environmental Clearance application for the proposed project.
- PP has submitted letter via E-mail stating that they intent to withdraw application due to dropped the idea of their project.

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

5.	SIA/GJ/IND2/198873/2021	M/s. M S Industries Plot No. 5002/1, GIDC Industrial Estate, Ankleshwar, Dist- Bharuch	EC-Reconsideration
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Category of the unit: **5(f)**

Project status: New

- Project proponent (PP) submitted online application vide no. SIA/GJ/IND2/198873/2021 on dated 18.02.2021 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.

S.N	Name of product	CAS No.	Quantity MT/month	End Use
Group-1 - API				
1.	Repaglinide	135062-02-1	25	Anti Diabetic
2.	Saxagliptin	361442-04-8		Anti Diabetic
3.	Sitagliptin	486460-32-6		Anti Diabetic
4.	Vildagliptin	274901-16-5		Anti Diabetic
5.	Canagliflozin	842133-18-0		Anti Diabetic
6.	Metformin	657-24-9		Anti Diabetic
7.	Glipizide	29094-61-9		Anti Diabetic
8.	Glibenclamide	10238-21-8		Anti Diabetic
9.	Cetirizine	83881-51-0		Anti Histamine
10.	Levocetirizine	130018-77-8		Anti Histamine
11.	Meclizine	569-65-3		Anti Histamine
12.	Fexofenadine	83799-24-0		Anti Histamine
13.	Losartan	114798-26-4		Anti Hypertensive
14.	Valsartan	137862-53-4		Anti Hypertensive
15.	Irbesartan	138402-11-6		Anti Hypertensive
16.	Eprosartan	133040-01-4		Anti Hypertensive
17.	Telmisartan	144701-48-4		Anti Hypertensive
18.	Bosentan	147536-97-8		Anti Hypertensive
19.	Carvedilol	72956-09-3		Anti Hypertensive
20.	Rabeprazole	117976-89-3		Anti Ulcerative
21.	Rabeprazole Sodium	117976-90-6		Anti Ulcerative
22.	Pantoprazole	102625-70-7		Anti Ulcerative
23.	Pantoprazole Sodium	138786-67-1		Anti Ulcerative
24.	Pantoprazole Chloro	72830-09-2		Anti Ulcerative
25.	Lansoprazole	103577-45-3		Anti Ulcerative
26.	Esomeprazole Magnesium	217087-09-7		Anti Ulcerative
27.	Esomeprazole Sodium	161796-78-7		Anti Ulcerative

28.	Dexlansoprazole	138530-94-6		Anti Ulcerative
29.	Omeprazole	73590-58-6		Anti Ulcerative
30.	Pregabalin	148553-50-8		Anti Convulsant
31.	Ranolazine	95635-55-5		Anti Anginal
32.	Febendazole	43210-67-9		Antehelmentic
33.	Albendazole	54965-21-8		Antehelmentic
34.	Mebendazole	31431-39-7		Antehelmentic
35.	Fenofibrate	49562-28-9		Antilipemic
36.	1,3-dibromo-5,5-dimethyl hydantoin	77-48-5		Antiseptic
37.	Omeprazole Chloro	86604-75-3		Anti Ulcerative
38.	Rabeprazole Chloro	168167-42-8	Anti Ulcerative	
Group-2 – Intermediates				
39.	Meta Bromo Nitro Benzene	585-79-5	35	API of Tramadol
40.	Meta Bromo Anisole	2398-37-0		API of Tramadol
41.	N Propyl Bromide	106-94-5		API of Albendazole
42.	Iso Propyl Bromide	75-26-3		API of Cyclopentolate
43.	N Butyl Bromide	109-65-9		API of Tetracaine
44.	Iso Butyl Bromide	78-77-3		API of Sibutramine
45.	n pentyl bromide	110-53-2		API of Neticonazole
46.	N Bromo Succinimide	128-08-5		API of Telmisartan
47.	n Chloro Succinimide	128-09-6		API of Beclomethasone Dipropionate
48.	4-methyl-2-cyanobiphenyl	114772-53-1		API of Irbersartan
49.	4-bromomethyl-2-cyanobiphenyl	114772-54-2		API of Losartan
50.	1 4 dibromobutane	110-52-1		API of Butorphanol
51.	2 propyl pentanoic acid	99-66-1		API of Divalproex Sodium
52.	4 amino 1 2 4 triazole	584-13-4		API of Fluconazole
53.	3 amino 1 adamantanol	702-82-9		API of Vildagliptin
54.	l prolinamide	7531-52-4		API of Vildagliptin
55.	Trimethyl Silyl Bromide	2857-97-8		API of Adefovir
56.	Cis Bromo Benzoate	61397-56-6		API of Ketoconazole
57.	5 Bromo Valeryl Chloride	4509-90-4	API of Apixaban	
58.	Trifluoromethanesulphonic Anhydride	358-23-6	API of Etoricoxib	

59.	4 Chloro 3 Nitro Benzophenone	56107-02-9		API of Mebendazole
60.	4 Amino 3 Nitro Benzophenone	31431-19-3		API of Mebendazole
61.	4 Chloro Methyl Benzoic Acid	1642-81-5		API of Tranexamic Acid
62.	o chloro benzoyl chloride	609-65-4		API of Clotiazepam
63.	p chloro benzoyl chloride	122-01-0		API of Acemetacin
64.	m chloro benzoyl chloride	618-46-2		API of Rupatadine
65.	Chloromethyl isopropyl carbonate	35180-01-9		API of Tenofovir Disoproxil Fumarate
66.	Trimethyl Silyl Chloride	75-77-4		API of Canagliflozin
67.	Trimethyl Silyl Trifluoro Methane Sulfonate	10090-05-8		API of Rofecoxib
68.	Tri fluoro acetic anhydride	407-25-0		API of Saxagliptin
69.	Trifluoromethanesulphonic Acid	1493-13-6	API of Remdesivir	
70.	Trimethyl Silyl Azide	4648-54-8	API of Oseltamivir	
TOTAL (GROUP-1+GROUP-2)			60.0	
R&D			0.1	

Brief Note of Product Profile:

- No of Manufacturing Plants:2 no.s
- Brief Note regarding number of Products to be manufactured considering plant capacity:
 - 2 number of products can be manufactured at a time

Specific End-use of each proposed products:

S. N	Name of product	CAS No.	Type/ Category of Product (API/ Intermediate)	In Case of Intermediate Stage of API			Said API is used for/End Use of said API
				Stage of Intermediate n-1, n-2, etc.	Name of API in which Intermediate Used/ End use of said Intermediate	CAS No. (API)	
1	Repaglinide	135062-02-1	API	-	-	-	Anti Diabetic

2	Saxagliptin	361442-04-8	API	-	-	-	Anti Diabetic
3	Sitagliptin	486460-32-6	API	-	-	-	Anti Diabetic
4	Vildagliptin	274901-16-5	API	-	-	-	Anti Diabetic
5	Canagliflozin	842133-18-0	API	-	-	-	Anti Diabetic
6	Metformin	657-24-9	API	-	-	-	Anti Diabetic
7	Glipizide	29094-61-9	API	-	-	-	Anti Diabetic
8	Glibenclamide	10238-21-8	API	-	-	-	Anti Diabetic
9	Cetirizine	83881-51-0	API	-	-	-	Anti Histamine
10	Levocetirizine	130018-77-8	API	-	-	-	Anti Histamine
11	Meclizine	569-65-3	API	-	-	-	Anti Histamine
12	Fexofenadine	83799-24-0	API	-	-	-	Anti Histamine
13	Losartan	114798-26-4	API	-	-	-	Anti Hypertensive
14	Valsartan	137862-53-4	API	-	-	-	Anti Hypertensive
15	Irbesartan	138402-11-6	API	-	-	-	Anti Hypertensive
16	Eprosartan	133040-01-4	API	-	-	-	Anti Hypertensive
17	Telmisartan	144701-48-4	API	-	-	-	Anti Hypertensive
18	Bosentan	147536-97-8	API	-	-	-	Anti Hypertensive
19	Carvedilol	72956-09-3	API	-	-	-	Anti Hypertensive
20	Rabeprazole	117976-89-3	API	-	-	-	Anti Ulcerative
21	Rabeprazole Sodium	117976-90-6	API	-	-	-	Anti Ulcerative
22	Pantoprazole	102625-70-7	API	-	-	-	Anti Ulcerative

23	Pantoprazole Sodium	138786-67-1	API	-	-	-	Anti Ulcerative
24	Pantoprazole Chloro	72830-09-2	API	-	-	-	Anti Ulcerative
25	Lansoprazole	103577-45-3	API	-	-	-	Anti Ulcerative
26	Esomeprazole Magnesium	217087-09-7	API	-	-	-	Anti Ulcerative
27	Esomeprazole Sodium	161796-78-7	API	-	-	-	Anti Ulcerative
28	Dexlansoprazole	138530-94-6	API	-	-	-	Anti Ulcerative
29	Omeprazole	73590-58-6	API	-	-	-	Anti Ulcerative
30	Pregabalin	148553-50-8	API	-	-	-	Anti Convulsant
31	Ranolazine	95635-55-5	API	-	-	-	Anti Anginal
32	Febendazole	43210-67-9	API	-	-	-	Antehelmentic
33	Albendazole	54965-21-8	API	-	-	-	Antehelmentic
34	Mebendazole	31431-39-7	API	-	-	-	Antehelmentic
35	Fenofibrate	49562-28-9	API	-	-	-	Antilipemic
36	1,3-dibromo-5,5-dimethyl hydantoin	77-48-5	API	-	-	-	Antiseptic
37	Omeprazole Chloro-	86604-75-3	API	-	-	-	Anti Ulcerative
38	Rabeprazole Chloro	168167-42-8	API	-	-	-	Anti Ulcerative
39	Meta Bromo Nitro Benzene	585-79-5	Intermediate	n-4	Tramadol	27203-92-5	Analgesics
40	Meta Bromo Anisole	2398-37-0	Intermediate	n-3	Tramadol	27203-92-5	Analgesics
41	N Propyl Bromide	106-94-5	Intermediate	n-1	Albendazole	54965-21-8	Anthelmintic
42	Iso Propyl Bromide	75-26-3	Intermediate	n-1	Cyclopentolate	512-15-2	Mydriatics
43	N Butyl Bromide	109-65-9	Intermediate	n-2	Tetracaine	94-24-6	Anesthetics

			diate				
44	Iso Butyl Bromide	78-77-3	Intermediate	n-2	Sibutramine	106650-56-0	To treat obesity
45	n pentyl bromide	110-53-2	Intermediate	n-1	Neticonazole	130773-02-3	Antifungal
46	N Bromo Succinimide	128-08-5	Intermediate	n-3	Telmisartan	144701-48-4	To treat high blood pressure
47	n Chloro Succinimide	128-09-6	Intermediate	n-2	Beclomethasone Dipropionate	5534-09-8	To treat a variety of skin conditions
48	4-methyl-2-cyanobiphenyl	114772-53-1	Intermediate	n-3	Irbersartan	138402-11-6	To treat high blood pressure
49	4-bromo methyl-2-cyanobiphenyl	114772-54-2	Intermediate	n-3	Losartan	114798-26-4	To treat high blood pressure
50	1,4- dibromo butane	110-52-1	Intermediate	n-3	Butorphanol	42408-82-2	To treat moderate to severe pain
51	2 propyl pentanoic acid	99-66-1	Intermediate	n-1	Divalproex Sodium	76584-70-8	Anticonvulsant
52	4 amino 1 2 4 triazole	584-13-4	Intermediate	n-4	Fluconazole	86386-73-4	Antifungal
53	3 amino 1 adamantanol	702-82-9	Intermediate	n-2	Vildagliptin	274901-16-5	Antidiabetic
54	L prolinamide	7531-52-4	Intermediate	n-4	Vildagliptin	274901-16-5	Antidiabetic
55	Trimethyl Silyl Bromide	2857-97-8	Intermediate	n-3	Adefovir	142340-99-6	To treat a chronic viral infection of the liver
56	Cis Bromo Benzoate	61397-56-6	Intermediate	n-4	Ketoconazole	65277-42-1	Antifungal
57	5 Bromo Valeryl	4509-90-4	Intermediate	n-4	Apixaban	503612-47-3	Anticoagulant

	Chloride		diate				
58	Trifluoromethane sulphonic Anhydride	358-23-6	Intermediate	n-3	Etoricoxib	202409-33-4	Anti-inflammatory
59	4 Chloro 3 Nitro Benzophenone	56107-02-9	Intermediate	n-2	Mebendazole	31431-39-7	Anthelmintic
60	4 Amino 3 Nitro Benzophenone	31431-19-3	Intermediate	n-2	Mebendazole	31431-39-7	Anthelmintic
61	4 Chloro Methyl Benzoic Acid	1642-81-5	Intermediate	n-2	Tranexamic Acid	1197-18-8	Antifibrinolytics
62	o chloro benzoyl chloride	609-65-4	Intermediate	n-2	Clotiazepam	33671-46-4	Anxiolytic
63	p chloro benzoyl chloride	122-01-0	Intermediate	n-1	Acemetacin	53164-05-9	Antiinflammatory
64	m chloro benzoyl chloride	618-46-2	Intermediate	n-1	Rupatadine	158876-82-5	Allergic rhinitis
65	Chloromethyl isopropyl carbonate	35180-01-9	Intermediate	n-1	Tenofovir Disoproxil Fumarate	202138-50-9	To treat HIV infections
66	Trimethyl Silyl Chloride	75-77-4	Intermediate	n-3	Canagliflozin	842133-18-0	Antidiabetic
67	Trimethyl Silyl Trifluoro Methane Sulfonate	10090-05-8	Intermediate	n-3	Rofecoxib	162011-90-7	Anti-inflammatory
68	Tri fluoro acetic anhydride	407-25-0	Intermediate	n-1	Saxagliptin	361442-04-8	Antidiabetic
69	Trifluoromethane sulphonic Acid	1493-13-6	Intermediate	n-3	Remdesivir	1809249-37-3	Antiviral
70	Trimethyl Silyl Azide	4648-54-8	Intermediate	n-2	Oseltamivir	196618-13-0	Antiviral

- 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 03.06.2021.
- During the meeting dated 03.06.2021, 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 Ecogreen Enviro Services remain present during video conference meeting.
- This is Greenfield project proposed for manufacturing of synthetic organic chemicals [**API & its Intermediate**] at GIDC Ankleshwar. Total plot area is 1740.30 Sq. m.
- PP presented GIDC Plot Transfer letter from M/s Khawaja Texturising to Ms/ M S Industries dated: 15.05.2008 mentioning purpose of industry as twisting and texturizing.
- Committee deliberated that the purpose of industry in GIDC Plot transfer letter is twisting and texturizing and proposed for API & Its Intermediates which is not acceptable.
- **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 GIDC Plot Transfer letter mentioning purpose of industry as Pharmaceuticals.**
- PP submitted above details along with document for proposed API project.
- Again this case was reconsidered in SEAC Meeting dated **16.02.2022**.
- Project proponent (PP) and their Technical Expert from M/s Ecogreen Enviro Services remain present during video conference meeting.
- 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:
 - ✓ PP submitted request letter to GIDC on dated 25.10.2021 regarding GIDC plot allotment letter with mentioning its purpose for chemical manufacturing in place of texturising unit and is under process at GIDC as mentioned by PP.
 - ✓ Product profile with its end use discussed in depth. At a time 1-2 products will be manufactured 2 nos. manufacturing plant 4.0 TPD capacity.
 - ✓ Site Plan/ layout with fire plan & floor plans and provision of separate entry & exits, 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, greenbelt within premises etc.
 - ✓ Source of water will be GIDC.
 - ✓ Domestic Waste water will be treated in ETP.
 - ✓ Total effluent will be will be treated in ETP and then will be send to CMEE of M/s. BEIL.
 - ✓ Natural gas or bio coal/briquette 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 , LDAR and solvent recovery reviewed.
- Also Committee asked for submission of GPCB permission letter regarding continue of effluent discharge for proposed API plant even though proposal of existing plant CCA for non EC product surrender by PP.
- 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.
- 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):																						
	<table border="1"> <tr> <td>Total Project</td> <td></td> </tr> <tr> <td>4.20 Cr.</td> <td></td> </tr> </table>	Total Project		4.20 Cr.																			
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	Break-up of proposed project Cost:																						
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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 Crore)	Operating Cost (Rs. In Crore/ Month)	Maintenance Cost (Rs. In Crore/ Month)	Total Recurring Cost (Rs. In Crore/ Month)																	
1	Waste Water	55 KLD Primary ETP& CMEE Membership	0.4	0.35	0.0087	0.3587																	
2	Air	MCS & Bag Filter: 4	0.56	0.0075	0.0025	0.01																	

		Nos. each & Scrubber: 8 Nos., Stack: 8 Nos.				
3	Hazardous Management	Membership Charges Disposal & Transportation Charges	0.01	0.0807	--	0.0807
4	Fire & Safety	Fire Hydrant & Fire Safety & Fire Tank, PPES & Proximity Suit, DCS & Flame proof electrical fittings, Fire Extinguishers & Foam Type Trolley,	0.555	0.0112	0.0106	0.0218
5	Green Belt Development	170 Trees	0.03	0.006	0.002	0.008
6	Occupational Health	OHS, Training, OHC & Medical Checkup	0.04	0.003	0.001	0.004
7	Noise Control	Acoustic enclosure & Silencer & Vibration pads & Noise PPEs	0.0325	0.009	0.001	0.01
8	CER Funds	2.02 % of project cost	0.085	0.0015	0.0005	0.002
Total			1.7125~1.75			0.4952~0.50
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: ✓ Pond Reclamation / Revitalization along with recharging @village Sengpur pond.						
B	Land / Plot ownership details: GIDC plot allotment letter no.: GIDC/DM(CG)ANK/TRF/PLT/3040, Date:15 th May,2008 Purpose Change of industry application letter no.: CORI2021DB2164, Date: 25/10/2021					
B-1	Plot area					
	Total Plot area					
	1740.3 Sq. m.					

-									
B-2	Area adequacy								
	S. N.	Particular	Qty. in MT/KL & Remark	Area required (Sq. m.)	Area proposed (Sq. m.)	G. floor (Sq. m.)	F. floor (Sq. m.)	S. Floor (Sq. m.)	% GF
	1	F.G.	30 MT 2week inventory	30	50	50	--	--	2.9
	2	R. M.	60 MT 1 week inventory	60	60	30	30	--	1.7
	3	Drum storage area (Flammable chemicals)	20 MT (200 literx 100 Nos.)	50	50	50	--	--	2.9
	4	Drum storage area (Non-Flammable chemicals)	26 MT (200 literx 130 Nos.)	65	65	65	--	--	3.7
	5	Haz. waste storage area	105 MT 90 days inventory	50	53	53	--	--	3.0
	6	ETP	Capacity: 55 KLD	40	45	45	--	--	2.6
	7	Boiler & utility	2 Nos. * 1.5 TPH Boiler +2 Nos. * 2 Lac Kcal/Hr TFH	30	30	30	--	--	1.7
	8	Fuel storage	20 MT	12	13	13	--	--	0.7
	9	Fly ash	4 MT	5	7	7	--	--	0.4
	10	OHC	16.0 sq. m. required	16	16	16	--	--	0.9
	11	Plant Machinery & API	2 MT/day	150	265.5	88.5	88.5	88.5	5.1
	12	Plant &Machinery Intermediates	2 MT/day	150	265.5	88.5	88.5	88.5	5.1
	13	Admin & Lab	--	40	50	--	50	--	--
	14	Chlorine gas storage	0.9 m3 (1 Nos. Tonner)	15	20	20	--	--	1.1
	15	Green Belt @ 33.0 %	33.00% of total plot area	575	575	575	--	--	33.0
	16	Security Cabin - 1	--	6	6	6	--	--	0.3
	17	Security Cabin - 2	--	6	6	6	--	--	0.3
	18	Road Area	6.0 Mt. wide road	580.8	580.8	580.8	--	--	33.4
19	Pathway		16.5	16.5	16.5			0.9	
Total			1897.3	2174.3	1740.3	257	177	100	
<p><u>Hence, proposed area is adequate as per area adequacy</u></p> <p>Comments:</p>									

	<p>SEAC has examined it w.r.t.to total monthly production, maximum products, manufactured per month, the total raw material required, weekly storage requirement of each raw material, their mode of storage, their compatibility (flammability, corrosive, toxic), area needed by each raw material, one week storage of finished goods. Area adequacy, from overall safety perspective, has been provided in proposal and is satisfactory.</p>						
B-3	<p>Green belt area</p> <table border="1"> <tr> <td></td> <td>Total (Sq. meter)</td> </tr> <tr> <td>Area in Sq. meter</td> <td>575.0 (Inside plant premises)</td> </tr> <tr> <td>% of total area</td> <td>33.0%</td> </tr> </table> <p><u>Comments:</u></p> <p>The condition shall be given that -</p> <p>The PP shall develop green belt (490Sq. 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.</p>		Total (Sq. meter)	Area in Sq. meter	575.0 (Inside plant premises)	% of total area	33.0%
	Total (Sq. meter)						
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C	<p>Employment generation</p> <table border="1"> <tr> <td>Total</td> </tr> <tr> <td>30 Nos.</td> </tr> </table> <p>-</p>	Total	30 Nos.				
Total							
30 Nos.							
D	<p>WATER</p>						
D-1	<p>Source of Water Supply</p> <ul style="list-style-type: none"> ➤ GIDC water supply ➤ GIDC letter ref no.: NTA/ANK/DEE(WS)/717, Date: 28/05/2021 <p><u>Comments:</u></p> <p>Prior permission from concerned authority shall be obtained for withdrawal of water.</p>						
D-2	<p>Water consumption (KLD)</p>						
	<p>-</p> <table border="1"> <tr> <td>Category</td> <td>Quantity KLD</td> </tr> <tr> <td>(A) Domestic</td> <td>3.0</td> </tr> </table>	Category	Quantity KLD	(A) Domestic	3.0		
Category	Quantity KLD						
(A) Domestic	3.0						

		<table border="1"> <tr> <td>(B) Gardening</td> <td>2.0</td> </tr> <tr> <td colspan="2">(C) Industrial</td> </tr> <tr> <td>Process</td> <td>28.75</td> </tr> <tr> <td>Washing</td> <td>3.0</td> </tr> <tr> <td>Boiler</td> <td>18.0</td> </tr> <tr> <td>Cooling</td> <td>5.0</td> </tr> <tr> <td>Others (Scrubber)</td> <td>1.08</td> </tr> <tr> <td>Industrial Total</td> <td>55.83</td> </tr> <tr> <td>Grand Total (A+B+C)</td> <td>60.83</td> </tr> </table>	(B) Gardening	2.0	(C) Industrial		Process	28.75	Washing	3.0	Boiler	18.0	Cooling	5.0	Others (Scrubber)	1.08	Industrial Total	55.83	Grand Total (A+B+C)	60.83		
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	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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	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)																					
	2.7 KLD Domestic Waste Water will be treated in inhouse ETP (Primary)& treated wastewater will be send to CMEE for further treatment& final disposal.																					
	<u>Comments:</u>																					
	Domestic wastewater generation shall not exceed 2.70 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	47.52	Send to ETP (primary) + CMEE of M/s. BEIL
2	1.41	Will be reused OR Send to rule-9 end users
Total	48.93	

PP has obtained CMEE NOC Membership certificate from M/s. BEIL vide letter no. BEIL/ANK/2021, dated:01.04.2021

Comments:

Total effluent will be treated in ETP. Treated effluent shall be sent to CMEE of M/s. BEIL; Ankleshwar through GPS fitted tanker for evaporation

- Unit shall provide ETP with adequate capacity.
- 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 :300 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)
5.	Steam Boiler (1.5 TPH)	30.00	Natural Gas Or Bio coal/ Briquettes	1700 SCM/Day Or 3.4 MT/Day	PM SO ₂ NO _x	MCS +Bag Filter+ Scrubber Adequate stack height
6.	Steam Boiler (1.5 TPH)	30.00	Natural Gas Or Bio coal/Briquettes	1700 SCM/Day Or 3.4 MT/Day		MCS + Bag Filter + Scrubber Adequate stack height
7.	Thermic Fluid Heater(2.0 Lakh Kcal/Hr.)	30.00	Natural Gas Or Bio coal/ Briquettes	765 SCM/Day Or 1.5 MT/Day		MCS + Bag Filter + Scrubber Adequate stack height

8.	Thermic Fluid Heater (2.0 Lakh Kcal/Hr.)	30.00	Natural Gas Or Bio coal/ Briquettes	765 SCM/Day Or 1.5 MT/Day	MCS + Bag Filter + Scrubber Adequate stack height
9.	D. G. Set (150 KVA – 02 No.) Stand by	11.0	HSD	300 Lit/Day	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 (Sulphonation) (Mfg.: O-chloro benzoyl chloride)	HCl SO ₂	18	Two Stage Water + Alkali Scrubber	
2	Reaction Vessel (Chlorination) (Mfg.: 4 Chloromethyl Benzoic Acid)	Cl ₂ HCl	18	Two Stage Water + Alkali Scrubber	
3	Reaction Vessel (Bromination) (Mfg.: 1,3-dibromo-5,5-dimethyl hydantoin)	Br ₂ HBr	18	Two Stage Water + Alkali Scrubber	
4	Reaction Vessel (Amination) (Mfg.: Mebendazole)	NH ₃	18	Two Stage Water + Acid Scrubber	
-					
E-4	Fugitive emission details with its mitigation measures.				
<p>To mitigate fugitive emissions, the following steps would be taken:</p> <ul style="list-style-type: none"> ➤ Minimum number of flanges, joints and valves in pipelines ➤ Selection / use of state-of-the art leak proof valves ➤ Provision of mechanical seals in pumps ➤ Proper preventive maintenance of roofs and seals for tanks ➤ Monitoring and preventive maintenance of valves, flanges, joints, etc. ➤ Fugitive emission over reactors, formulation areas, centrifuges, chemical loading, transfer area, shall be collected through hoods and ducts by induced draft and controlled by dust collector. ➤ For particulate / dust emissions from the coal handling system: Water will be sprinkled to control particulate / dust emission from coal storage area. ➤ Solid fuel will be received in closed trucks ➤ Green belt will be developed along the plant premises ➤ De-dusting system will be provided at solid product finishing area. ➤ All transfer points will be fully closed. ➤ Overflow system with return line to storage tank from batch tank will ➤ Be provided to prevent hazardous material overflow. 					
<p><u>Comments for E2, E3 & E4:</u></p> <p>1. The fuel to be used is approved fuel for the requirement of the heat energy and has been</p>					

proposed the Air pollution Control measures so as to achieve the emission norms prescribed by the competent authorities.

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

F 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
1.	Discarded HDPE Drums/ Bags	Raw Material and Storage	33.1/ Sch-I	8.0	Collection, Storage, Transportation, and disposal by send it to authorized Decontamination facility/recyclers or reuse or send back to supplier.
2.	Used / Spent Oil	Equipment & Machinery	5.1/ Sch-I	180 Lit/ Year	Collection, Storage and Disposal by Reuse in plant & Machinery as lubricant or sell it to authorized Re-Refiners/recyclers.
3.	ETP Sludge	ETP	35.3/ Sch-I	80.0	Collection, Storage, Transportation and sent to co-processing or common TSDF site.
4.	Distillation Residue	Distillation (Mfg.: Levocitrizine and l prolinamide)	20.3/ Sch-I	90	Collection, Storage, Transportation and sent for co-processing in cement industries or CHWIF Site.
5.	Spent Carbon	Process (Mfg.: Glipizide, L-Prolinamide)	28.2/ Sch-I	93	Collection, Storage, Transportation and sent for co-processing in cement industries or to CHWIF site.
6.	Spent Catalyst	Process (Mfg.: Febendazole)	28.3/ Sch-I	15	Collection, Storage, Transportation and sent to registered regenerator.

7.	Inorganic Solid Waste	Process (Mfg.: Meclizine, 4-methyl-2-cyanobiphenyl)	28.1/ Sch-I	408	Collection, Storage, Transportation and sent to common TSDF site.
8.	Organic Waste	Process (Mfg.: Losartan, Trifluoromethane sulphonic Anhydride)	28.1/ Sch-I	414	Collection, Storage, Transportation and sent for co-processing in cement industries or CHWIF site.
9.	Hydrochloric Acid (25-30%)	Scrubber	28.1/ Sch-I	465.3	Collection, Storage and Reuse within premises or sell to end user under Rule-9 permission.
10.	Sulphuric Acid (80-85%)	Process (Mfg.: Trifluoro acetic anhydride)	28.1/ Sch-I	1104	Collection, Storage and Reuse within premises or sell to end user under Rule-9 permission.
11.	Liq. Ammonia (20-30%)	Scrubber	28.1/ Sch-I	96	Collection, Storage and Reuse within premises or sell to end user under Rule-9 permission.
12.	Sodium Hypochlorite (25-30%)	Scrubber	28.1/ Sch-I	10	Collection, Storage & sent to ETP for further treatment.
13.	Ammonium Chloride (30-35%)	Scrubber	28.1/ Sch-I	180	Collection, Storage and Reuse within premises or sell to end user under Rule-9 permission.
14.	Sodium Bisulfite (25-30%)	Scrubber	28.1/ Sch-I	178	
15.	Hydrogen Bromide (30-35%)	Scrubber	28.1/ Sch-I	129	
16.	Sodium Bromide (30-35%)	Scrubber	28.1/ Sch-I	302	
17.	Potassium Bromide	Process (Mfg.: Telmisartan)	28.1/ Sch-I	123	
18.	Aluminum Chloride	Process (Mfg.: Mebendazole, 4 Chloro 3 Nitro Benzophenone)	28.1/ Sch-I	261	
19.	Phosphoric Acid	Process (Mfg.: Trifluoro methane sulphonic Anhydride)	28.1/ Sch-I	176	
20.	Hydrofluoric Acid (30-32%)	Process (Mfg.: Trifluoro methane sulphonic Acid)	28.1/ Sch-I	315	

21.	Spent Solvent	Process (Mfg.: Albendazole & 4-Methyl-2-Cyanobiphenyl)	28.6/ Sch-I	5400	Collection, Storage, in-house Distillation and Reuse within plant premises or sold to end users under Rule-9 permission.	
22.	Off Specification Products	Process	28.4/ Sch-I	1.0	Collection, Storage, Transportation and sent for co-processing in cement industries or CHWIF site.	
<p>Comments:</p> <ol style="list-style-type: none"> Waste management includes hazardous waste management and other solid waste management. Hazardous waste-management comprises of collection, storage, transportation, disposal, incineration, and recycle of waste. SEAC examined the details provided and found it as per requirement. The project proponent has to obtain membership of TSDF site & CHWIF before obtaining CTO of GPCB. 						
F-2	Non- Hazardous waste management matrix					
<ol style="list-style-type: none"> Fly Ash generation will be 180.0 MTPA STP sludge generation will be 0.0 MTPA <p>Comments:</p> <ol style="list-style-type: none"> 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.					
Sr. No.	Product Name	Solvent	Qty. Used MT/MT	Qty. Recovered MT/MT	Total Losses (A + B+ C)	Solvent Recovery %
1	Repaglinide	Toluene	2.2	2.09	0.1100	95
		Ethanol	1	0.96	0.0400	96
2	Saxagliptin	Tetrahydrofuran (THF)	1.4	1.34	0.0560	96
		Methylene dichloride	1.5	1.46	0.0450	97
		Triethylamine	0.9	0.86	0.0360	96
		n-Heptane	0.3	0.29	0.0150	95
		Methanol	0.7	0.68	0.0210	97
		Ethyl Acetate	1.3	1.25	0.0520	96
		Acetone	0.5	0.49	0.0150	97
3	Sitagliptin	Methanol	1.21	1.17	0.0363	97
		Isopropyl Alcohol	1.55	1.49	0.0619	96
4	Vildagliptin	Methylene Di Chloride	2.5	2.43	0.0750	97

		MTBE	0.52	0.50	0.0156	97
		THF	1.5	1.44	0.0600	96
		Methylethylketone	1	0.96	0.0400	96
		Isopropyl Alcohol	1.2	1.15	0.0480	96
5	Canagliflozin	Toluene	1	0.95	0.0500	95
		Ethyl Acetate	2.4	2.30	0.0960	96
		Heptane	1	0.95	0.0500	95
		Methanol	2.4	2.33	0.0720	97
6	Metformin	Xylene	1.36	1.31	0.0544	96
		Methanol	0.84	0.81	0.0252	97
7	Glipizide	Methanol	4.16	4.04	0.1248	97
		Isopropyl Alcohol	2	1.92	0.0800	96
		DMF	1	0.95	0.0500	95
		Methylene Di Chloride	1.2	1.16	0.0360	97
8	Glibenclamide	Acetone	8.1	7.70	0.4050	95
9	Cetirizine	Methanol	0.84	0.81	0.0252	97
		Toluene	6.94	6.59	0.3470	95
		Methylene Di Chloride	1	0.97	0.0300	97
10	Levocetirizine	Methylene Di Chloride	4.05	3.93	0.1215	97
		Toluene	2.6	2.47	0.1300	95
11	Meclizine	Chloroform	0.8	0.80	0.0333	96
		Toluene	1.5	1.43	0.0750	95
		Isopropyl Alcohol	2.1	1.97	0.0822	96
		Methanol	1.6	1.56	0.0483	97
12	Fexofenadine	Methyl Isobutyl Keton	0.98	0.93	0.0490	95
		Ethyl Acetate	3.45	3.28	0.1725	95
		Methanol	3.94	3.82	0.1182	97
13	Losartan	Xylene	0.8	0.76	0.0400	95
		N-Hexane	1.5	1.44	0.0600	96
		Methylene Di Chloride	1.6	1.55	0.0480	97
		Toluene	0.6	0.57	0.0300	95
		Ethyl Acetate	1.7	1.63	0.0680	96
		Methanol	0.05	0.05	0.0015	97
14	Valsartan	Toluene	0.5	0.48	0.0250	95
		Methylene Di Chloride	1.8	1.75	0.0540	97
		Acetonitrile	0.7	0.67	0.0280	96
		O-Xylene	1	0.95	0.0500	95
		Hexane	0.8	0.77	0.0320	96
		Acetone	0.5	0.49	0.0150	97
		Ethyl Acetate	0.7	0.67	0.0280	96
		Methanol	0.9	0.87	0.0270	97
15	Irbesartan	Acetone	4.64	4.41	0.2320	95
		Methyl t-Butyl Ether	1.88	1.79	0.0940	95
		Toluene	4.33	4.11	0.2165	95
16	Eprosartan	Acetic Acid	0.41	0.39	0.0204	95
		Toluene	3.16	3.00	0.1579	95
		Ethanol	0.97	0.93	0.0389	96
17	Telmisartan	MIBK	0.67	0.63	0.0333	95
		Acetic Acid	0.98	0.93	0.0490	95
		Methanol	2.65	2.57	0.0794	97
18	Carvedilol	Methanol	2.00	1.94	0.0600	97
		Toluene	9.00	8.55	0.4500	95
19	Rabeprazole	Toluene	2.25	2.14	0.1125	95
		Methylene Di Chloride	4	3.88	0.1200	97
		Acetone	1.5	1.37	0.1350	95
20	Rabeprazole Sodium	Isopropyl Alcohol	3	2.79	0.2100	96
21	Pantoprazole	Methylene Di Chloride	4.5	4.37	0.1350	97

		Acetone	3.12	3.00	0.1248	96
22	Pantoprazole Sodium	Acetone	6	5.88	0.1200	98
23	Pantoprazole Chloro	Isopropyl Alcohol	2.66	2.56	0.1066	96
		Methylene Di Chloride	6.66	6.46	0.1997	97
		Acetic Acid	0.43	0.41	0.0216	95
24	Lansoprazole	Methylene Di Chloride	1.29	1.25	0.0387	97
		Hexane	4.896	4.65	0.2448	95
		Methanol	5.313	5.05	0.2657	95
25	Esomeprazole Magnesium	Methylene Di Chloride	2.0	1.94	0.0600	97
		Toluene	4.0	3.80	0.2000	95
		Methanol	3.0	2.91	0.0900	97
		Ethyl Acetate	2.0	1.90	0.1000	95
26	Esomeprazole Sodium	Toluene	3	2.85	0.1500	95
		Methanol	1	0.97	0.0300	97
		Methylene Di Chloride	3	2.91	0.0900	97
		Ethyl Acetate	1.5	1.43	0.0750	95
27	Omeprazole	Acetone	3.09	2.97	0.1236	96
		Methanol	5.43	5.27	0.1629	97
		Methylene Di Chloride	2.47	2.40	0.0742	97
		Toluene	0.49	0.47	0.0247	95
28	Pregabalin	Isopropyl Alcohol	6.25	5.94	0.3125	95
		Ethanol	1	0.95	0.0500	95
		THF	1.5	1.43	0.0750	95
29	Ranolazine	Acetone	10	9.50	0.5000	95
30	Febendazole	Methanol	3.02	2.87	0.1510	95
31	Albendazole	Methanol	5.55	5.38	0.1665	97
		Toluene	3.83	3.64	0.1915	95
		Acetone	2.68	2.49	0.1876	96
32	Mebendazole	Benzene	3.3	3.10	0.1980	96
		Methanol	3.6	3.42	0.1800	95
33	Fenofibrate	Acetone	1.5	1.45	0.0449	97
		Chloroform	3.3	3.19	0.1330	96
		Isopropyl Alcohol	2.0	1.88	0.0785	96
		Toluene	1.4	1.37	0.0719	95
34	1,3-dibromo-5,5-dimethyl hydantoin	Methanol	1.9	1.84	0.0570	97
35	Omeprazole Chloro	Acetic Acid	0.61	0.58	0.0305	95
		Toluene	4.5	4.28	0.2250	95
		Methanol	6.09	5.91	0.1827	97
		Acetone	0.8	0.75	0.0480	96
36	Rabeprazole Chloro	Acetic Acid	0.61	0.58	0.0303	95
		Methylene Di Chloride	3.30	3.20	0.0989	97
		Haxen	2.95	2.83	0.1179	96
		Isopropyl Alcohol	0.84	0.81	0.0336	96
		DMSO	0.42	0.40	0.0211	95
		Acetic Anhydride	1.26	1.20	0.0632	95
		Acetone	1.05	1.02	0.0316	97
		Methoxy Proponal	0.31	0.29	0.0154	95
37	Meta Bromo Nitro Benzene	Methanol	1.5	1.46	0.0450	97
38	Meta Bromo Anisole	Toluene	3.34	3.17	0.1670	95
		Methanol	0.258	0.25	0.0077	97
39	4-Methyl-2-Cyanobiphenyl	THF	0.8	0.78	0.0160	98
		Toluene	3.304	3.24	0.0661	98
40	4-Bromomethyl-2-Cyanobiphenyl	EDC	2.3	2.19	0.1150	95
		Toluene	0.7	0.67	0.0350	95
41	2 propyl pentanoic	Isopropyl Alcohol	0.08	0.08	0.0034	96

	acid					
42	4-amino-1,2,4-triazole	Methanol	2	1.94	0.0600	97
43	3-amino-1-adamantanol	MTBE	0.78	0.76	0.0234	97
		Methylene Di Chloride	3.2	3.10	0.0960	97
44	L-Prolinamide	Methanol	1.05	1.02	0.0315	97
		Toluene	0.77	0.75	0.0231	97
		Methylene Di Chloride	1.5	1.46	0.0450	97
		Ethyl acetate	0.7	0.68	0.0210	97
45	Cis Bromo Benzoate	Toluene	1.5	1.43	0.0750	95
		Methanol	1.33	1.29	0.0400	97
		n-Butanol	0.27	0.25	0.0040	95
46	4 Chloro 3 Nitro Benzophenone	Benzene	2.5	2.40	0.1000	96
47	4 Chloro Methyl Benzoic Acid	EDC	2.35	2.30	0.0470	98
48	Trimethyl Silyl Trifluoro Methane Sulfonate	Triethyl amine	0.24	0.23	0.0072	97

G-2 LDAR proposed:

The Following methodology to be adopted during LDAR study:

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

Following frequency of monitoring of leaks and schedule for repair of leaks shall be followed:

LDAR for specific solvents:

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

10.	Any component after repair / replacement	Within a week	-					
LDAR for specific solvents:								
Sr . No.	Solvent Name	Type of Storage	Mode of Transfer	Charging	Sources of Leakage	Mitigation Measure For find out leakages	Mitigation Measure (If leakages will be occur)	Action taken for prevention of leakages
1	Methanol	Drum	By Pump & Fix Pipe line	Direct Vessel	<ul style="list-style-type: none"> Leak from Valve (failure of the valve packing & O-ring) Leak from pump (Occur at seal) Leak from Drum Leak from Connectors Leak from open ended lines 	<ul style="list-style-type: none"> For using Gas Detect or by PID Sensor technology. 	<ul style="list-style-type: none"> If valve will be leak stop pumping system and replace with new valve. When pump seal will be leak immediately stop solvent transfer and immediately repair or replace with new seal. 	<ul style="list-style-type: none"> Check Thickness of tank Using fix pipeline for solvent transfer Minimum use of Connectors & Joins Provided sufficient Space (Solvent Unloading area) for Solvent Tanker
G-3	VOC emission sources and its mitigation measures							
Measures for achieving maximum solvent recovery and minimize VOC generation:								
<p>Volatile Organic Content Measures:</p> <ul style="list-style-type: none"> ➤ 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's 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.
- Two condensers will install with cooling water and chilled brine to recover the solvent.
- Primary Condenser HE-01: Cooling Tower water or Chilled water at 5 °C 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.
- VOC Trap Condenser HE-02: Chilled Brine at -15 °C will be used to trap any traces of Solvent which is slipped from Secondary condenser.
- Emission of VOCs can be trapped from breathing and loading losses from storage tanks, venting of process vessels, leak from piping and equipment by means of hood connected with blower and send to condenser as shown in following diagram.
Condensed VOCs will be send to spent solvent recovery plant.

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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Sr. no	Name of Chemical	Capacity of Tank	Number of Tanks	Hazardous Characteristics of Chemical
1	All chemicals Storage will be in drums & carboys.			
2				

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Storage of Hazardous chemicals in Tanks

- Chemicals Storage will be in drums & carboys.

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

Sr. no	Name of Chemical	Capacity of Drum/Tonner/Cylinder/Bottle	Number of Drum/Tonner/Cylinder/Bottle	Hazardous Characteristics of Chemical
1	Methanol	200 Lit (Drum)	8	Flammable
2	Toluene		8	Flammable
3	Acetone		5	Flammable
4	Isopropyl Alcohol		5	Flammable
5	Triethyl amine		5	Flammable
6	Methylene Di		5	Flammable

	Chloride			
7	N-Hexane		5	Flammable
8	DMF		5	Flammable
9	Acetic Acid		5	Toxic & Flammable
10	Acetonitrile		5	Flammable
11	EDC		5	Flammable
12	Benzene		5	Toxic & Flammable
13	Ethanol		5	Toxic & Flammable
14	Pet. Ether		5	Toxic & Flammable
15	Ethyl acetate		5	Flammable
16	THF		5	Flammable
17	M.T.B. E		5	Flammable
18	M.E. K		5	Flammable
19	Xylene		5	Flammable
20	Benzoyl Chloride		5	Highly Toxic
21	Formic acid		5	Highly Toxic
22	Liq. Ammonia		15	Highly Toxic
23	Ethylene Glycol		15	Highly Toxic
24	Hydrochloric acid		15	Highly Toxic
25	Sulphuric acid		15	Highly Toxic
26	Sodium hydroxide		15	Highly Toxic
27	Thionyl Chloride		5	Highly corrosive
28	Aluminum Chloride		5	Toxic & Corrosive
29	Sodium Azide		5	Highly Toxic
30	Oleum(65%)		15	Highly toxic
31	Acetic Anhydride		5	Highly Toxic
32	Hydrogen peroxide		5	Highly corrosive & oxidizer
33	Chlorine gas	0.9 m ³ (Tonner)	1	Toxic & Corrosive
34	Hydrogen gas	2.2 kg (Cylinder)	50 (1 bank)	Highly flammable
35	Nitrogen gas (Blanketing)	60 kg (Cylinder)	4	--
36	Bromine	3 Lit (Bottle)	3 lit x 12 = 1 Box 25 Box	Highly corrosive & oxidizer

Safety Measures for Drum Storage:

- Flame proof type electrical equipment's to be installed within the premise
- Adequate no's of fire extinguishers shall be installed
- Safety Data Sheets to be displayed
- Precautionary and awareness board shall be provided near the premises
- Flame arrestor shall be provided
- lightning arrestor area covered up to 30 meters shall be provided
- SOP to be prepared for handling
- Leakage / spillage mitigation plan
- Storage of chemical drums in well ventilated area with provision of adequate illumination
- Keep any ignition source away from storage area
- Use of PPE's as per matrix
- Periodical training awareness program must be conducted 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	<ul style="list-style-type: none"> ➤ Storage will be cool, well ventilated away from sources of ignition or heat. Prevent accumulation of static charge. Protect material from direct sunlight. ➤ Store in original container. Keep containers tightly closed and upright when not in use. ➤ Proper label and identification board /stickers 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. ➤ Ground container and transfer equipment to eliminate static electric sparks. ➤ Smoking and other spark, flame generating item will be banned near storage area. FLP type light fittings will be provided. ➤ Handling of materials from Drum will be done only through Mechanical Transfer System only. ➤ Training will be provided to employees for safe storage, handling and transpiration. ➤ When using, do not eat, smoke or drink. ➤ Fire Hydrant with monitor, fire proximity suits, automatic sprinkler system, Safety shower & eye wash unit will be installed nearby area. ➤ Provision of Respiratory protective equipment (airline respirator & SCBA) & personal protective equipment will be available. ➤ For spills involving small volumes of dilute solution of Xylene/Formaldehyde/Methanol, the following cleaning procedure can be used ➤ Wear appropriate personal protective equipment (PPE) ➤ Remove any ignition source from the spill area; ➤ Clean the spill area with a mixture of water and soap ➤ Dry the spill area with paper towels ➤ Onsite emergency plan prepared and mock drill will be carried out. Safety sign board displaying Do's and Don'ts in local language.
CORROSIVE & CHEMICALS	<ul style="list-style-type: none"> ➤ Preventing or minimizing contact between corrosive substances and skin, mucous membranes and eyes. ➤ Corrosive substances will 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 will be protected by suitable coatings, impervious to and unaffected by corrosives. ➤ All containers or receptacles will be clearly labelled to indicate their contents and will bear the danger symbol for corrosives. ➤ Adequate ventilation and exhaust arrangement whether general or local, will be provided whenever corrosive toxic gases or dust are present. ➤ Personal protective devices will be used. ➤ First aid treatment facilities will be provided and all concerned will 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 will be provided.

<p>TOXIC CHEMICALS</p>	<ul style="list-style-type: none"> ➤ Storage will be cool, well ventilated away from sources of ignition or heat. Prevent accumulation of static charge. Protect material from direct sunlight. ➤ Store in original container. Keep containers tightly closed and upright when not in use. ➤ Proper label and identification board /stickers 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. ➤ Ground container and transfer equipment to eliminate static electric sparks. ➤ Handling of materials from Drum will be done only through Mechanical Transfer System only. Unloading procedure will be prepared and implemented. ➤ Training will be provided to employees for safe storage, handling and transpiration. ➤ Safety shower & eye wash unit will be installed nearby area. ➤ Required PPEs like full body protection PVC apron, Hand gloves, gumboot, Respiratory protective equipment (airline respirator & SCBA) etc. will be provided to operator ➤ For spills involving small volumes, the following cleaning procedure can be used <ul style="list-style-type: none"> ➤ wear appropriate personal protective equipment (PPE) ➤ clean the spill area with a mixture of water and soap ➤ Neutralizing agent will be kept ready for tackle any emergency spillage ➤ Onsite emergency plan prepared and mock drill will be carried out. Safety sign board displaying Do's and Don'ts in local language. 		
<p>REACTIVE CHEMICALS</p>	<ul style="list-style-type: none"> ➤ Store minimum quantities. ➤ Segregate chemicals, e.g. from water, air, incompatible chemicals, sources of heat, ignition sources. ➤ Spillage control; bund, spray, blanket, containment. Drain to collection pit. ➤ Decontamination and first-aid provisions, e.g. neutralize/destroy, fire-fighting • Contain/vent pressure generated to a safe area. ➤ Split-up stocks into manageable lots, e.g. with reference to fire loading/spillage control. ➤ Ensure appropriate levels of security, hazard warning notices, fences, patrols. Control access including vehicles. ➤ Appropriate gas/vapour/fume/pressure venting, e.g. flame arrestors, scrubbers, absorbers, stacks. ➤ Will 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). ➤ Will ensure adequate access for both normal and emergency purposes with alternative routes 		
<ul style="list-style-type: none"> ➤ Applicability of PESO: Yes. Unit will obtain PESO License for storage of chemicals. 			
<p><u>Comments:</u></p>			
<ol style="list-style-type: none"> 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	
Hydrogenation (Through hydrogen gas)	<ul style="list-style-type: none"> ➤ Provisions of safety rupture disk on reactor. ➤ Provisions of auto dumping Vessel. ➤ All electrical equipment's shall be installed as per Hazardous Area Classification. ➤ Total enclosed process system. ➤ Instrument & Plant Air System. ➤ Frequently Nitrogen blanketing in Hydrogenation reactor. Make sure no oxygen is left in reactor. ➤ Provision of Emergency dumping vessel for unforeseen circumstances. ➤ Cooling, Chilling and alternate power arrangement have been made on reactor. ➤ Process area and Hydrogen cylinder bank shall be far away as per standards practice. ➤ PRV station with shut off valve, safety valve provision will be made for hydrogenation reaction safety. ➤ Standard Operating procedure shall be followed during operation of Hydrogen Gas charging in to reactor and after completion of reaction Nitrogen purging will be done. ➤ Flame arrestor will be provided on vent line of reactor and it will be extended above the roof level. ➤ Safe Catalyst charging method will be adopted. ➤ SOP will be displayed and operators will be trained for the same. ➤ Static earthing and electric earthing (Double) will be provided. ➤ Jumpers for static earthing on pipeline flanges of flammable chemical will be provided. ➤ Hydrogen gas detector will be installed for early detection of gas leak. 	
Bromination (Through Bromine)	<ul style="list-style-type: none"> ➤ All end nozzles in bromine charging hose will be blinded after use. ➤ Integrated DCS (Distributed Control System) base process controls and operation of plant will be installed. ➤ 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. 	

	<ul style="list-style-type: none"> ➤ 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 (Through Chlorine gas)	<ul style="list-style-type: none"> ➤ Chlorine Emergency Kit will be procured and kept ready at process site. ➤ Integrated DCS (Distributed Control System) base process controls and operation of plant will be installed. ➤ 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. <p>Evacuate the area in down wind direction</p> <ul style="list-style-type: none"> ➤ 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. <p>Scenario base On Site emergency Plan will be prepared.</p>		
Sulphonation (through Thionyl Chloride (TC))	<ul style="list-style-type: none"> ➤ Provisions of safety valve & rupture disk on reactor. ➤ Integrated DCS (Distributed Control System) base process controls and operation of plant will be installed. ➤ Provisions of auto dumping Vessel. ➤ Required PPEs like full body protection PVC apron, Hand gloves, gumboot, Respiratory mask etc. will be provided to operator. ➤ To avoid runaway reaction, 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.

Amination
(through Liq.
Ammonia)

- Integrated DCS (Distributed Control System) base process controls and operation of plant will be installed.
- Valve, pipeline will be checked and maintain, in good condition.
- Sprinkler system provision will be made in storage area.
- Ammonia leakage identification will be done by HCL torch.
- Ammonia leakage control Kit will be kept available at store.
- Hazard identification, control measures in case of leakage and first Aid procedure will be prepared and displayed at handling locations.
- Sprinkler point and Eyewash/ Safety shower will be provided near Ammonia header point.
- ADEQUATE PPE will be kept to handle the Hazard.
- ISI Portable fire extinguisher & Hydrant line will be provided as per TAC norms.
- Sufficient amount of sand/soil are kept to control any spillage.
- Flame proof fitting provided.
- Eye washer cum shower will be provided near storage area.
- Spark arrester will be installed on all vehicles inside the premises.
- SBA set, Canister mask and airline mask will be provided.
- Earthing & bonding will be provided.

H-3

Details of Fire Load Calculation

Total Plot Area:	1740.30 sq. m.
Area utilized for plant activity:	177.0 (G+2) sq. m.
Area utilized for Hazardous Chemicals Storage:	135 sq. m.
Number of Floors:	G+2
Water requirement for firefighting in KLD:	10.99 KLD
Water storage tank provided for firefighting in KLD:	200 KLD
Details of Hydrant Pumps:	1. Electrical pump (1 Nos.) Cap.: 273.0 M3/hr, Pr.:5.5 kg 2. Jokey Pump (1 Nos.) Cap.: 65.0 M3/hr, Pr.:6.5 kg 3. Diesel Pump (1 Nos.) Cap.: 273.0 M3/hr, Pr.:4.5 kg
Nearest Fire Station :	Fire Station – DPMC, Ankleshwar @ 3.85 km ,Time: 10-15 mins
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:	20
Number of Contractual person/Labour:	10
Area provided for OHC:	16 sq. m.
Number of First Aid Boxes:	11
Nearest General Hospital:	Jayaben Modi Hospital @ 2.65 kms
Name of Antidotes to be store in plant:	Sodium Hydro-Carbonate (4% Conc.), Milk, Lime Juice, Milk of Megnesia, 10 mg diazepam injection, Airline respirator, butter milk, Pontocane (0.5% solution) or Benoxinate (Novesine) 0.4 %, magnesium sulphate.

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.

• DELIBRATION AND RECOMMENDATION:

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

Conditions with which Environment Clearance is recommended:

Construction Phase

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

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

SPECIFIC CONDITIONS:

1. 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 31st December 2021, 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 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. PP shall produce GIDC plot allotment letter with mentioning its purpose for chemical manufacturing unit, at a time of commissioning of plant i.e. consent to operate application submission at GPCB.
6. (a) R & D products shall be of similar chemistry in line with the EIA Notification vide S.O. 1223 (E) dated 27/03/2020 and the pollution load shall remain the same as committed. (b) Project proponent shall not take continuous/commercial production of the R & D materials. Necessary approvals shall be obtained from the concern authorities prior to commercial production of R & D materials. (c) Unit shall submit relevant details of R & D products like raw materials, its safety measures to the regulatory authority well before R & D activity. (d) Unit shall submit relevant details of R & D products like different wastes generated (Quantity & Quality) and its management to the regulatory authority within a month of R & D activity.
7. 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.
8. Leak Detection and Repair (LDAR) program shall be prepared and implemented as per the CPCB

guidelines. LDAR Logbooks shall be maintained.

9. Unit shall not have GIDC underground drainage connection within premises.

10. Unit shall not manufacture more than two products from proposed product list, at a given point of time, as per details submitted by PP.

11. 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 safety valve and rupture disc, as well as auto dump or auto quench/, suppress system for nitration vessel safety.
- m) Unit shall Store Bromine Bottle in cool dry separate area, out of direct sunlight.
- n) Unit shall provide safety valve & rupture disc to the Hydrogenation vessel.

WATER

12. Total water requirement for the project shall not exceed 60.83 KLD. And it shall be met through GIDC only. Prior permission from concerned authority shall be obtained for withdrawal of water.

13. The industrial effluent generation from the project shall not exceed 48.93 KLD.

14. Domestic effluent (2.70 KLD) & Industrial effluent (47.52 KLD) generated from manufacturing process and other ancillary operation shall be treated in-house ETP for primary treatment followed by solvent stripper. Primary treated water shall be sent to CMEE at M/s. BEIL through GPS fitted tanker, for

evaporation.

15. 1.41 KLD exhausted scrubbing media effluent shall be sold to end users having Rule-9 permission and reused back in process within premises as per Hazardous waste Rules'2016.
16. Treated waste water shall be sent to CMEE of BEIL only after complying with the inlet norms of CMEE prescribed by GPCB to ensure no adverse impact on Human Health and Environment
17. Domestic wastewater generation shall not exceed 2.70 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.
20. The unit shall provide metering facility at the inlet and outlet of ETP and maintain records for the same.
21. Proper logbooks of ETP; reuse/ recycle of treated/ untreated effluent; chemical consumption in effluent treatment; quantity & quality of treated effluent disposal to CMEE; power consumption etc. shall be maintained and shall be furnished to the GPCB from time to time.

AIR:

22. Unit shall not exceed fuel consumption for Boiler, TFH and D G Set as per the point no. E-2 as mentioned above.
23. Unit shall provide adequate APCM with flue gas generation sources to achieve the norms prescribed by GPCB.
24. Unit shall provide adequate APCM with process gas generation sources as the point no. **E-3** as mentioned above.
25. The fugitive emission in the workzoneenvironment shall be monitored. The emission shall conform to the standards prescribed by the concerned authorities fromtime to time (e.g. Directors of IndustrialSafety& Health). Following indicativeguidelines shall also be followed to reducethe fugitive emission.
 - Internal roads shall be either concreted or asphalted or paved properly to reducethe fugitive emission during vehicular movement.
 - Air borne dust shall becontrolled with water sprinklers at suitable locations in the plant.
 - A green belt shall be developed all around the plant boundary and also along the roads to mitigate fugitive & transport dust emission.
26. Regular monitoring of Volatile Organic Compounds (VOCs) shall be carried out in the work zone area and ambient air.
27. For control of fugitive emission, VOCs, following steps shall be followed :
 - ✓ Closed handling and charging system shall be provided for chemicals.
 - ✓ Reflux condenser shall be provided over Reactors / Vessels.
 - ✓ Pumps shall be provided with mechanical seals toprevent leakages.

- ✓ Air borne dust at all transfers operations/ points shall be controlled either by spraying water or providing enclosures.

28. Solvent management shall be carried out as follows:

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

29. Regular monitoring of groundlevel concentration of PM₁₀, PM_{2.5}, SO₂, NO_x, HCl, HBr, NH₃, Cl₂, Br₂ and VOCs shall be carried out in the impact zone and its records shall be maintained. Ambient air quality levels shall not exceed the standards stipulated by the GPCB. If at any stage these levels are found to exceed the prescribed limits, necessary additional control measures shall be taken immediately. The location of the stations and frequency of monitoring shall be decided in consultation with the GPCB.

HAZARDOUS / SOLID WASTES:

30. All the hazardous/ solid waste management shall be taken care as per the point no. F-1 as mentioned above.
31. Authorized end-users shall have permissions from the concerned authorities under the Rule 9 of the Hazardous and Other Wastes (Management and Transboundary Movement) Rules 2016.
32. Unit shall explore the possibilities for environment friendly methods like co-processing of hazardous waste for disposal of Incinerable & land fillable wastes before sending to CHWIF & TSDF sites respectively.
33. The project proponent has to obtain membership of TSDF site & CHWIF before obtaining CTO of GPCB.
34. The unit shall submit the list of authorized end users of hazardous wastes along with MoU signed with them at least two months in advance prior to the commencement of production. In the absence of potential buyers of these items, the unit shall restrict the production of the respective items.

GREENBELT AREA

35. The PP shall develop green belt (575 sq. meter 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.

OTHERS:

36. The project proponent shall carry out the entire activities [***Pond Reclamation / Revitalization along with recharging @village Sengpur pond***] proposed under CER shall be part of the Environment Management Plan (EMP) as per the MoEF&CC's OM no. F. No. 22-65/2017-IA.III dated 30.09.2020. This shall be monitored and the monitoring report shall be submitted to the regional office of MoEF&CC as a part of half-yearly compliance report and to the District Collector. The monitoring report shall be posted on the website of the project proponent.
37. All the environmental protection measures and safeguards proposed in the Form-1 & PFR submitted by the project proponent and commitments made in their application shall be strictly adhered to in letter and spirit.

COMPLIANCE OF ENVIRONMENT CLEARANCE/REPORTING/ADMINISTRATION/APPEAL:

38. Project proponent shall inform to all the concerned authorities including Municipal Corporation and District Collector and shall also give wide publicity through advertisement in minimum two local newspapers within seven days, about the Environment Clearance order accorded.
39. Project proponent shall appoint a key person in the organization who shall be responsible for compliance of above condition fully on behalf of the proponent. It shall not mean that appointing a key person shall exempt the project proponent from the responsibility of compliance. Any change in key person shall immediately be informed to SEIAA and all concerned authorities.
40. Designated key person shall submit six monthly compliance report to SEIAA/SEAC, MOEF&CC, GPCB and Nodal Department of the Government.
41. The Nodal Department or any authority or officer authorized by MOEF&CC/SEIAA can inspect the site of the project and all the facilities, for verification of compliances of environment clearance conditions.
42. In case of violation reported upon, the project proponent shall be responsible for all the legal actions as per Environment Protection Act, 1986 including SEIAA may cancel, withdraw or keep in abeyance, the Environment Clearance accorded.
43. Any person including the project proponent affected by this Environment Clearance order may file appeal to Honorable National Green Tribunal West Zone branch, Pune, preferably within a period of thirty days from the date of issue of Environment Clearance as prescribe under section 16 of National Green Tribunal Act 2010.
44. All complains and public grievance or representations may be addressed to SEIAA/SEAC in the email addresses (a) msseiaagj@gmail.com& (b) seacgujarat@gmail.com

6.	SIA/GJ/IND2/204934/2021	M/s. Elixir Pharma	EC-Reconsideration
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		Plot No-164/A,164/B, Phase No.-II, GIDC-Naroda, Ahmedabad-382330	
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Category of the unit: **5(f)**

Project status: **Expansion**

- Project proponent (PP) has submitted online application vide no. SIA/GJ/IND2/204934/2021 on dated 26/03/2021 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 a new unit proposes for manufacturing of synthetic organic chemicals [API and API Intermediates] as tabulated below,

Sr. No	Name of Products	CAS No.	Quantity (MT/Month)			End-use of the products *
			Existing	Proposed	Total	
1.	Glibenclamide and It's intermediates: 5-chloro-2-methoxy-N-[2-(4-sulfamoylphenyl)ethyl] benzamide [OR] 1-cyclohexyl-3-[[4-[2-[(cyclohexylcarbonyl) amino]ethyl]phenyl]sulfonyl]urea sodium salt(CHIC salt) [OR]	16673-34-0	13.10	12.0	25.10 [OR]	To treat diabetes mellitus type 2
2.	Nalidixic Acid [OR]	389-08-2				Treatment of urinary tract infections
3.	Pregabalin and It's intermediates 3-Isobutyl glutaric acid(±)3-(2-amino 2-oxoethyl)-5-methylhexanoic acid [OR]	181289-33-8				To treat pain caused by fibromyalgia, or nerve pain in people with diabetes (diabetic neuropathy)
4.	Furosemide [OR]	54-31-9				Anti Diuretic
5.	Linagliptin and It's intermediates 2-chloromethyl-4-methyl quinazoline (8-Bromo-7-but-2-ynyl-3-methyl-1-(4-methyl-quinazolin-2-ylmethyl)-3,7-Dihydro-purine-2,6-Doine)[OR]	668270-12-0				It's used to treat type 2 diabetes
6.	Sitagliptin and It's intermediates Sodium 1-(2,2-dimethyl-4,6-dioxo-1,3-	654671-77-9				Sitagliptin is used along with diet and

	dioxan-5-ylidene)-2-(2,4,5-trifluoro phenyl)ethanolate,3-(tri fluoro methyl)-5,6,7,8-tetrahydro[1,2,4] triazolo[4,3-a]pyrazinehydrochloride [OR]					exercise and sometimes with other medications to lower blood sugar levels in patients with type 2 diabetes
7.	Vildagliptin [OR]	274901-16-5				Treatment of type 2 diabetes
8.	Saxagliptin and its intermediates[OR]	361442-04-8				Saxagliptin is used along with diet and exercise to lower blood sugar levels in patients with type 2 diabetes
9.	Alendronate Sodium trihydrate [OR]	121268-17-5				To treat osteoporosis and Paget's disease of bone
10.	Risedronate Sodium [OR]	105462-24-6				Risedronate is used by adults to treat a disease that weakens bones
11.	Etoricoxib and It's intermediates [OR]	202409-33-4				Spondylitis
12.	Glimepiride [OR]	93479-97-1				AntiDiabetic
13.	Gliclazide[OR]	21187-98-4				Gliclazide is a medicine used to treat type 2 diabetes
14.	Salmeterol [OR]	89365-50-4				Salmeterol is used to control wheezing, shortness of breath, coughing, and chest tightness in people with chronic obstructive pulmonary disease
15.	Salbutamol [OR]	18559-94-9				Asthma and chronic obstructive pulmonary disease
16.	Valsartan and It's intermediates [OR]	137862-53-4				It is also used in adults to

						treat heart failure
17.	Telmisartan [OR]	144701-48-4				To treat high blood pressure, Hypertension
18.	Candensartan [OR]	145040-37-5				To prevent future strokes, heart attacks and kidney problems
19.	3-Isobutylglutaric acid,CMH Di acid	75143-89-4	0	25.10	25.10	Pregabalin intermediates
20.	5-Chloro-2-methoxy-n-[2-(4-sulfamoylphenyl) Ethyl]	16673-34-0				Glibenclamide/Glyburide intermediate
21.	(R,S)-(3-Cabamoylmethyl)-5-Methylhexanoic Acid	181289-33-8				Pregabalin intermediates
22.	R-(-)-(3-Carbamoylmethyl)-5-Methylhexanoic Acid	181289-33-8				Pregabalin intermediates
23.	5-Bromo-2-Chlorobenzoic Acid (BCBA)	21739-92-4				Empagliflozin/Dapagliflozin Intermediates
24.	10H-Dibenzo[b,f][1,4]thiazepin-11-one	3159-07-7				Quetiapine Intermediates
25.	2-(Chloromethyl-4-methylquinazoline(LAB-II)	109113-72-6				Linagliptin Intermediates
26.	Sodium Salt of Glibenclamide (CHIC Salt) (GAA-IV)	52169-36-5				Glibenclamide/Glyburide intermediates
27.	2-Amino acetophenone (LAB-I)	551-93-9				Linagliptin Intermediates
28.	Rosuvastatin Calcium IP	7554-65-6				Anti-Cholesterol
29.	Carbamazepine	298-46-4				To treat epilepsy and nerve pain.
30.	Dabigatran	211915-06-9				To prevent Strokes and serious blood clots.
31.	Oxcarbazepine	28721-07-5				To control seizures in adults and children.
32.	Moxifloxacin	354812-41-2				To treat infections caused by bacteria.
33.	2-(4-Cyanophenylamino) Acetic Acid (DCA-II)	42288-26-6				Dabigatran Intermediates
34.	3-[(3-Amino-4-methylaminobenzoyl) pyridin-2-ylamino] propionic (DBA-IV)	212322-56-0				Dabigatran Intermediates

Brief Note of Product Profile:

1. No of Manufacturing Plants: 1 no.s

2. Brief Note regarding number of Products to be manufactured considering plant capacity: 5 Products.

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.	Glibenclamide and It's intermediates: 5-chloro-2-methoxy-N-[2-(4-sulfamoylphenyl)ethyl] benzamide [OR] 1-cyclohexyl-3-[[4-[2-[(cyclohexylcarbonyl)amino]ethyl]phenyl]sulfonyl]urea sodium salt(CHIC salt) [OR]	16673-34-0	API Or Intermediates	n Or n-1	- Or Glibenclamide	16673-34-0	To treat diabetes mellitus type 2
2.	Nalidixic Acid [OR]	389-08-2	API	-	-	-	Treatment of urinary tract infections
3.	Pregabalin and It's intermediates 3-Isobutyl glutaric acid(±)3-(2-amino 2-oxoethyl)-5-methylhexanoic acid [OR]	181289-33-8	API Or Intermediates	n Or n-1	Pregabalin	181289-33-8	To treat pain caused by fibromyalgia, or nerve pain in people with diabetes (diabetic neuropathy)
4.	Furosemide [OR]	54-31-9	API	-	-	-	AntiDiuretic
5.	Linagliptin and It's intermediates 2-chloromethyl-4-methyl quinazoline (8-Bromo-7-but-2-ynyl-3-methyl-1-(4-methyl-quinazolin-2-ylmethyl)-3,7-Dihydro-purine-2,6-Doine)[OR]	668270-12-0	API Or Intermediates	n Or n-1	Linagliptin	668270-12-0	It's used to treat type 2 diabetes
6.	Sitagliptin and It's intermediates Sodium 1-(2,2-dimethyl-4,6-dioxo-1,3-dioxan-5-ylidene)-2-(2,4,5-trifluorophenyl)ethanolate,3-(tri fluoro methyl)-5,6,7,8-tetrahydro[1,2,4] triazolo[4,3-a]pyrazine hydrochloride [OR]	654671-77-9	API Or Intermediates	n Or n-1	Sitagliptin	654671-77-9	Sitagliptin is used along with diet and exercise and sometimes with other medications to lower blood sugar levels in patients with type 2 diabetes
7.	Vildagliptin [OR]	274901-16-5	API	-	-	-	Treatment of type 2 diabetes

8.	Saxagliptin and its intermediates[OR]	361442-04-8	API	-	-	-	Saxagliptin is used along with diet and exercise to lower blood sugar levels in patients with type 2 diabetes
9.	Alendronate Sodium trihydrate [OR]	121268-17-5	API	-	-	-	To treat osteoporosis and Paget's disease of bone
10.	Risedronate Sodium [OR]	105462-24-6	API	-	-	-	Risedronate is used by adults to treat a disease that weakens bones
11.	Etoricoxib and It's intermediates[OR]	202409-33-4	API Or Intermediates	n Or n-1	Etoricoxib	202409-33-4	Spondylitis
12.	Glimepiride [OR]	93479-97-1	API	-	-	-	Anti Diabetic
13.	Gliclazide[OR]	21187-98-4	API	-	-	-	Gliclazide is a medicine used to treat type 2 diabetes
14.	Salmeterol [OR]	89365-50-4	API	-	-	-	Salmeterol is used to control wheezing, shortness of breath, coughing, and chest tightness in people with chronic obstructive pulmonary disease
15.	Salbutamol [OR]	18559-94-9	API	-	-	-	Asthma and chronic obstructive pulmonary disease
16.	Valsartan and It's intermediates [OR]	137862-53-4	API	-	-	-	High blood pressure and heart failure
17.	Telmisartan [OR]	144701-48-4	API	-	-	-	Hypertension
18.	Candensartan [OR]	145040-37-5	API	-	-	-	To prevent future strokes, heart attacks and kidney problems
19.	3-Isobutylglutaric acid,CMH Di acid	75143-89-4	Intermediates	n-1	Pregabalin	148553-50-8	Pregabalin Intermediates

20.	5-Chloro-2-methoxy-n-[2-(4-sulfamoylphenyl) Ethyl]	16673-34-0	Intermediates	n-1	Glibenclamide/Glyburide	10238-21-8	Glibenclamide/Glyburide Intermediates
21.	(R,S)-(3-Cabamoylmethyl)-5-Methylhexanoic Acid	181289-33-8	Intermediates	n-1	Pregabalin	148553-50-8	Pregabalin intermediates
22.	R-(-)-(3-Carbamoylmethyl)-5-Methylhexanoic Acid	181289-33-8	Intermediates	n-1	Pregabalin	148553-50-8	Pregabalin Intermediates
23.	5-Bromo-2-Chlorobenzoic Acid (BCBA)	21739-92-4	Intermediates	n-1	Empagliflozin/Dapagliflozin	864070-44-0	Empagliflozin/Dapagliflozin Intermediates
24.	10H-Dibenzo[b,f][1,4]thiazepin-11-one	3159-07-7	Intermediates	n-1	Quetiapine	11974-72-2.	Quetiapine Intermediates
25.	2-(Chloromethyl-4-methylquinazoline(LAB-II)	109113-72-6	Intermediates	n-1	Linagliptin	668270-12-0	Linagliptin Intermediates
26.	Sodium Salt of Glibenclamide (CHIC Salt) (GAA-IV)	52169-36-5	Intermediates	n-1	Glibenclamide/Glyburide	10238-21-8	Glibenclamide/Glyburide Intermediates
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28.	Rosuvastatin Calcium IP	7554-65-6	API	-	-	-	Anti-Cholesterol
29.	Carbamazepine	298-46-4	API	-	-	-	To treat epilepsy and nerve pain.
30.	Dabigatran	211915-06-9	API	-	-	-	To prevent Strokes and serious blood clots.
31.	Oxcarbazepine	28721-07-5	API	-	-	-	To control seizures in adults and children.
32.	Moxifloxacin	354812-41-2	API	-	-	-	To treat infections caused by bacteria.
33.	2-(4-Cyanophenylamino) Acetic Acid (DCA-II)	42288-26-6	Intermediates	n-1	Dabigatan	211915-06-9	Dabigatan Intermediates
34.	3-[(3-Amino-4-methylaminobenzoyl)pyridin-2-ylamino] propionic (DBA-IV)	212322-56-0	Intermediates	n-1	Dabigatan	211915-06-9	Dabigatan Intermediates

- 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 24.06.2021.
- During the SEAC Video conference meeting dated 24.06.2021, Project Proponent (PP) and their technical expert and EIA consultant from M/s. B.S.Rana 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.
- Referring to the details submitted with presentation, there was no technical consultant. However, Mr. B.

S Rana appeared in the presentation. Upon asking, PP could not clarify the issue regarding wrong information. Committee felt that such misleading information creates difficulties in managing Video Conference.

- This unit had obtained EC in the year 2006. Upon asking regarding compliance, it was found not satisfactory. Greenbelt found inadequate. Committee felt that PP shall comply the conditions of existing EC before expansion of the project.
- **After detailed discussion, Committee unanimously decided to defer the project and consider the project in one of upcoming meeting after satisfactory submission of following:**
 1. Clarification regarding wrong information furnished with format submitted along with presentation.
 2. Point wise compliance of existing EC and CTO.
- PP submitted their reply for the query raised by SEAC during SEAC meeting dated 24.06.2021 through email.
- The proposal was reconsidered in the SEAC video conference meeting dated **01.10.2021**.
- Committee noted that PP presented point wise compliance of existing plant EC and looking to CCR submitted by MoEF & CC showing greenbelt condition is partially complied of existing plant EC order condition, Committee members asked for clarify regarding it. Technical expert of PP showing Naroda Industrial association letter for contribution of PP for greenbelt already done in GIDC Naroda area. Committee disagree with this letter and insisted for greenbelt development within premises as per existing plant EC order condition at maximum extent within premises and adequate GIDC letter for greenbelt development outside premises in GIDC area.
- This is an existing unit and proposed for expansion project for manufacturing of synthetic organic chemicals (API and API intermediates) at GIDC Naroda. Unit is having valid EC and CCA for existing plant. PP presented CCR for existing plant EC order of MoEF & CC, Bhopal and CCA 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 and public complaint against unit. PP presented two Show Cause Notice (SCN) issued by GPCB to unit and its reply submitted at GPCB was presented by PP during meeting. Committee noted that PP has addressed area adequacy with layout plan for proposed project site. Looking to layout plan and area adequacy, Committee asked for revised layout plan with color coding for existing and proposed plant, Green belt area, adequate size peripheral road etc and area adequacy with land break up table.
- Committee noted the following:
 - ✓ Product profile with specific End-use of each product. At a time, 5 products can be manufactured.
 - ✓ PP has proposed ETP and MEE for waste water treatment and partly effluent sending to CETP.
 - ✓ Fire load calculation mentioning fire water storage, foam type extinguishers, foam trolley extinguishers and fire pumps.

- ✓ Natural gas is proposed as fuel in boiler and TFH.
- ✓ Two stage scrubbers will be provided with each proposed process stack.
- ✓ Scrubbing liquor will be reused within premises 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.
- Looking to water balance diagram showing no segregation of effluent, Hence Committee insisted for revised water balance diagram with segregation of effluent stream in High COD and low COD stream and then appropriate treatment for it separately for compliance of COCB direction under section 18(1)(B) to CETP for proposed expansion project.
- Committee deliberated on 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. Looking to mentioning only 10% greenbelt within premises in layout plan and two stair cases in production plant area, Committee insisted for revised layout plan and PP later on submitted revised layout plan with mentioning only two stair cases in it.
- Looking to 50 meter sq. meter area shown for production plant in fire load calculation, Committee insisted for revised appropriate fire load calculation with considering production plant area for existing as well as proposed plant with mentioning adequate capacity of fire water tank and fire extinguishers.
- **After detailed discussion, Committee unanimously decided to consider the project in one of upcoming meeting only after submission of following documents:**
 1. Revised layout plan with mentioning adequate and green belt area at maximum extent within premises and letter of GIDC for greenbelt development outside premises in GIDC area by unit with mentioning area with longitude and latitude, number of trees to be planted and assurance regarding conservation of green belt area in GIDC area.
 2. Revised layout plan with color coding for existing and proposed plant infrastructure, Green belt area, adequate size peripheral road etc and area adequacy with land break up table.
 3. Revised water balance diagram with segregation of effluent stream in High COD and low COD stream and then appropriate treatment for it separately for compliance of COCB direction under section 18(1)(B) to CETP for proposed expansion project.
 4. Revised appropriate fire load calculation with mentioning actual production plant area for existing as well as proposed plant with mentioning adequate capacity of fire water tank and fire extinguishers.
- PP submitted above details along with document for proposed API project.
- Again this case was reconsidered in SEAC Meeting dated **16.02.2022**.
- Project proponent (PP) and their Technical Expert from M/s B.S.Rana remain present during video conference meeting.

- 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.
- Committee noted that PP presented revised layout plan with mentioning adequate and green belt area at maximum extent within premises, color coding for existing and proposed plant and letter of GIDC for greenbelt development outside premises in GIDC area by unit with mentioning area with longitude and latitude, number of trees to be planted and assurance regarding conservation of green belt area in GIDC area, Revised water balance diagram with segregation of effluent stream in High COD and low COD stream and then appropriate treatment for it separately for compliance of CPCB direction under section 18(1)(B) to CETP for proposed expansion project and Revised appropriate fire load calculation.
- Committee found reply submitted by PP was satisfactory.
- PP submitted revised salient features of water, air and Hazardous waste details and are as under,

Sr. no.	Particulars	Details																		
A-1	Total cost of Proposed Project (Rs. in Crores): <table border="1" style="margin-left: 40px;"> <thead> <tr> <th>Existing</th> <th>Proposed</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>13.0 Crores</td> <td>2.0 Crores</td> <td>15.0 Crores</td> </tr> </tbody> </table> Break-up of proposed project Cost: <table border="1" style="margin-left: 40px;"> <thead> <tr> <th>Details</th> <th>Existing (Rs. In Crores)</th> <th>Proposed (Rs. In Crores)</th> <th>Total (Rs. In Crores)</th> </tr> </thead> <tbody> <tr> <td>Land & Building</td> <td>4.43</td> <td>-</td> <td>4.43</td> </tr> <tr> <td>Machinery</td> <td>8.57</td> <td>2</td> <td>10.57</td> </tr> </tbody> </table>		Existing	Proposed	Total	13.0 Crores	2.0 Crores	15.0 Crores	Details	Existing (Rs. In Crores)	Proposed (Rs. In Crores)	Total (Rs. In Crores)	Land & Building	4.43	-	4.43	Machinery	8.57	2	10.57
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Land & Building	4.43	-	4.43																	
Machinery	8.57	2	10.57																	
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 Pollution Control	APCM	15	4	1	5
2.	Water Pollution Control	ETP	22	4	1	5
3.	Noise Pollution Control	Enclosures	4	1	1	2
4.	Environment Monitoring	Monitoring Management	3	2	2	4

	and Management					
5.	Hazardous Waste Management	Disposal Management	5	1	1	2
6.	Process Control System	Manufacture Process	8	1	1	2
7.	Occupational Health	Health	8	2	2	4
8.	Green Belt	Plantation	2	2	1	3
9.	Rain Water Harvesting	U/G water Tank	6	0.5	0.5	1
10.	CER		1	0.60	0.40	1
Total			72	18.1	10.9	28

Summary

Cost of Project in Crores per Annum:	15.0
EMP Capital Cost in Crores per Annum and Percentage:	1.5 (10 %)
EMP Recurring Cost in Crores per Annum and Percentage:	0.66 (4.4 %)

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 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 %	0.02

Brief note on proposed activities:

Sr. No.	Activities	Social Benefits	Expenses (Rs. Lac)			
			2021	2022	2023	Total
1.	Environment	Rain Water Harvesting System in school of Muthiya village.	1.0	0.50	0.50	2.0
Total			1.0	0.50	0.50	2.0

B	Land / Plot ownership details:																																																																																										
B-1	Plot area																																																																																										
	Existing	Proposed	Total																																																																																								
	3804.44 Sq. m.	44.83Sq. m.	3849.27Sq. m.																																																																																								
B-2	Brief note on Area adequacy in line to proposed project activities:																																																																																										
	<table border="1"> <thead> <tr> <th rowspan="2">Sr. No.</th> <th rowspan="2">Details of Land</th> <th colspan="3">Area (m²)</th> <th rowspan="2">Area in %</th> </tr> <tr> <th>Existing</th> <th>Proposed</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>Main plant Building (Production Area)</td> <td style="text-align: center;">390</td> <td style="text-align: center;">472</td> <td style="text-align: center;">862</td> <td style="text-align: center;">22.62</td> </tr> <tr> <td>2.</td> <td>Material Storage Area</td> <td style="text-align: center;">310</td> <td style="text-align: center;">420</td> <td style="text-align: center;">730</td> <td style="text-align: center;">19.16</td> </tr> <tr> <td>3.</td> <td>Packing Area</td> <td style="text-align: center;">55</td> <td style="text-align: center;">15</td> <td style="text-align: center;">70</td> <td style="text-align: center;">1.84</td> </tr> <tr> <td>4.</td> <td>Utility</td> <td style="text-align: center;">50</td> <td style="text-align: center;">40</td> <td style="text-align: center;">90</td> <td style="text-align: center;">2.36</td> </tr> <tr> <td>5.</td> <td>Administration buildings</td> <td style="text-align: center;">60</td> <td style="text-align: center;">15</td> <td style="text-align: center;">75</td> <td style="text-align: center;">1.97</td> </tr> <tr> <td>6.</td> <td>ETP</td> <td style="text-align: center;">50</td> <td style="text-align: center;">75</td> <td style="text-align: center;">125</td> <td style="text-align: center;">3.28</td> </tr> <tr> <td>7.</td> <td>Hazardous Waste Storage Area</td> <td style="text-align: center;">45</td> <td style="text-align: center;">20</td> <td style="text-align: center;">65</td> <td style="text-align: center;">1.71</td> </tr> <tr> <td>8.</td> <td>Green Belt</td> <td style="text-align: center;">953</td> <td style="text-align: center;">0</td> <td style="text-align: center;">953</td> <td style="text-align: center;">25.01</td> </tr> <tr> <td>9.</td> <td>Worker Change Room</td> <td style="text-align: center;">25</td> <td style="text-align: center;">10</td> <td style="text-align: center;">35</td> <td style="text-align: center;">0.91</td> </tr> <tr> <td>10.</td> <td>OHC</td> <td style="text-align: center;">20</td> <td style="text-align: center;">10</td> <td style="text-align: center;">30</td> <td style="text-align: center;">0.79</td> </tr> <tr> <td>11.</td> <td>Other / Open</td> <td style="text-align: center;">283</td> <td style="text-align: center;">402</td> <td style="text-align: center;">685</td> <td style="text-align: center;">18.01</td> </tr> <tr> <td>12.</td> <td>MEE</td> <td style="text-align: center;">0</td> <td style="text-align: center;">90</td> <td style="text-align: center;">90</td> <td style="text-align: center;">2.36</td> </tr> <tr> <td></td> <td style="text-align: center;">Total</td> <td style="text-align: center;">2241</td> <td style="text-align: center;">1569</td> <td style="text-align: center;">3810</td> <td style="text-align: center;">100</td> </tr> </tbody> </table> <p>NOTE: Total green belt area is 953 m² (25.01 % Existing) + 350 m²(9% Additional Outside premises) Additional Green area details is enclosed in slide no. 5</p> <p style="text-align: right;">95</p>				Sr. No.	Details of Land	Area (m ²)			Area in %	Existing	Proposed	Total	1.	Main plant Building (Production Area)	390	472	862	22.62	2.	Material Storage Area	310	420	730	19.16	3.	Packing Area	55	15	70	1.84	4.	Utility	50	40	90	2.36	5.	Administration buildings	60	15	75	1.97	6.	ETP	50	75	125	3.28	7.	Hazardous Waste Storage Area	45	20	65	1.71	8.	Green Belt	953	0	953	25.01	9.	Worker Change Room	25	10	35	0.91	10.	OHC	20	10	30	0.79	11.	Other / Open	283	402	685	18.01	12.	MEE	0	90	90	2.36		Total	2241	1569	3810	100
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		Existing	Proposed (Sq. meter)	Total After Proposed																																																																																							
	In Premises																																																																																										
	Area in Sq. meter	953	-	953																																																																																							
	% of total Plot area	25.01%	-	25.01%																																																																																							
	Outside Premises- Naroda Industrial Association																																																																																										
	Area in Sq. meter	-	350	350																																																																																							
	% of total Plot area	-	9%	9%																																																																																							
	Total	25.01%	34.01%	34.01%																																																																																							
Comments:																																																																																											
The condition shall be given that -																																																																																											
The PP shall develop green belt (953Sq. m within premises and 350 sq. meter outside premises in GIDC 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

Direct : 25

Indirect : 30

Existing Direct	Proposed Direct	Total Direct
15	10	25

D WATER

D-1 Source of Water Supply

GIDC Supply

(GIDC, Bore well, Surface water, Tanker supply etc...)

Status of permission from the concern authority.

➤ Not Applicable

D-2 Water consumption (KLD)

Category	Existing KLD	Proposed (Additional) KLD	Total after Expansion KLD	Remarks
(D) Domestic	1.5	0.5	2.0	Fresh
(E) Gardening	-	0.5	0.5	
(F) Industrial				
Process	4.0	6.0	10.0	Fresh
Washing	3.5	2.0	5.5	Recycled
Boiler	5.0	4.5	9.5	Fresh
Cooling	-	6.0	6.0	Fresh + Recycled
Scrubber	-	1.0	1.0	Fresh
Industrial Total	12.5	19.5	32	Fresh + Recycled
Grand Total (A+B+C)	14	20.5	34.5	Fresh + Recycled

		<p>Brief Note on worst case scenario for water consumption: The water consumption is calculated on worst case scenario</p> <p style="text-align: center;">-</p> <table border="1" data-bbox="443 349 1362 663"> <thead> <tr> <th>Summary of water requirement</th> <th>Existing KLD</th> <th>Proposed (Additional) KLD</th> <th>Total after Expansion KLD</th> <th>Remarks</th> </tr> </thead> <tbody> <tr> <td>Total water requirement for the project (A)</td> <td>14.0</td> <td>20.5</td> <td>34.5</td> <td>-</td> </tr> <tr> <td>Quantity to be recycled (B)</td> <td>0</td> <td>11.5</td> <td>11.5</td> <td>-</td> </tr> <tr> <td>Total fresh water requirement (C)</td> <td>14</td> <td>9</td> <td>23</td> <td>-</td> </tr> </tbody> </table> <p>Ensure Total water requirement = Fresh water + Recycled water i.e. A = B + C</p> <p>Reuse/Recycle details (KLD) with feasibility. [Source of reuse & application area]</p> <table border="1" data-bbox="443 891 1353 1189"> <thead> <tr> <th>Source of waste water for reuse in KLD (From where it is coming)</th> <th>Application area with quantity in KLD (Where it is used)</th> <th>Characteristics of waste water to be reused (COD, BOD, TDS etc.)</th> <th>Remarks regarding feasibility to reuse</th> </tr> </thead> <tbody> <tr> <td>11.5 KLD MEE Condensate</td> <td>Cooling & Washing</td> <td>PH:7-8 COD:100 mg/l BOD:24 TDS:1200 mg/l</td> <td>Reuse in Cooling & Washing</td> </tr> </tbody> </table> <p>In case of no reuse/recycle of waste water, Give brief note on justification as why no reuse/recycle. ➤ NA</p> <p>Comments:</p> <p>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.</p>	Summary of water requirement	Existing KLD	Proposed (Additional) KLD	Total after Expansion KLD	Remarks	Total water requirement for the project (A)	14.0	20.5	34.5	-	Quantity to be recycled (B)	0	11.5	11.5	-	Total fresh water requirement (C)	14	9	23	-	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	11.5 KLD MEE Condensate	Cooling & Washing	PH:7-8 COD:100 mg/l BOD:24 TDS:1200 mg/l	Reuse in Cooling & Washing			
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D-3	Waste water generation (KLD)																																
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Boiler	0.5	0.4	0.9																														

		Cooling	-	2.0	2.0	
		Scrubbing Media	-	1.0	1.0	
		Total Industrial waste water	7.0	13.4	20.4	
		Total Industrial+ Domestic	8.0	13.8	21.8	
	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.					
Brief Note on worst case scenario for waste water generation(Qualitative and Quantitative):						
The water generation is calculated on worst case scenario.						
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).						
➤ NA						
D-4	Mode of Disposal & Final meeting point (Existing and Proposed)					
Existing and Proposed						
	Domestic:	Treated in the ETP and discharged to the CETP as per CCA and remaining				
	Industrial:	effluent sent to MEE in house premises.				
Clearly mention about final disposal						
D-5	Treatment facilities					
For Domestic waste water:						
Capacity of STP: STP waste water treat in ETP.						
For Industrial waste water: Treatment facility within premises with capacity						
[In-house ETP (Primary, Secondary, Tertiary), MEE, Stripper, Spray Dryer, STP etc.						
Primary, Secondary treatment & MEE						
Capacity of ETP: 20 KLD						
MEE Capacity: 1.3 KL/Hr.						
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.						
	Details	Process	Cooling	Boiler	Washing	Domestic
	Flow KL/day	8	2	0.9	5.5	1.4
	pH	7-8	8-9	9-10	7-8	7-8
	TDS mg/l	2000	2200	3000	1500	1500

SS mg/l	60	30	20	120	80
COD mg/l	20500	40	20	1500	450
BOD mg/l	4200	6	3	360	360
Oil & Grease mg/l	2	0	0	<1	<1

Details	Inlet of ETP	Outlet of ETP
Flow KL/day	21.8	21.8
pH	7-8	7-8
TDS mg/l	1900	2100
SS mg/l	80	30
COD mg/l	7560	900
BOD mg/l	1500	240

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.

➤

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

➤ NA

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)

➤ NEPL

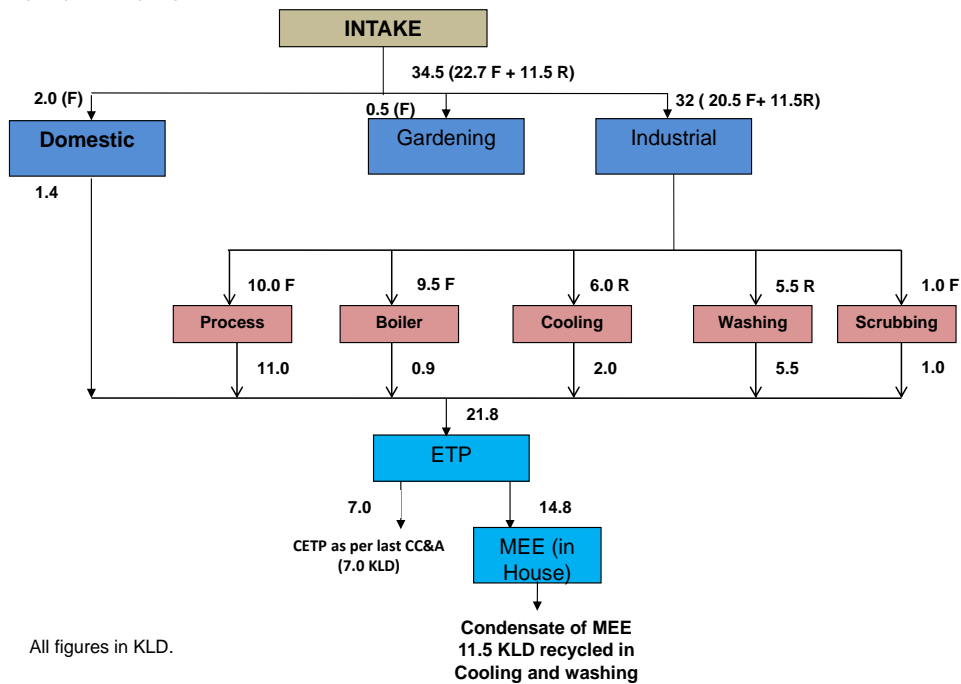
Membership of Common facility (CF) mentioning **total capacity, consented quantity, occupied capacity and spare capacity** and norms of acceptance of effluent from member units in-line with the direction given by GPCB vide Letter No. GPCB/P-1/8-G (5)/550706 dated 08/01/2020.

- Not any additional load discharged to the CETP, Naroda
- Membership of CETP: NEPL, Naroda for treated effluent and MEE
- Membership certificate Enclosed in the Annexure – XII.

D-7

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

Total proposed project



E

AIR

E-1

Brief Note on fuel based Heat energy requirement and worst case scenario thereof:

Fuel consumption is calculated on worst case scenario and there shall be sufficient as proposed.

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

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 (1.5 MT/Hr) Existing	25	Natural gas	150 SCM/Hr	Adequate Stack Height	PM SO2 NO2

2	Thermic Fluid Heater (400 u) Existing				Adequate Stack Height	
3	Steam Boiler (1.5 MT/Hr) Proposed	25	Natural gas	150 SCM/Hr	Adequate Stack Height	PM SO2 NO2
4	Thermic Fluid Heater (400 u) Proposed				Adequate Stack Height	

E-3 Process gas i.e. Type of pollutant gases (SO₂, HCl, NH₃, Cl₂, NO_x etc.)

Existing & Proposed

Sr. no.	Specific Source of emission (Name of the Product & Process)	Type of emissions i.e. Air Pollutants	Stack/Vent Height (meter)	Air Pollution Control Measures (APCM)
1	Reaction Vessel Existing	SO ₂ NO ₂	20	Two Stage Scrubber (Water & Alkali)
2	Reaction Vessel Proposed			Two Stage Scrubber (Water & Alkali)
3	Reaction Vessel Proposed	HCl	20	Two Stage Scrubber (Water & Alkali)
4	Reaction Vessel Proposed	HBr KBr		Two Stage Scrubber (Water & Alkali)

Note:

➤ **Details of gaseous raw materials used in proposed project**

HCl 30 % generate HCl gas
Chloro Sulphonic Acid SO₂ gas
Bromine generate HBr&KBr

➤ **Estimation of process gas emission (Product wise and Total)**

HCl Concentration < 15 mg/Nm³
SO₂ Concentration < 20 mg/Nm³
HBr Concentration < 10 mg/Nm³
KBr Concentration < 10 mg/Nm³
NO₂ Concentration < 15 mg/Nm³

➤ **Requirement of the scrubbing media (KL per Day) considering solubility (Product wise and Total)**

HCl Concentration < 15 mg/Nm³
SO₂ Concentration < 20 mg/Nm³

HBr Concentration < 10 mg/Nm ³ KBr Concentration < 10 mg/Nm ³ NO ₂ Concentration < 15 mg/Nm ³ ➤ Yearly generation of all bleed liquors (MT/KL per Annum) as mentioned above and its sound management in HW matrix. Noted and add in HW matrix.							
E-4		Fugitive emission details with its mitigation measures.					
Followings Measures will take for controlling during operation of proposed project. ➤ Maintaining the house keeping regularly ➤ Transferring the liquid materials by pump ➤ To carry out regular leak detection and repair activities Proper routine maintenance of equipment reduces the likelihood of leaks <u>Comments for E2, E3 & E4:</u> 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 (As per the Hazardous and Other Wastes (Management and Trans boundary 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/Name of Hazardous waste	Specific Source of generation	Category and Schedule as per HW Rules.	Quantity (MT/Annum)			Management of HW
				Existing	Proposed	Total	
1	ETP Sludge	ETP	35.3	36	44	80	Collection, Storage, Transportation, Disposal at TSDF site

2	MEE Sludge	MEE	35.3	-	70	70	Collection, Storage, Transportation, Disposal at TSDF site
3	Used Oil	DG Set	5.1	0.055	0.045	0.1	Collection, Storage, Transportation, Disposal by selling to authorized re-processor
4	Discarded Containers Empty Bags with Liner	Packing	33.1	6.750	6.250	13	Collection, Storage, Transportation, Disposal by selling to authorized re-cycler
5	Spent Carbon	Purification Process	28.2	13.2	11.3	24.5	Collection, Storage, Transportation, Disposal by sent to CHWIF, NECL Nandesari
6	Spent Mother Liquor	Solvent Distillation	28.5	49.2	45	94.2	Collection, Storage, Transportation, Reused in next batch in premises.
7	Distillation residue	Solvent Distillation	37.3	60	55	115	Collection, Storage, Transportation, Disposal by sent to CHWIF, NECL Nandesari
8	Off Specification Product	-	28.4	12	11	23	Collection, Storage, Transportation, Disposal by sent to CHWIF, NECL Nandesari
9	Process Waste	Filtration	28.1	20.4	19.6	40	Collection, Storage, Transportation, Disposal by sent to CHWIF, NECL Nandesari
10	Scrubbing Media	APCM of process emission	-	-	3.60	3.60	Collection, Treatment in ETP
F-2	Membership details of TSDF, CHWIF etc. (For HW management)						
Details of Membership letter no. & Date with spare capacity of the Common Facility.							
<ul style="list-style-type: none"> ➤ Membership of TSDF: EcoCARE Infrastructure Pvt Ltd. ➤ Membership of CHWIF: Detox India Pvt. Ltd. 							
F-3	Details of Non-Hazardous waste & its disposal (MSW and others)				Paper and Plastic will be sold to the authorized		

						recycler
Sr. no.	Type/Name of other wastes	Specific Source of generation (Name of the Activity, Product etc.)	Quantity (MT/Annum)			Management of Wastes
			Existing	Proposed	Total	
1	Paper & Plastic	Office work	0.5	0.5	1.0	Sold to actual user
G	Solvent management, VOC emissions etc.					
G-1	Brief Note on types of solvents, Details of Solvent recovery, % recovery, reuse of recovered Solvents etc.					
	➤ Solvent will be recovered and recycling in process again.					
G-2	Brief Note on LDAR proposed:					
	<ul style="list-style-type: none"> In warding, storage and consumption of solvents in various products shall be measured through Level Transmitters and Load cells weighing systems resp. The quantity at each stage shall be reconciled periodically to arrive at Losses. 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 the variation. Workplace VOC monitoring through handheld VOC meter (photoionization detection (PID) sensor technology) shall be carried out at the shop floor. Periodic Leakage Audit at Plant and PDCA approach to be followed for control of leakages <p>➤ Preventive Maintenance</p> <ul style="list-style-type: none"> 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 be revised. <p>➤ Immediate Corrections in case of Leakages</p> <ul style="list-style-type: none"> Plant shall have an internal competent team of Technicians and Engineers to handle different types of leakages round the clock. <ul style="list-style-type: none"> Plant shall also maintain adequate number of spares and consumables required to repair the leaking device 					
G-3	VOC emission sources and its mitigation measures					
	<ul style="list-style-type: none"> VOC analyzers will be provided to detect any solvent leakages during storage and handling. 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.
- Ensure minimum number of flanges, joints and valves in pipelines.
- Proper preventive maintenance of roofs and seals for tanks
- Monitoring and preventive maintenance of valves, flanges, joints, etc
- VOC detectors will be installed to detect any solvent leakages during storage and handling

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
(For tank storages only including spent acid and spent solvent tanks)

Brief note on storage of Hazardous chemicals in Tanks

Sr.no	Name of Chemical	Capacity of Tank	Number of Tanks	Hazardous Characteristics of Chemical
1	Methanol, Acetone, Toluene, Methylene Dichloride	10 kl	5	Flammable
2	IPA	5 kl	2	Flammable

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

- Drums : 200 Lit each for Liquid materials
- Bags : 20 Kg each for Solid materials

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
Flammable	<ul style="list-style-type: none"> • Keep in a dry, cool and well-ventilated place. • Keep Tank tightly closed in a dry and well-ventilated place. • Keep away from heat and sources of ignition. Flammables area. • Avoid contact with skin and eyes. • Do not breathe vapors or spray mist. • Remove all sources of ignition. • Use only non-sparking tools. • Wash hands before breaks and immediately after handling the product. <p>Keep away from open flames, hot surfaces and sources of ignition.</p> <ul style="list-style-type: none"> • To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Take precautionary measures against static discharges.

➤ **Applicability of PESO : Yes for Solvent Storage**

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, Nitration process, Chlorination process, Exothermic Reaction etc.)

-

Type of Process	Safety measures including Automation
Methanol	In case of acidosis give Sodium Bicarbonate. In case of delirium give Diazepam 10 mg. by intravenous injection.

Acetonitrile	Hydroxocobalamin or the Cyanide Antidote kit																		
Acetic Acid	Milk of Magnesia																		
H-3	Details of Fire Load Calculation																		
-																			
<table border="1"> <tr> <td>Total Plot Area:</td> <td>3804.44</td> </tr> <tr> <td>Area utilized for plant activity:</td> <td>50</td> </tr> <tr> <td>Area utilized for Hazardous Chemicals Storage:</td> <td>435</td> </tr> <tr> <td>Number of Floors:</td> <td>G + 2</td> </tr> <tr> <td>Water requirement for firefighting in KLD :</td> <td>10 KL</td> </tr> <tr> <td>Water storage tank provided for firefighting in KLD:</td> <td>100 KL</td> </tr> <tr> <td>Details of Hydrant Pumps:</td> <td>3 nos.</td> </tr> <tr> <td>Nearest Fire Station :</td> <td>NarodaFire Station</td> </tr> <tr> <td>Applicability of Off Site Emergency Plan:</td> <td>Yes</td> </tr> </table>		Total Plot Area:	3804.44	Area utilized for plant activity:	50	Area utilized for Hazardous Chemicals Storage:	435	Number of Floors:	G + 2	Water requirement for firefighting in KLD :	10 KL	Water storage tank provided for firefighting in KLD:	100 KL	Details of Hydrant Pumps:	3 nos.	Nearest Fire Station :	NarodaFire Station	Applicability of Off Site Emergency Plan:	Yes
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Applicability of Off Site Emergency Plan:	Yes																		
-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:																		
Fire NOC Is obtained.																			
H-5	Details of Occupational Health Centre (OHC):																		
-																			
<table border="1"> <tr> <td>Number of permanent Employee :</td> <td>25</td> </tr> <tr> <td>Number of Contractual person/Labour :</td> <td>30</td> </tr> <tr> <td>Area provided for OHC:</td> <td>50</td> </tr> <tr> <td>Number of First Aid Boxes :</td> <td>5</td> </tr> <tr> <td>Nearest General Hospital :</td> <td>NIA Charitable Hospital Naroda GIDC</td> </tr> <tr> <td>Name of Antidotes to be store in plant :</td> <td>Activated charcoal for general poisoning, Formepizol for Methanol poisoning. Methylene Blue</td> </tr> </table>		Number of permanent Employee :	25	Number of Contractual person/Labour :	30	Area provided for OHC:	50	Number of First Aid Boxes :	5	Nearest General Hospital :	NIA Charitable Hospital Naroda GIDC	Name of Antidotes to be store in plant :	Activated charcoal for general poisoning, Formepizol for Methanol poisoning. Methylene Blue						
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<u>Comments</u>																			

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.

• DELIBERATION AND RECOMMENDATION:

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

Conditions with which Environment Clearance is recommended:

Construction Phase

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

SPECIFIC CONDITIONS:

1. PP shall comply conditions of any subsequent amendment or expansion or change in product mix, after the 31st December 2021, 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 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 measures shall be taken to avoid soil and ground water contamination within premises.
 7. Unit shall not manufacture more than five products at a time from proposed product list at a given point of time as per details submitted by PP.
 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.
- 9. 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 Store Bromine Bottle in cool dry separate area, out of direct sunlight.

WATER

10. Total water requirement for the project shall not exceed 34.50 KLD. Unit shall reuse 11.50 KLD of treated industrial effluent within premises. Hence, fresh water requirement shall not exceed 23 KLD and it shall be met through GIDC only. Prior permission from concerned authority shall be obtained for withdrawal of water.
11. The industrial effluent generation from the project shall not exceed 20.40 KLD after expansion.
12. Total industrial effluent and Domestic effluent (1.40 KLD) shall be treated in-house ETP. 7 KLD, treated effluent shall be sent to CETP of M/s. NEPL for further treatment and disposal. Remaining treated effluent shall be evaporated in in-house MEE.
13. 11.50 KLD, MEE condensate shall be reused back within premises.
14. Treated waste water shall be sent to CETP only after complying with the inlet norms of CETP prescribed by GPCB to ensure no adverse impact on Human Health and Environment
15. Domestic wastewater generation shall not exceed 1.40 KL/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 provide ETP and MEE with adequate capacity.
17. The PP shall ensure to dispose off Waste water to the Common Facilities having valid CTO of GPCB.
18. The unit shall provide metering facility at the inlet and outlet of ETP and maintain records for the same.
19. Proper logbooks of ETP; reuse/ recycle of treated/ untreated effluent; chemical consumption in effluent treatment; quantity & quality of treated effluent disposal to CETP; power consumption etc. shall be maintained and shall be furnished to the GPCB from time to time.

AIR:

20. Unit shall not exceed fuel consumption for Boiler, TFH and D G Set as per the point no. E-2 as mentioned above.
21. Unit shall provide adequate APCM with flue gas generation sources to achieve the norms prescribed by GPCB.
22. Unit shall provide adequate APCM with process gas generation sources as the point no. **E-3** as mentioned above.
23. The fugitive emission in the workzone environment shall be monitored. The emission shall conform to the standards prescribed by the concerned authorities from time to time (e.g. Directors of Industrial Safety & Health). Following indicative guidelines shall also be followed to reduce the fugitive emission.
 - Internal roads shall be either concreted or asphalted or paved properly to reduce the fugitive emission during vehicular movement.
 - Air borne dust shall be controlled with water sprinklers at suitable locations in the plant.
 - A green belt shall be developed all around the plant boundary and also along the roads to mitigate fugitive & transport dust emission.

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

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

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

26. Solvent management shall be carried out as follows:

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

27. Regular monitoring of groundlevel concentration of PM₁₀, PM_{2.5}, SO₂, NO_x, HCl, HBr, Cl₂, Br₂ and VOCs shall be carried out in the impact zone and its records shall be maintained. Ambient air quality levels shall not exceed the standards stipulated by the GPCB. If at any stage these levels are found to exceed the prescribed limits, necessary additional control measures shall be taken immediately. The location of the stations and frequency of monitoring shall be decided in consultation with the GPCB.

HAZARDOUS / SOLID WASTES:

28. All the hazardous/ solid waste management shall be taken care as per the point no. F-1 as mentioned above.

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

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

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

32. 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

33. The PP shall develop green belt (953 sq. Meter within premises and 350 sq. Meter outside premises in GIDC area 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.

OTHERS:

34. The project proponent shall carry out the entire activities [Rain water harvesting system in school of Muthiya village] proposed under CER shall be part of the Environment Management Plan (EMP) as per the MoEF&CC's OM no. F. No. 22-65/2017-IA.III dated 30.09.2020. This shall be monitored and the monitoring report shall be submitted to the regional office of MoEF&CC as a part of half-yearly compliance report and to the District Collector. The monitoring report shall be posted on the website of the project proponent.

35. All the environmental protection measures and safeguards proposed in the Form-1 & PFR submitted by the project proponent and commitments made in their application shall be strictly adhered to in letter and spirit.

COMPLIANCE OF ENVIRONMENT CLEARANCE/REPORTING/ADMINISTRATION/APPEAL:

36. Project proponent shall inform to all the concerned authorities including Municipal Corporation and District Collector and shall also give wide publicity through advertisement in minimum two local newspapers within seven days, about the Environment Clearance order accorded.

37. Project proponent shall appoint a key person in the organization who shall be responsible for compliance of above condition fully on behalf of the proponent. It shall not mean that appointing a key person shall exempt the project proponent from the responsibility of compliance. Any change in key person shall immediately be informed to SEIAA and all concerned authorities.

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

39. The Nodal Department or any authority or officer authorized by MOEF&CC/SEIAA can inspect the site of the project and all the facilities, for verification of compliances of environment clearance conditions.

40. In case of violation reported upon, the project proponent shall be responsible for all the legal actions as per Environment Protection Act, 1986 including SEIAA may cancel, withdraw or keep in abeyance, the Environment Clearance accorded.

41. Any person including the project proponent affected by this Environment Clearance order may file appeal

to Honorable National Green Tribunal West Zone branch, Pune, preferably within a period of thirty days from the date of issue of Environment Clearance as prescribe under section 16 of National Green Tribunal Act 2010.

42. All complains and public grievance or representations may be addressed to SEIAA/SEAC in the email addresses (a) msseiaagj@gmail.com& (b) seacgujarat@gmail.com

7.	SIA/GJ/IND2/205626/2021	M/s. Drug mart Intermediates and Chemicals Plot No. 39/7, GIDC Industrial Estate, Jhagadia - 393110, Tal: Jhagadia, Dist: Bharuch	EC-Reconsideration
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Category of the unit: **5(f)**

Project status: New

- Project proponent (PP) submitted online application vide no. SIA/GJ/IND2/205626/2021 on dated 30/03/2021 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 proposes for manufacturing of synthetic organic chemicals [API and API Intermediates] as tabulated below,

Sr. No.	Name of the Products		API OR INTERMEDIATE	CAS no.	Quantity MT/ Month	*End-use of products
1.	Anastrozole	AND/OR	API	120511-73-1	10	Anastrozole is used to treat breast cancer in women after menopause
2.	Bendamustine HCL	AND/OR	API	3543-75-7	1.5	Bendamustine HCL is a cancer chemotherapy drug which works by killing cancer cells or slowing their growth.
3.	Bicalutamide	AND/OR	API	90357-06-5	20	Bicalutamide is used to treat prostate cancer.
4.	Bortezomib	AND/OR	API	179324-69-7	10	Bortezomib is used to treat people with multiple myeloma (a type of cancer of the bone marrow).
5.	Carboplatin	AND/OR	API	41575-94-4	4	Carboplatin is a chemotherapy drug that contains platinum which is used to slow or stop

						cancer cell growth.
6.	Cisplatin	AND/ OR	API	15663-27-1	3	Carboplatin is a chemotherapy drug that contains platinum which is used to slow or stop cancer cell growth
7.	Gefitinib	AND/ OR	API	184475-35- 2	20	Gefitinib is used to treat lung cancer.
8.	Lenalidomide	AND/ OR	API	191732-72- 6	5	Lenalidomide is used to treat multiple myeloma (bone marrow cancer).
9.	Letrozole	AND/ OR	API	112809-51- 5	50	Letrozole is used to treat breast cancer in women
10.	Oxaliplatin	AND/ OR	API	63121-00-6	4	Oxaliplatin is a chemotherapy drug that contains platinum which is used to slow or stop cancer cell growth
11.	Temozolomide	AND/ OR	API	85622-93-1	10	Temozolomide is used to treat brain cancer.
12.	Thalidomide	AND/ OR	API	50-35-1	1.5	Thalidomide is being used to treat a skin condition and cancer.
13.	Topotecan HCL	AND/ OR	API	119413-54- 6	1	Topotecan is used in the therapy of colorectal, ovarian and non-small cell lung cancer.
14.	Zoledronic acid	AND/ OR	API	18072-93-8	10	Zoledronic acid is used to treat bone cancer.
15.	Decitabine	AND/ OR	API	2353-33-5	1	Decitabine is used to treat chronic myeloid leukemia, and acute lymphoid leukemia.
16.	Methotrexate	AND/ OR	API	59-05-2	50	Methotrexate is a chemotherapy drug which is used to slow or stop cancer cell growth.
17.	Sunitinib	AND/ OR	API	341031-54- 7	50	Sunitinib is used to treat cancer of the stomach, bowel called gastrointestinal stromal tumor
18.	Irinotecan HCL Trihydrate	AND/ OR	API	136572-09- 3	50	irinotecan hcl trihydrate is used to treat metastatic colorectal cancer
19.	Docetaxel Trihydrate	AND/ OR	API	148408-66- 6	3	Docetaxel trihydrate is used to treat prostate cancer
20.	Epirubicin HCl	AND/ OR	API	56390-09-1	10	Epirubicin is used to treat breast cancer
21.	azacitidine	AND/ OR	API	320-67-2	5	Azacitidine is used to treat bone marrow disorder/bone cancer

22.	Gemcitabine HCl	AND/ OR	API	122111-03-9	5	Gemcitabine is a chemotherapy drug which is used to slow or stop cancer cell growth.
23.	Imatinibmesylate	AND/ OR	API	220127-57-1	50	imatinibmesylate is used to treat cancer of the stomach, bowel called gastrointestinal stromal tumor
24.	Capecitabine	AND/ OR	API	154361-50-9	20	Capecitabine is used to treat breast, colon, or rectal cancer.
25.	Cytrabine	AND/ OR	API	147-94-4	50	Cytrabine is used to treat acute myeloid leukemia, acute lymphoblastic leukemia and chronic myeloid leukemia.
26.	Uramustine	AND/ OR	API	66-75-1	50	Uramustine is used to slow or stop cancer cell growth.
27.	Rosuvastatin calcium	AND/ OR	API	147098-20-2	10	Rosuvastatin is used to help lower bad cholesterol and fats
28.	Tiopronin	AND/ OR	API	1953-02-2	10	Tiopronin is used to prevent kidney stones
29.	Carbozantinib malate	AND/ OR	API	849217-68-1	1.5	Cabozantinib malate is used to slow or stop cancer cell growth.
30.	Nilotinib HCL	AND/ OR	API	641571-10-0	40	Nilotinib malate is used to slow or stop cancer cell growth.
31.	Candesartan cilexetil	AND/ OR	API	139481-59-7	5	Candesartan is used to treat high blood pressure (hypertension).
32.	Azilsartan	AND/ OR	API	147403-03-0	1	Azilsartan is used to treat high blood pressure (hypertension).
33.	Azilsartan medoxomil	AND/ OR	API	863031-21-4	1	Azilsartan Medoxomil is used to treat high blood pressure (hypertension).
34.	Dolutegravir sodium	AND/ OR	API	1051375-19-9	50	Dolutegravir sodium is used to treat HIV infection
35.	Desloratadine	AND/ OR	API	100643-71-8	20	Desloratadine is used to treat allergies.
36.	Meropenam	AND/ OR	API	119478-56-7	50	Meropenem is used to treat skin and abdominal (stomach area) infections
37.	Cilostazol	AND/ OR	API	73963-72-1	1	Cilostazol is used to reduce the symptoms of

						intermittent claudication (pain in the legs that occur during exercise/walking).
38.	Lamotrigine		API	84057-84-1	20	Lamotrigine is a medicine used to treat epilepsy.
39.	R & D Products (Chlorination, Sulphonation, Bromination, Hydrogenation)		--		0.1	--
Total					50.10	

Brief Note of Product Profile:

1. No of Manufacturing Plants: 1no.s
2. Brief Note regarding number of Products to be manufactured considering plant capacity: The unit will manufacture any product (maximum 5 products at a time) based on either and/or basis, but the total production capacity will not exceed 50.0 MT/Month. Unit has proposed 0.10 MT/Month R&D Category products. Hence, Total Production capacity will be 50.10 MT/month.

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 of Intermediate N-1, N-2, etc	Name of API In Which Intermediate Used/ End Use of Said Intermediate	CAS No. (API)	
1.	Anastrozole	120511-73-1	API	--	--	--	Anastrozole is used to treat breast cancer in women after menopause
2.	Bendamustine HCL	3543-75-7	API	--	--	--	BendamustineHCL is a cancer chemotherapy drug which works by killing cancer cells or slowing their growth.
3.	Bicalutamide	90357-06-5	API	--	--	--	Bicalutamide is used to treat prostate cancer.
4.	Bortezomib	179324-69-7	API	--	--	--	Bortezomib is used to treat people with multiple myeloma (a type of cancer of the bone marrow).
5.	Carboplatin	41575-94-	API	--	--	--	Carboplatin is a

		4					chemotherapy drug that contains platinum which is used to slow or stop cancer cell growth.
6.	Cisplatin	15663-27-1	API	--	--	--	Carboplatin is a chemotherapy drug that contains platinum which is used to slow or stop cancer cell growth
7.	Gefitinib	184475-35-2	API	--	--	--	Gefitinib is used to treat lung cancer.
8.	Lenalidomide	191732-72-6	API	--	--	--	Lenalidomide is used to treat multiple myeloma (bone marrow cancer).
9.	Letrozole	112809-51-5	API	--	--	--	Letrozole is used to treat breast cancer in women
10.	Oxaliplatin	63121-00-6	API	--	--	--	Oxaliplatin is a chemotherapy drug that contains platinum which is used to slow or stop cancer cell growth
11.	Temozolomide	85622-93-1	API	--	--	--	Temozolomide is used to treat brain cancer.
12.	Thalidomide	50-35-1	API	--	--	--	Thalidomide is being used to treat a skin condition and cancer.
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15.	Decitabine	2353-33-5	API	--	--	--	Decitabine is used to treat chronic myeloid leukemia, and acute lymphoid leukemia.
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17.	Sunitinib	341031-54-7	API	--	--	--	Sunitinib is used to treat cancer of the stomach, bowel called gastrointestinal stromal tumor
18.	Irinotecan HCL Trihydrate	136572-09-3	API	--	--	--	irinotecan hcl trihydrate is used to treat metastatic colorectal cancer
19.	Docetaxel Trihydrate	148408-66-6	API	--	--	--	Docetaxel trihydrate is used to treat prostate cancer
20.	Epirubicin HCl	56390-09-1	API	--	--	--	Epirubicin is used to treat breast cancer
21.	azacitidine	320-67-2	API	--	--	--	Azacitidine is used to treat bone marrow disorder/bone cancer
22.	Gemcitabine HCl	122111-03-9	API	--	--	--	Gemcitabine is a chemotherapy drug which is used to slow or stop cancer cell growth.
23.	Imatinib Mesylate	220127-57-1	API	--	--	--	imatinib mesylate is used to treat cancer of the stomach, bowel called gastrointestinal stromal tumor
24.	Capecitabine	154361-50-9	API	--	--	--	Capecitabine is used to treat breast, colon, or rectal cancer.
25.	Cytarabine	147-94-4	API	--	--	--	Cytarabine is used

							to treat acute myeloid leukemia, acute lymphoblastic leukemia and chronic myeloid leukemia.
26.	Uramustine	66-75-1	API	--	--	--	Uramustine is used to slow or stop cancer cell growth.
27.	Rosuvastatin calcium	147098-20-2	API	--	--	--	Rosuvastatin is used to help lower bad cholesterol and fats
28.	Tiopronin	1953-02-2	API	--	--	--	Tiopronin is used to prevent kidney stones
29.	Carbozantinib Malate	849217-68-1	API	--	--	--	Cabozantinib malate is used to slow or stop cancer cell growth.
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38.	Lamotrigine	84057-84-1	API	--	--	--	Lamotrigine is a medicine used to treat epilepsy.

- 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.
- The proposal was considered in the SEAC video conference meeting dated 22.07.2021.
- During the SEAC Video conference meeting dated 22.07.2021, Project Proponent (PP) and their technical expert and EIA consultant from M/s.: Envirocare Technocrats Pvt. Ltd., Surat 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.
- This is a Greenfield project proposed for manufacturing of API and its intermediate at GIDC Jhagadia. Source of water supply is GIDC.
- Looking to GIDC plot allotment letter showing purpose of proposed plot for agriculture product and hence Committee insisted to PP that this case will be heard only after submission of GIDC letter showing proposed plot is for AP and its intermediate product only.
- **After detailed discussion, it was decided to defer the proposal and consider the same in one of upcoming meeting only after submission of GIDC letter showing proposed plot is for API and its intermediate product in place of agriculture product.**
- PP submitted their reply for the query raised by SEAC during SEAC meeting dated 22.07.2021 through email.
- The proposal was reconsidered in the SEAC video conference meeting dated **16.02.2022**.
- PP submitted salient features of water, air and Hazardous waste details and are as under,

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

		7.8715 Crores																							
		Break-up of proposed project Cost:																							
		<table border="1"> <thead> <tr> <th>Details</th> <th colspan="2">Project Cost (Rs. In Crores)</th> </tr> </thead> <tbody> <tr> <td>Land</td> <td colspan="2">0.50</td> </tr> <tr> <td>Buildings</td> <td colspan="2">3.40</td> </tr> <tr> <td>Plant & Machinery</td> <td colspan="2">3.0</td> </tr> <tr> <td>EMP</td> <td colspan="2">0.9715</td> </tr> <tr> <td style="text-align: right;">TOTAL</td> <td colspan="2">7.8715</td> </tr> </tbody> </table>			Details	Project Cost (Rs. In Crores)		Land	0.50		Buildings	3.40		Plant & Machinery	3.0		EMP	0.9715		TOTAL	7.8715				
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TOTAL	7.8715																								
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	Installation of ETP & Membership of NCT	0.18	0.3723	0.03	0.4023																			
2	Air	Provision of APCS During Construction Phase	0.005	0.001	0.001	0.002																			
		Installation of Stack/Vent & its Monitoring Facilities and Provision of Air Pollution Control System	0.1	0.0275	0.0025	0.03																			
		Provision of Odour Control System	0.01	0.0018	0.0002	0.002																			
		Provision of VOC Detectors	0.012	0.002	0.0005	0.0025																			
		Provision of CCTV Camera	0.005	0.0004	0.0001	0.0005																			
3	Hazardous Management	Getting Membership of TSDF Site	0.015	0.7293	0	0.7293																			
4	Fire Safety &	Provision of Safety Measures including Fire Detectors, Sensors, Alarm, Fire Hydrant, Fire Extinguishers, Lightening arrestors, PPE kits, Fire & Proximity Suits etc.	0.25	0.027	0.003	0.03																			
		Provision of PLC based Automization System	0.15	0.021	0.004	0.025																			
5	AWH	To conduct EMS	0	0.02	0	0.02																			

	Monitoring efficacy & environment monitoring					
6	Green Belt Development	Development of Greenbelt Area	0.01	0.0025	0.0025	0.005
7	Occupational Health	Provision of Occupational Health Centre with Antidotes	0.05	0.0185	0.0015	0.02
8	Noise	Installation of Acoustic Enclosure for D.G Set & Noise Control	0.01	0.004	0.0005	0.0045
9	Provision of Solar Light within Plant Area		0.02	0	0.0006	0.0006
10	CER Activity		0.1545	0.0055	0.0025	0.008
Total			0.9715	1.2328	0.0489	1.2817

Comments:

3) ...

Cost of Project in Crores per Annum:	7.8713 Crore
EMP Capital Cost in Crores per Annum and Percentage:	0.9713 Crore (12.40 %)
EMP Recurring Cost in Crores per Annum and Percentage:	1.2817 Crore (16.28%)

4)

A-3 Details of CER -

PP shall carry out CER activities as below:

Sr. No.	Activities	Location	Year	Budget (Rs. In Lacs)
1	Provision of 15 Nos. Solar street light (Solar pole, battery, panel, LED light complete) on village road.	Dadheda Village & Surrounding villages	2022	4.50
2	Provision of 1 no. Drinking water supply which includes, pumps, water tank & its structures, RO plants & its structures for poor people.		2023	10.95
Total				15.45

B Land / Plot ownership details:

Land has been procured by the applicant. GIDC plot transfer Letter no.

	GIDC/RM/ANK//TFR/FTO/JHA2/99 dated 28/04/2021 & Corrigendum order for purpose change is granted by GIDC vide letter no. GIDC/RM/ANK/CO/PRO/JHA2/1 on dated 17/01/2022.																								
B-1	<p>Plot area</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td style="text-align: center;">Total Plot area</td> </tr> <tr> <td style="text-align: center;">1000.00 Sq. m.</td> </tr> </table> <p style="text-align: center;">-</p>	Total Plot area	1000.00 Sq. m.																						
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B-2	<p>Area adequacy</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 5%;">Sr No.</th> <th style="width: 60%;">details</th> <th style="width: 15%;">Area Required (m²)</th> <th style="width: 15%;">Area Proposed (m²)</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>RM Material Storage Area</td> <td style="text-align: center;">82.05</td> <td style="text-align: center;">120.0</td> </tr> <tr> <td>2.</td> <td>Solvent Storage area</td> <td style="text-align: center;">28.60</td> <td style="text-align: center;">45.0</td> </tr> <tr> <td>3.</td> <td>Finished goods Storage Area</td> <td style="text-align: center;">19.18</td> <td style="text-align: center;">35.0</td> </tr> <tr> <td>4.</td> <td>Production Plant Area</td> <td style="text-align: center;">180.0</td> <td style="text-align: center;">300.00</td> </tr> <tr> <td>5.</td> <td>Utility area including Fuel & fly ash storage</td> <td style="text-align: center;">40.0</td> <td style="text-align: center;">70.0</td> </tr> </tbody> </table> <ul style="list-style-type: none"> For ETP 30.00 m² area shall be allotted. Separate 30.0 m² area shall be allotted for storage of hazardous/solid waste. For goods carrier movement, 6.0 m marginal space will be provided in plant area. 	Sr No.	details	Area Required (m ²)	Area Proposed (m ²)	1.	RM Material Storage Area	82.05	120.0	2.	Solvent Storage area	28.60	45.0	3.	Finished goods Storage Area	19.18	35.0	4.	Production Plant Area	180.0	300.00	5.	Utility area including Fuel & fly ash storage	40.0	70.0
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D	WATER																								
D-1	<p>Source of Water Supply</p> <p>➤ GIDC Water Supply, Jhaghadia</p> <p><u>Comments:</u></p> <p>3) Unit shall get permission from GIDC for Water requirement.</p>																								

D-2	Water consumption (KLD)																																									
	<p data-bbox="312 275 328 297">-</p> <table border="1" data-bbox="384 304 1334 1227"> <thead> <tr> <th data-bbox="384 304 695 405">Category</th> <th data-bbox="695 304 1070 405">Quantity KLD</th> <th data-bbox="1070 304 1334 405">Remarks</th> </tr> </thead> <tbody> <tr> <td data-bbox="384 405 695 456">(G) Domestic</td> <td data-bbox="695 405 1070 456">0.90</td> <td data-bbox="1070 405 1334 456">Fresh Water</td> </tr> <tr> <td data-bbox="384 456 695 508">(H) Gardening</td> <td data-bbox="695 456 1070 508">1.33</td> <td data-bbox="1070 456 1334 508">Fresh Water</td> </tr> <tr> <td colspan="3" data-bbox="384 508 1334 560">(I) Industrial</td> </tr> <tr> <td data-bbox="384 560 695 611">Process</td> <td data-bbox="695 560 1070 611">11.36</td> <td data-bbox="1070 560 1334 611">Fresh Water</td> </tr> <tr> <td data-bbox="384 611 695 663">Washing</td> <td data-bbox="695 611 1070 663">1.50</td> <td data-bbox="1070 611 1334 663">Fresh Water</td> </tr> <tr> <td data-bbox="384 663 695 763">Boiler</td> <td data-bbox="695 663 1070 763">20.0</td> <td data-bbox="1070 663 1334 763">Fresh – 05 + Reuse – 15</td> </tr> <tr> <td data-bbox="384 763 695 864">Cooling</td> <td data-bbox="695 763 1070 864">2.0</td> <td data-bbox="1070 763 1334 864">Fresh – 1.0 + Reuse – 1.0</td> </tr> <tr> <td data-bbox="384 864 695 916">Other (Scrubber)</td> <td data-bbox="695 864 1070 916">0.80</td> <td data-bbox="1070 864 1334 916">Fresh Water</td> </tr> <tr> <td data-bbox="384 916 695 1070">Other (Fire Hydrant)</td> <td data-bbox="695 916 1070 1070">1.11</td> <td data-bbox="1070 916 1334 1070">#Considering mockdrill, once in a six months.</td> </tr> <tr> <td data-bbox="384 1070 695 1122">Industrial Total</td> <td data-bbox="695 1070 1070 1122">36.77</td> <td data-bbox="1070 1070 1334 1122"></td> </tr> <tr> <td data-bbox="384 1122 695 1173">Grand Total (A+B+C)</td> <td data-bbox="695 1122 1070 1173">39.00</td> <td data-bbox="1070 1122 1334 1173"></td> </tr> <tr> <td data-bbox="384 1173 695 1227"></td> <td data-bbox="695 1173 1070 1227"></td> <td data-bbox="1070 1173 1334 1227"></td> </tr> </tbody> </table> <p data-bbox="312 1238 328 1261">-</p> <p data-bbox="312 1272 464 1305"><u>Comments:</u></p> <ul data-bbox="360 1305 1409 1798" style="list-style-type: none"> ➤ Maximum process water consumption take place in Product No. 11(THALIDOMIDE). ➤ For worst case scenario, first of all product water consumption is calculated by considering fully applied production capacity and from that we have identified that products in list of products, which will consume more water with respect to other products and the same is taken into consideration as only one product will be manufacture at a time. In addition maximum boiler working hour, washing water requirement per day is also taken into consideration. For inhouse gardening around 4 L/m² water is considered. For domestic purposed around 45 Li/person/day water is considered. Based on this our maximum water consumption shall not exceed 39.0 KLD 			Category	Quantity KLD	Remarks	(G) Domestic	0.90	Fresh Water	(H) Gardening	1.33	Fresh Water	(I) Industrial			Process	11.36	Fresh Water	Washing	1.50	Fresh Water	Boiler	20.0	Fresh – 05 + Reuse – 15	Cooling	2.0	Fresh – 1.0 + Reuse – 1.0	Other (Scrubber)	0.80	Fresh Water	Other (Fire Hydrant)	1.11	#Considering mockdrill, once in a six months.	Industrial Total	36.77		Grand Total (A+B+C)	39.00				
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(E) Domestic	0.60	Sent to ETP
(F) Industrial		
Process	11.71	Sent to ETP
Washing	1.50	
Boiler	1.00	
Cooling	0.10	
Other (Scrubber)	0.15	
Other (Fire Hydrant)	00	--
Total Industrial waste water	14.46	
Total (A+B+C)	15.06	

Comments:

Maximum waste water generation take place in product no15 (METHOTREXATE). Said products water consumption is taken into consideration because from applied product only one product will be manufacture at a same time. For worst case scenario, first of all product waste water generation is calculated by considering fully applied production capacity and from that we have identified that products in list of products, which will generate more water with respect to other products and the same is taken into consideration. In worst case we also have taken consideration boiler blow down, cooling waste water and scrubber waste water including washing waste water. In any case our industrial waste water generation shall not exceed 15.06 KLD.

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

Domestic:	Domestic effluent will allow into ETP-2 with low COD Stream.
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D-5 Break-up of waste water disposal & facility (For Industrial)

Sr. no.	Quantity KLD	Facility
1	0.60 KLD	Domestic effluent will allow into ETP-2 with low COD Stream.
2	11.71 KLD	High COD stream contain effluent generation (11.71 KLD) from proposed manufacturing process will be allowed into ETP-1 for primary treatment and then sent to stripper to remove mixed solvent.
3	2.75 KLD	Low COD Stream, Solvent free effluent (11.60 KLD) will be mixed with LOW COD stream (2.75 KLD) generated from washing, boiler, cooling and scrubber and Domestic (0.60 KLD). Mixed wastewater will be allowed to

		ETP-2 (14.95 KLD) having primary (dosing will be done by Lime and Alum), secondary & tertiary treatment and then treated water will be sent to Jhaghadia pipeline project of M/s. Narmada Clean Tech (NCT).
Total	15.06 KLD	14.95 –CETP NCT & 0.11 Recovered Mixed Solvent

Comments:

- 3) Domestic effluent will allow into ETP-2 with low COD Stream.
- 4) Industrial effluent generated from Proposed manufacturing process and other ancillary operation will be allowed segregated in two different stream: Low COD and High COD High COD stream contain effluent generation (11.71 KLD) from proposed manufacturing process will be allowed into ETP-1 for primary treatment and then sent to stripper to remove mixed solvent. After than, solvent free effluent will be mixed with LOW COD stream (2.75 KLD) generated from washing, boiler, cooling and scrubber and Domestic (0.60 KLD). Mixed wastewater will be allowed to ETP-2 (14.95 KLD) having primary (dosing will be done by Lime and Alum), secondary & tertiary treatment and then treated water will be sent to Jhaghadia pipeline project of M/s. Narmada Clean Tech (NCT).

E AIR

- E-1
- Total electric power requirement will be 125 KVA. Unit Has proposed one steam boiler (Capacity: 1 TPH) and One Thermopack of 2 Lac Kcal/Hr, one D. G. Set of capacity 125 KVA will be installed.
 - In worst case QUANTITY OF FUEL USED:
 - Solid – Briquettes of Biocoal - 8 MT/Day, Gas – Natural Gas – 5200 m³/Day, Liquid – Diesel – 55 Lit/Hr

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 (Capacity: 1 TPH)	30	Natural Gas <u>OR</u>	2000 ³ m /day	PM, SO ₂ , NO _x	Adequate stack height
			Briquettes of biocoal	3.00 MT/Day	PM, SO ₂ , NO _x	Multi Cyclone Separator + Bag Filter + Water Scrubber
2.	Thermopack(Capacity: 2 Lac Kcal/Hr)	30	Natural Gas <u>OR</u>	3200 MT/Day	PM, SO ₂ , NO _x	Adequate stack height
			Briquettes of Bio Coal	5.00 MT/Day	PM, SO ₂ , NO _x	Multi Cyclone Separator + Bag

			/ Fire Wood			Filter + Water Scrubber
3.	D. G. Set (Capacity: 125 KVA)	11.0	Diesel	55.0 Lit/Hr.	PM, 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)		
Proposed						
1	Process Vent-1 (Product No. 1, 3, 6, 25, 27, 29) (Sulfonation)#	HCl	20.00	Two Stage Water Scrubber followed by Alkali Scrubber		
2	Process Vent-2 (Product No. 15) (Bromination)	HBr	20.00	Two Stage Alkali Scrubber		
3	Reaction Vessel-3 (Product No. 1, 3, 6, 25, 27, 29) (Sulfonation)	SO ₂	20.00	Two Stage Alkali Scrubber		
-						
E-4 Fugitive emission details with its mitigation measures.						
<ul style="list-style-type: none"> ➤ Raw materials shall be stored in isolated storage area and containers shall be kept tightly closed. To minimize fugitive emission, powder material shall be allowed in a vessel through closed loop while liquid material shall be charged through closed pipeline. ➤ Manufacturing activity shall be carried out in closed reactors / vessels and regular checking and maintenance of the same shall be carried out to avoid any leakages. ➤ Transportation of raw materials & products shall be carried out by trolley within premises and minimum manual material handling shall be carried, so the fugitive emission due to process activity and material handling shall be minimized. ➤ To minimize fugitive emission due to vehicle movement, regular water sprinkling shall be carried out on road and paved road shall be maintained.... 						
<p><u>Comments for E2, E3 & E4:</u></p> <ol style="list-style-type: none"> 1) Proposed stand by D. G. Set shall be used only in case of power failure or emergency. 2) # Thionyl Chloride will be used as Raw material. 3) HCl gas generated from reaction column will be scrubbed into first stage water scrubber to recover HCl solution. Salty water (Neutralized effluent / bleed liquor) generated from second stage alkaline scrubber Tank will be allowed in ETP for further treatment as per water balance diagram. 4) SO₂ gas generated from reaction column will be scrubbed into two stage alkali scrubber to recover Sodium Sulfite solution and it will be sell to authorize end user whom have valid permission from GPCB as per Hazardous. Waste Rule-9. 5) HBr gas generated from reaction column will be scrubbed into two stage alkali scrubber and generated sodium bromide solution will be collected and sell to end user as per Haz. Waste Rule-9. 						

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
1	Discarded Containers/ Barrels and Liner	Raw Materials & Finished Products	33.1 (Sch. I)	5.0	Collection, Storage, Transportation(through GPS mounted vehicle) and Disposal by selling to registered recycler approved by GPCB / CPCB / reuse within premises
2	Used or Spent Oil	D. G. Set & Machinery	5.1 (Sch. I)	0.5	Maximum quantity will be reuse in plant & machinery as lubricant and balance Quantity will be disposed by selling to authorize re-refiners / recycler approved by GPCB/CPCB
3	ETP Sludge	Effluent Treatment Plant	35.3 (Sch. I)	48.63	Collection, Storage, Transportation (Through GPS Mounted Vehicles) and Disposal at TSDF site – for secured landfill
4	Distillation Residue	Process (1 to 37)	28.1 (Sch. I)	270	Collection, Storage, Transportation (Through GPS Mounted Vehicles) and Disposal for co-processing
5	Spent Solvent	Process (Product No. 1 to 37)	28.6 (Sch. I)	9120	Collection, storage, recovered through in-house distillation and reuse within premises. OR Disposed by send to outside registered distillation unit whom have valid Rule-9 permission to distill it.
6	Mixed Solvent	Stripper	28.6 (Sch. I)	39.60	Collection, Storage and disposal by sending to distillation unit whom having valid CTO from GPCB and Rule – 9 Permission to receive this waste

7	Spent Carbon	Process (Product No.7 to 14, 16, 21 to 23, 29, 32, 36, 37)	28.3 (Sch. I)	60.0	Collection, Storage, Transportation (Through GPS mounted vehicles) and Disposal by sending to registered recycler for regeneration / for co- processing
8	Spent Hyflow	Process (Product No. 13, 20, 21, 30, 36)	28.3 (Sch. I)	18.0	Collection, Storage, Transportation (Through GPS mounted vehicles) & Disposal at TSDf site for secured landfilling.
9	Spent Catalyst (PD/c, Raney Nickel)	Process (Product No. 1, 7, 21, 35)	28.2 (Sch. I)	24.0	Collection, Storage, Transportation (Through GPS mounted vehicles) and Disposal by sending to registered recycler for regeneration / for co- processing
10	Dil. HCl (10 - 20%)	Scrubber (Product No. 1, 3, 6, 25, 27, 29)	28.1 (Sch. I)	112.0	Collection, Storage, Transportation (through GPS mounted vehicle) and Disposed by selling to authorized end user whom have valid permission from GPCB as per Haz. Waste Rule-9
11	Sodium Sulphite (Na ₂ SO ₃) Solution (15-30%)	Scrubber (Product No. 1, 3, 6, 25, 27, 29)	28.1 (Sch. I)	160.0	Collection, Storage, Transportation (through GPS mounted vehicle) and Disposed by selling to authorized end user whom have valid permission from GPCB as per Haz. Waste Rule-9
12	Sodium Bromide (15 - 25 %)	Scrubber (Product No. 15)	28.1 (Sch. I)	127.0	Collection, Storage, Transportation (through GPS mounted vehicle) and Disposed by selling to authorized end user whom have valid permission from GPCB as per Haz. Waste Rule-9
13	Off Specification Products	Mfg. Process (Batch failure)	28.4 (Sch-I)	1.00	Collection, Storage, Transportation (Through GPS Mounted Vehicles) and Disposal at CHWIF for co- processing unit

Comments:

Unit has got NOC from BEIL vide letter no. BEIL/ANK/2021 dated 15.07.2021.

F-2	Non- Hazardous waste management matrix				
2. Fly Ash generation shall be 288 MTPA					
<u>Comments:</u>					
3) Collection, Storage, Transportation (through GPS mounted vehicles) & Disposal by selling to Cement /Brick manufacturing unit/ Local road contractor.					
Sr. No.	Type of Waste	Source of Generation	Category of Waste	Disposal	
1.	Concrete and Bricks material	Proposed construction activity	C & D Waste	Temporary store, reuse to increase plinth level and in road area	
	Steel, glass, wood			To be sell local scrap vendor	
2.	Domestic Waste (Food waste, Plastic, Paper etc.)	Employees working in the premises	MSW	Collected in separate bin and disposed to bin.	
3.	Industrial Waste (Glass wool [Insulating Material, Scrap])	Steam Pipe & Vessels	ISW	Sell to local scrap vendor	
4.	Industrial Waste (Wooden pellets)	From Raw Material & Product storage area	ISW	Sell to local scrap vender	
5.	E-waste	Entire Plant	E-waste	Collection, Storage and disposal to GPCB authorized E-Waste Management facility	
G	Solvent management, VOC emissions etc.				
G-1	Types of solvents, Details of Solvent recovery, % recovery, reuse of recovered Solvents etc.				
➤ In-house solvent recovery plant shall be installed and recovered solvent shall be again reused in process and residue shall be disposed for co-processing.					
Type of solvents		% recovery	% Losses		
			Air	Water	Haz
Dioxane		97.00	0.12	0.63	2.25
Acetic acid		95.29	0.1884	0.9891	3.5325
Acetone		96.00	0.16	0.84	3.00
Acetonitrile		96.29	0.1484	0.7791	2.7825
Butanol		96.00	0.16	0.84	3.00
Chloroform		96.71	0.1316	0.6909	2.4675
Cyclo hexane		96.00	0.16	0.84	3.00
Di isopropyl ether		97.01	0.1196	0.6279	2.2425
Di methyl Acetamide		96.07	0.1572	0.8253	2.9475
Di methyl formamide		96.95	0.122	0.6405	2.2875
Dichloromethane (MDC)		96.03	0.1588	0.8337	2.9775

DMSO (Dimethyl Sulphoxide)	97.00	0.12	0.63	2.25
EDC (Ethylene Dichloride)	95.67	0.1732	0.9093	3.2475
Ethanol	96.00	0.16	0.84	3.00
Ethyl Acetate	96.20	0.152	0.798	2.85
Ethyl Chloro Acetate	96.00	0.16	0.84	3.00
Heptane	96.00	0.16	0.84	3.00
Hexane	96.00	0.16	0.84	3.00
Iso Propyl Alcohol	95.91	0.1636	0.8589	3.0675
Methanol	96.38	0.1448	0.7602	2.715
MIBK (Methyl Isobutyl Ketone)	96.42	0.1432	0.7518	2.685
Diisopropyl ethyl amine	97.00	0.12	0.63	2.25
Pyridine	96.38	0.1448	0.7602	2.715
TEA (Triethyl Amine)	96.45	0.142	0.7455	2.6625
Tetra hydrofuran	96.00	0.16	0.84	3.00
Toluene	96.00	0.16	0.84	3.00

G-2 LDAR proposed:

- LDAR programs shall be done by Instrument monitoring and Physical inspection.

Sr. No.	Monitoring Components	Monitoring Frequency	Repair Schedule	Preventive Measures
1.	Pump seal	Monthly	Repair will be started within 5 working days and shall be completed within 15 working days after detection of leak for general organic chemicals. In case of extremely VOC, the leak shall be attended immediately for repair.	Double mechanical / magnetic seals pumps will be used
2.	Valves and flanges	Quarterly		Diaphragm types valve / Magnetically actuated, Seal-welded valve will be used.
3.	Compressor seal	Quarterly		Entirely enclosed type Compressors will be used.
4.	Open-ended lines	Quarterly		open-ended line is equipped with a cap, blind flange, plug, or a second valve
5.	Pressure relief devices	Yearly		-
6.	Visual inspections for pumps	Weekly		Immediately

- Physical inspections shall be done for heavy liquids below the vapor pressure thresholds. Physical inspections rely on the visual detection of dripping liquids.

In addition to LDAR program, following safety measures shall be taken to prevent losses of solvent in atmosphere;

- To achieve more than 95% recovery, unit shall provide vacuum distillation, double condensers with second condenser using chilled water as cooling media. The condensers shall be provided with sufficient Heat Transfer Area and residence time for maximum recovery.
- VOC detectors shall be installed to detect any solvent leakages during storage and handling.
- In warding, storage and consumption of solvents in various products shall be measured

through Level Transmitters and Load cells weighing systems resp. The quantity at each stage shall be reconciled periodically to arrive at Losses.

- Periodic monitoring of work area shall be carried out to check the fugitive emission.

G-3

VOC emission sources and its mitigation measures

Measures for achieving maximum solvent recovery and minimize VOC generation:

- Source: VOCs generation shall be from storage and usage of raw materials.
- VOC analysers shall be provided to detect any solvent leakages during storage and handling.
- Regular maintenance of valves, pumps, flanges, joints and other equipment shall be done to prevent leakages and thus minimizing the fugitive emissions of VOCs.
- Entire process shall be carried out in the closed reactors with proper maintenance of pressure and temperature.
- Ensure minimum number of flanges, joints and valves in pipelines.
- Proper preventive maintenance of roofs and seals for tanks
- Monitoring and preventive maintenance of valves, flanges, joints, etc.
- VOC detectors shall be installed to detect any solvent leakages during storage and handling.

Comments:

Justification of Reuse of solvent

Name of Solvent	Total requirement	Total quantity of solvent recovered
Dioxane	105.00	101.85
Acetic acid	140.00	133.41
Acetone	1200.00	1152.00
Acetonitrile	1700.00	1636.93
Butanol	144.40	138.62
Chloroform	560.00	541.58
Cyclo hexane	500.00	480.00
Di isopropyl ether	317.24	307.75
Di methyl Acetamide	146.00	140.26
Di methyl formamide	548.00	531.29
Dichloromethane (MDC)	17500.00	16805.25
DMSO (Dimethyl Sulphoxide)	416.67	404.17
EDC (Ethylene Dichloride)	1200.00	1148.04
Ethanol	400.00	384.00
Ethyl Acetate	2500.00	2405.00
Ethyl Chloro Acetate	54.00	51.84
Heptane	400.00	384.00
Hexane	1000.00	960.00
Iso Propyl Alcohol	1558.82	1495.06
Methanol	2600.00	2505.88
MIBK (Methyl Isobutyl Ketone)	1200.00	1157.04
Diisopropyl ethyl amine	100.00	97.00
Pyridine	317.07	305.59
TEA (Triethyl Amine)	1100.00	1060.95
Tetra hydrofuran	1200.00	1152.00
Toluene	6000.00	5760.00

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	--	--	--	--

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Storage of Hazardous chemicals in Tanks

-

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

Safety Precautions for Storage & Handling of Hydrochloric Acid & Sulphuric Acid

- Hydrochloric Acid & Sulphuric Acid storage in Drum.
- Dyke is provided to contain leakages. Dyked enclosure is able to contain the complete contents of the Drum in the dyke in case of any emergency.
- drum unloading procedure is prepared and implemented.
- Trained and experience operator employed for storage area.
- Efficient Level system in drum is provided to avoid overflow of drum.
- Proper and sufficient fire fighting arrangement provided in and around the storage.
- Safety shower, eye wash with quenching unit provided in storage area.
- Adequate PPEs like full body protection apron, Hand gloves, gumboot, Respiratory mask etc. are provided to operator.

Safety Precaution for Storage & Handling of Toluene:

- Toluene is a colorless liquid with a pungent odor. Stable under normal pressure and temperatures, it is highly flammable and easily ignited by sparks, heat or flame.
- Toluene will be stored in drum and received at plant by road truck and will be stored in a separate drum storage area.
- Toluene should be stored in a tightly closed container in a dry, well-ventilated, and secure place, preferably one designed for the storage of flammable liquids.
- Toluene should be kept away from incompatible materials, like oxidizing agents.
- Storage containers should be grounded and bonded.
- 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.
- Smoking and other spark, flame generating item will be banned.

Safety Precaution for storage & Handling of Methanol:

- Methanol is Flammable. It will be stored in the drum. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Containers may explode when heated. Vapors may form explosive mixtures with air.
- Keep in a dry, cool and well-ventilated place. Keep drum tightly closed in a dry and well-ventilated place.
- Keep away from heat and sources of ignition. Flammables area.
- Avoid contact with skin and eyes. Do not breathe vapors or spray mist. Remove all sources of ignition. Use only non-sparking tools.
- Wash hands before breaks and immediately after handling the product. Keep away from open flames, hot surfaces and sources of ignition.
- To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Take precautionary measures against static discharges.
- Dyke wall will be provided at drum storage area.

Safety details of Hazardous Chemicals:

Type of Hazardous Chemicals	Safety measures
Explosive	<ul style="list-style-type: none"> ✓ Standard Operating procedure shall be made for before Gas charging into reactor and after completion of reaction ✓ SOP shall be prepared and operators shall be trained for the same.. ✓ Safety valve and Rupture disc shall be provided on reactor. ✓ Safe Catalyst charging method shall be adopted. ✓ Flame arrestor shall be provided on vent line of reactor and it shall be extended above the roof level. ✓ Static earthing and electric earthing (Double) shall be provided. ✓ Gas detector shall be installed for early detection of gas leak.
Toxic and Corrosive	<ul style="list-style-type: none"> ✓ Storage area have cross air ventilation, no direct sun light, storage temp. below 40 deg. C. ✓ Containers which are opened must be carefully resealed and kept upright to prevent leakage. ✓ Charging in reactor shall be carried out through vacuum pump. ✓ Avoid contact with skin and eyes. Avoid inhalation of vapour or

		mist. during handling using protective gloves/ protective clothing/ eye protection / face with proper respiratory protection. Proper label and identification board /stickers shall be provided in the storage area. Safety showers and eye wash stations shall be installed near the storage area.	
Flammable		<ul style="list-style-type: none"> ✓ Keep in a dry, cool and well-ventilated place. Keep drum tightly closed in a dry and well-ventilated place. ✓ Keep away from heat and sources of ignition. Flammables area. ✓ Avoid contact with skin and eyes. Do not breathe vapors or spray mist. Remove all sources of ignition. Use only non-sparking tools. ✓ Wash hands before breaks and immediately after handling the product. Keep away from open flames, hot surfaces and sources of ignition. ✓ To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Take precautionary measures against static discharges. ✓ Dyke wall shall be provided at drum storage area. 	
<p>➤ Applicability of PESO: Yes. Unit shall obtain PESO License for storage of chemicals.</p> <p>Comments:-</p>			
H-2	Types of hazardous Processes involved and its safety measures:		
Type of Process	Safety measures including Automation		
Sulfonation	<ul style="list-style-type: none"> ✓ Circulation of cooling water in Jacket of Reactor ✓ Provision of pressure gauge and pressure release valve which shall be below than reactor hydraulic pressure. ✓ Provision of rupture disk. ✓ Dosing of chemicals shall be controlled by flow meters and is value. ✓ End of Toxic vapour release line shall be connected with alkali tank 		
Bromination	<ul style="list-style-type: none"> ✓ Circulation of cooling water in Jacket of Reactor ✓ Provision of pressure gauge and pressure release valve which shall be below than reactor hydraulic pressure. ✓ Provision of rupture disk. ✓ Dosing of chemicals shall be controlled by flow meters and is value. ✓ End of Toxic vapour release line shall be connected with alkali tank/ 		

	<p>Sodium Thiosulphate in case of excess charging</p> <p>✓ Sodium thiosulphate solution shall be utilized to absorb excess Br₂ gas during charging in vessels</p>												
Hydrogenation process	<ul style="list-style-type: none"> ➤ For hydrogenation process, hydrogen gas will be used. Unit will allot separate storage area for hydrogen gas cylinder. Hydrogen is a colorless, odorless, tasteless, flammable nontoxic gas which is flammable over a wide range of concentrations. ➤ Standard Operating procedure shall be made for before Hydrogen Gas charging into reactor and after completion of reaction Nitrogen flushing will be done. ➤ SOP will be prepared and operators will be trained for the same. ➤ Nitrogen blanketing will be done in Hydrogenation reactor. Safety valve and Rupture disc will be provided on reactor. ➤ Safe Catalyst charging method will be adopted. ➤ Flame arrestor will be provided on vent line of reactor and it will be extended above the roof level. ➤ Static earthing and electric earthing (Double) will be provided. ➤ Hydrogen gas detector will be installed for early detection of gas leak. ➤ One RCC wall having thickness 20 cm will be provided on all side of hydrogenation reactor to protect surrounding and other infrastructure during worst case scenario. 												
Exothermic Reaction	<p>✓ Exothermic reaction shall be controlled by adequate dosing of reaction chemicals in a fixed time (not short duration) having adequate cooling water circulation in jacket of reaction vessels. Thus, any energy generated due to exothermic reaction shall be controlled by external cooling circulation and therefore vessels shall not be pressurized.</p>												
H-3	Details of Fire Load Calculation												
	<table border="1"> <tr> <td>Total Plot Area:</td> <td>1000 Sq. m</td> </tr> <tr> <td>Area utilized for plant activity:</td> <td>300.0 Sq. m. (G+2)</td> </tr> <tr> <td>Area utilized for Hazardous Chemicals Storage:</td> <td>30.00 Sq. m.</td> </tr> <tr> <td>Number of Floors:</td> <td>G+2</td> </tr> <tr> <td>Water requirement for firefighting in KLD :</td> <td>0.025 (4.51 KL)</td> </tr> <tr> <td>Water storage tank provided for firefighting in KLD:</td> <td>1.11 (200 KL)</td> </tr> </table>	Total Plot Area:	1000 Sq. m	Area utilized for plant activity:	300.0 Sq. m. (G+2)	Area utilized for Hazardous Chemicals Storage:	30.00 Sq. m.	Number of Floors:	G+2	Water requirement for firefighting in KLD :	0.025 (4.51 KL)	Water storage tank provided for firefighting in KLD:	1.11 (200 KL)
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Details of Hydrant Pumps:	<ul style="list-style-type: none"> • 2 Nos. (1 Standby) (7.5 kg/cm² Pressure 150 mm diameter Pipe) • Provision of one jockey pump for continuous pressure maintain
Nearest Fire Station :	Jhaghadia Fire Station: 2.25 km in N
Applicability of Off Site Emergency Plan:	Shall be prepared

Comments:

2) --

H-4 Details of Fire NOC/Certificate:

Unit shall 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 :	05
Area provided for OHC:	25
Number of First Aid Boxes :	15
Nearest General Hospital :	General Hospital, Ankleshwar: 9.15 km
Name of Antidotes to be store in plant :	<p>Ammonia: Skin: Wash with Lactic Acid, Apply Soframycin Eyes: Benoxynate (Novacin) 0.4% conc. Throat : Smelling Ethanol or Ether</p> <p>Toluene: Diazem – 1 mg/Kg Epinephina, Efidrine</p> <p>Methanol: Ethanol (30% solution through oral, 5% solution through injection), epicake syrup, if Acidosis than Sodium bicarbonate, if effect of delirium than give 10 mg diazepam through injection.</p> <p>Acid: Sodium Hydro-Carbonate (4% Conc.), Milk, Lime Juice, Milk of Megnesia</p> <p>Thionyl Chloride Milk of Magnesia, Soda Water, Castor Oil, Soframycine</p> <p>Acetone The cyanide antidote kit first uses a small inhaled dose of amyl nitrite followed by intravenous sodium nitrite</p>

Comments--

- Deliberation of the Committee:
 - ✓ GIDC plot allotment letter for proposed project reviewed.
 - ✓ Product profile with its end use discussed in depth. At a time five products will be manufactured.
 - ✓ Site Plan/ layout with fire plan & floor plans and provision of separate entry & exits, 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, 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 high COD stream will be treated in ETP followed by solvent stripper and then along with low COD stream will be further treated in ETP-2 and treated effluent will be sent to CETP of GIDC Saykha.
 - ✓ Natural gas or briquette of bio coal 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, storage of Hazardous chemicals and its safety and Area adequacy was discussed.
 - ✓ CER fund allocation, EMP, Green belt area was discussed.
- Looking to risk assessment not submitted by technical expert of Pp eventhough hydrogen and other Hazardous chemicals storage for proposed API production, Committee insisted for submission of detailed risk assessment report for storage and handling of various hazardous chemicals.
- Later on PP submitted simple general details for risk assess ment for storage of hydrogen gas and its dispersion model eventhough for proposed expansion project, through e-mail which seems inadequate.

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

1. Submission of Risk assessment of hydrogen gas along with other hazardous chemical like EDC, toluene, bromine etc. storage and its handling considering its storage and its handling and super imposition of dispersion model of hydrogen gas along with other hazardous chemical like EDC, toluene, bromine etc. on proposed project area considering any leakage or blast of hydrogen gas along with other hazardous chemical like EDC, toluene, bromine etc. storage tank or its handling and its impact on surrounding habitat with its remediation control measures along with details of population affected.

8.	SIA/GJ/IND2/205921/2021	M/s. Panchmukh Industries Plot No: C-144/2, GIDC Estate Saykha, Dist-Bharuch-392140.	EC-Reconsideration
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Category of the unit: **5(f)**

Project status: New

- Project proponent (PP) submitted online application vide no. SIA/GJ/IND2/205921/2021 on dated 25.03.2021 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 & API Intermediates**] as tabulated below.

Sr. No.	Name of the Products	API <u>OR</u> INTERMEDI ATE	CAS no.	Quantity MT/Month	*End-use of products
Group A:-API					
1.	Pregabalin	API	148553-50-8	40 TPM (Sr. No. 1 to 15)	Used to treat pain caused by fibromyalgia, or nerve pain in people with diabetes (diabetic neuropathy), herpes zoster or spinal cord injury.
2.	Doxofylline	API	69975-86-6		Used in the treatment and prevention of chronic obstructive pulmonary disease and asthma.
3.	Rosuvastatin Calcium	API	147098-20-2		Used along with a proper diet to help lower "bad" cholesterol and fats (such as LDL, triglycerides) and raise "good" cholesterol (HDL) in the blood.
4.	Fluconazole	API	86386-73-4	40 TPM (Sr. No. 1 to 15)	Used to treat fungal infections, including yeast infections of the vagina

				mouth, throat, esophagus (tube leading from the mouth to the stomach), abdomen, lungs, blood, and other organs.
5.	Carbamazepine	API	298-46-4	Used to treat epilepsy. It can also be taken for nerve pain caused by diabetes (peripheral neuropathy) or if you have a painful condition of the face called trigeminal neuralgia.
6.	Levo Floxacin	API	100986-85-4	Used in the treatment of Acute Bacterial Sinusitis and Acute Exacerbation of Chronic Bronchitis when these infections have been adequately diagnosed.
7.	Tigecycline	API	220620-09-7	Used to treat certain serious infections including community acquired pneumonia (a lung infection that developed in a person who was not in the hospital), skin infections, and infections of the abdomen.
8.	Tramadol	API	27203-92-5	Used to treat moderate to severe pain, for example after an operation or a serious injury. It's also Used to treat long-standing pain when weaker painkillers no longer work.

9.	Metoprolol Tartrate	API	37350-58-6		Used with or without other medications to treat high blood pressure(hypertension)Lowering high blood pressure helps prevent strokes, heart attacks, and kidney problems.
10.	Paracetamol	API	103-90-2	40 TPM (Sr. No. 1 to 15)	Paracetamol is a common painkiller Used to treat aches and pain. It can also be Used to reduce a high temperature. It's available combined with other painkillers and anti-sickness medicines. It's also an ingredient in a wide range of cold and flu remedies.
11.	Ketoconazole	API	65277-42-1		Ketoconazole topical (for the skin) is an antifungal medicine Used to treat infections such as athlete's foot, jock itch, ringworm, and seborrhea (dry, flaking skin or dandruff).
12.	Quinine Sulphate	API	6119-70-6		This medication is Used alone or with other medication to treat malaria caUsed by mosquito bites in countries where malaria is common.
13.	Ofloxacin	API	82419-36-1		Ofloxacin may also be Used to treat bronchitis and urinary tract infections but should not be Used for

					bronchitis and some types of urinary tract infections if other treatments are available.
14.	Itraconazole	API	84625-61-6		An antifungal medication that is used in adults to treat infections caused by fungus.
15.	Valsartan	API	137862-53-4		Used to treat high blood pressure, heart failure, and diabetic kidney disease. An angiotensin -used mainly for the treatment of hypertension.
Group B (Intermediate Products)					
16.	1-Acetyl-4-(4-hydroxyphenyl) Piperazine	Intermediate	67914-60-7	40 TPM (Sr. No 16 to 30)	It is used to treat skin infections Such as athlete's foot, jock itch, ringworm, This medication is also used to treat a skin condition known as pityriasis, a fungal infection that causes a lightening.
17.	1-[2,3 Di Chloro Phenyl] Piperazine Hydrochloride	Intermediate	119532-26-2		An antipsychotic- used in the treatment of schizophrenia and bipolar disorder and other uses include as an add-on treatment in major depressive disorder
18.	1-(3-Chlorophenyl)-4-(3-Chloropropyl) Piperazine Hydrochloride	Intermediate	52605-52-4		It is used an antidepressant that increases serotonin activity in the brain.

19.	Bis (2-Chloroethyl) Amine Hydrochloride	Intermediate	821-48-7		an antifungal- used to treat certain infections caused by fungus
20.	1-(4-methoxyphenyl) piperazine hydrochloride	Intermediate	38869-47-5		It is used in adults to treat infections caused by fungus. This includes infections in any part of the body including the lungs, mouth or throat, toenails, or fingernails.
21.	Di Methyl Amino Ethyl Chloride Hydrochloride (DMC HCL)	Intermediate	4584-46-7		Is used to treat runny nose, sneezing, itching, and watery eyes caused by allergies, the common cold, or the flu.
22.	Di Ethyl Amino Ethyl Chloride Hydrochloride (DEC HCL)	Intermediate	869-24-9		Is used to treat certain types of serious irregular heartbeat .
23.	2-Amino 5-Methyl Thiazole	Intermediate	7305-71-7		Anti-inflammatory-used to treat pain and inflammation in rheumatic diseases and osteoarthritis.
24.	1-(3-Chlorophenyl) Piperazine	Intermediate	6640-24-0		It is an antidepressant that increases serotonin activity in the brain.
25.	3-(dimethylamino)- 1(thiophen-2yl) propan-1-ol	Intermediate	132335-49-0	40 TPM (Sr. No 16 to 30)	Duloxetine is used to treat depression and anxiety. In addition, duloxetine is used to help relieve nerve pain in people with diabetes or ongoing pain due to medical conditions such as arthritis, chronic back pain, or fibromyalgia.

26.	1-[2,4-d-Difluorophenyl]-2,3-epoxypropyl-1H-1,2,4-triazole methanesulfonate	Intermediate	86386-77-8		An antifungal medication used for a number of fungal infections.
27.	5-(Difluoromethoxy)-2-Mercapto Benzimidazole	Intermediate	97963-62-7		It is used to treat damage from gastroesophageal reflux disease, a condition in which backward flow of acid from the stomach causes heartburn and possible injury of the esophagus in adults and children 5 years of age and older.
28.	Dibenzo[b,f][1,4]Thiazepin-11[10H]-One	Intermediate	3159-07-7		Anti-psychotic -used to treat certain mental/mood conditions.
29.	8-Chloro-11-(4-methyl-1-piperazinyl)-5H-dibenzo[b,e][1,4] diazepam	Intermediate	5786-21-0		An antipsychotic medicine. Used to treat schizophrenia after other treatments have failed.
30.	5-amino-2,4,6-triiodobenzene-1,3-dicarbonyl chloride	Intermediate	35453-19-1		It contrast agents are used to allow blood vessels, organs, and other non-bony tissues to be seen more clearly on a CT scan or other radiologic (x-ray) examination.
31.	R & D Products		--	0.1	---
Total Production Quantity				80.1	

- 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 08.07.2021.
- During the meeting dated 08.07.2021, 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 Ecopreneur Incorporate remain present during video conference meeting.
- PP informed that GIDC Plot Allotment letter is in the name of M/s Mili Dye chem dated: 22.10.2018 and Rent Agreement for a period of ten years between M/s Mili Dye chem and M/s Panchmukh Industries. Also till date they have not received CETP-Saykha membership for sending treated effluent.
- **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 CETP-Saykha membership in the name of the unit.**
- PP submitted their reply for the query raised by SEAC during SEAC meeting dated 08.07.2021 through email.
- The proposal was reconsidered in the SEAC video conference meeting dated **16.02.2022**.
- Deliberation of the Committee:
 - ✓ GIDC plot allotment letter, Rent agreement and CETP membership certificate for proposed project reviewed.
 - ✓ Product profile with its end use discussed in depth. At a time two products will be manufactured.
 - ✓ Site Plan/ layout with fire plan & floor plans and provision of separate entry & exits, 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, 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 high COD stream will be treated in ETP followed by solvent stripper and then along with low COD stream will be further treated in ETP-2 and treated effluent will be sent to CETP of GIDC Saykha.
 - ✓ Natural gas or briquette of bio coal 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, storage of Hazardous chemicals and its safety and Area adequacy was discussed.
 - ✓ CER fund allocation, EMP, Green belt area was discussed.

	Management	TSD/Co-processing Waste /incineration disposal		
4.	Risk and Safety Audit and Safety Equipment (PPE, Safety Shower, Ventilation, etc.)	Installation cost of all the Safety Equipment's/ Control Measures [i.e., Personal protective Equipment, Noise Control system, Process Safety]	0.6	0.20
5.	Cost of Fire Extinguisher, Fire hydrant line	Cost of Fire Extinguisher (Total No 40), Cost of Fire Trolley (Total 5 Nos) , Cost of Fire Proximity Suit (Total 2)	0.3	0.15
5	Green Belt Development	33% of the plant area will be developed as greenbelt.	0.02	0.010
6.	AWH Monitoring	Regular monitoring of various environmental parameters will be carried out to check the effectiveness of the control system.	0.37	0.10
7.	Occupational Health	Cost of medical room, oxygen cylinder, Bed facilities, First Aid Box and basic amenities. Provision of basic amenities with full time 1 nos. of doctor and 2 nos. of nurses at premises	0.06	0.12
8.	CER Activity	--	--	0.15
Total			2.55	5.03

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 Solar Light facilities with maintenance to nearby village. Nos. of Solar Light will be installed

Installation of rain water harvesting system

B	Land / Plot ownership details: GIDC/DEE(Road)/BRH/523, Dated: 22/10/2018 Plot Transfer letter is attached as Annexure-I.																																																																																																																											
B-1	Plot area <table border="1" data-bbox="316 383 667 483"> <tr> <td>Total Plot area</td> </tr> <tr> <td>2500 Sq. m.</td> </tr> </table> -					Total Plot area	2500 Sq. m.																																																																																																																					
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B-2	<p>Area adequacy</p> <ul style="list-style-type: none"> ➤ Production capacity: 80 MT/Month. ➤ List of Hazardous chemicals stored in tanks shown below. <table border="1" data-bbox="344 689 1374 1413"> <thead> <tr> <th>S. N.</th> <th>Name of chemical</th> <th>Quantity (Nos.)</th> <th>Total (Nos.)</th> <th>Total Qty. to be store (KL)</th> </tr> </thead> <tbody> <tr> <td colspan="5" style="text-align: center;">Non- PESO</td> </tr> <tr> <td>1</td> <td>Sulphuric Acid</td> <td>10 KL</td> <td>1 Nos.</td> <td>10</td> </tr> <tr> <td>2</td> <td>Hydrochloric Acid</td> <td>250 Lit</td> <td>35 Nos.</td> <td>8.8</td> </tr> <tr> <td>3</td> <td>Nitric acid</td> <td>250 Lit</td> <td>32 Nos.</td> <td>8</td> </tr> <tr> <td colspan="5" style="text-align: center;">PESO- Drum</td> </tr> <tr> <td>1</td> <td>Acetic acid</td> <td>250 Lit</td> <td>29 Nos.</td> <td>7.3</td> </tr> <tr> <td>2</td> <td>EDC</td> <td>250 Lit</td> <td>24 Nos.</td> <td>6.1</td> </tr> <tr> <td>3</td> <td>DMS</td> <td>250 Lit</td> <td>11 Nos.</td> <td>2.6</td> </tr> <tr> <td>4</td> <td>DMF</td> <td>250 Lit</td> <td>27 Nos.</td> <td>6.8</td> </tr> <tr> <td>5</td> <td>Ethyl acetate</td> <td>250 Lit</td> <td>24 Nos.</td> <td>6</td> </tr> <tr> <td>6</td> <td>IPA</td> <td>250 Lit.</td> <td>45 Nos.</td> <td>11.3</td> </tr> <tr> <td>7</td> <td>MDC</td> <td>250 Lit.</td> <td>12 Nos.</td> <td>3</td> </tr> <tr> <td>8</td> <td>O-xylene</td> <td>250 Lit.</td> <td>10.0 Nos.</td> <td>10</td> </tr> <tr> <td>9</td> <td>Ethanol</td> <td>250 Lit.</td> <td>42 Nos.</td> <td>10.5</td> </tr> <tr> <td>10</td> <td>Methanol</td> <td>13 KL</td> <td>1 Nos.</td> <td>12.5</td> </tr> <tr> <td>11</td> <td>Toluene</td> <td>12 KL</td> <td>1 Nos.</td> <td>11.3</td> </tr> <tr> <td colspan="5" style="text-align: center;">Cylinder</td> </tr> <tr> <td>1</td> <td>Hydrogen Gas</td> <td>60 Kg</td> <td>15 Nos.</td> <td>0.9</td> </tr> </tbody> </table> <ul style="list-style-type: none"> ➤ Area required for ETP 70 m². ➤ 40.0 m² area provided for the Boiler House. ➤ 630.0 m² (G+F+S) area will be provided for the manufacturing of the proposed products. <table border="1" data-bbox="316 1608 1406 2024"> <thead> <tr> <th>Sr. No</th> <th>Particulars</th> <th>Criteria for Storage</th> <th>Inventor y Required (MT)(KL)</th> <th>Area Required m²</th> <th>Area Proposed m²</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Finished product storage area (1 week inventory)</td> <td>Bags/Drums: 746 0.5 MT/ 1m²</td> <td>18.7</td> <td>124.4</td> <td>150</td> </tr> <tr> <td>2</td> <td>Raw Material Storage area (1 week inventory)</td> <td>Drums: 175 (0.5 MT/1m²)</td> <td>35</td> <td>87.5</td> <td>120</td> </tr> <tr> <td>3</td> <td>Raw Material Storage</td> <td>Bags: 300</td> <td>15</td> <td>60</td> <td>90</td> </tr> </tbody> </table>					S. N.	Name of chemical	Quantity (Nos.)	Total (Nos.)	Total Qty. to be store (KL)	Non- PESO					1	Sulphuric Acid	10 KL	1 Nos.	10	2	Hydrochloric Acid	250 Lit	35 Nos.	8.8	3	Nitric acid	250 Lit	32 Nos.	8	PESO- Drum					1	Acetic acid	250 Lit	29 Nos.	7.3	2	EDC	250 Lit	24 Nos.	6.1	3	DMS	250 Lit	11 Nos.	2.6	4	DMF	250 Lit	27 Nos.	6.8	5	Ethyl acetate	250 Lit	24 Nos.	6	6	IPA	250 Lit.	45 Nos.	11.3	7	MDC	250 Lit.	12 Nos.	3	8	O-xylene	250 Lit.	10.0 Nos.	10	9	Ethanol	250 Lit.	42 Nos.	10.5	10	Methanol	13 KL	1 Nos.	12.5	11	Toluene	12 KL	1 Nos.	11.3	Cylinder					1	Hydrogen Gas	60 Kg	15 Nos.	0.9	Sr. No	Particulars	Criteria for Storage	Inventor y Required (MT)(KL)	Area Required m ²	Area Proposed m ²	1	Finished product storage area (1 week inventory)	Bags/Drums: 746 0.5 MT/ 1m ²	18.7	124.4	150	2	Raw Material Storage area (1 week inventory)	Drums: 175 (0.5 MT/1m ²)	35	87.5	120	3	Raw Material Storage	Bags: 300	15	60	90
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5	Hydrogen Cylinder Storage Area	--	0.9	-	5							
			101.6 MT	335.9 m²	455 m²							
<p>Hence, adequate area is available for proposed in Bulk drug intermediate mfg. Facility.</p> <p><u>Comments:</u></p> <p>SEAC has examined it w.r.t.to total monthly production, maximum products, manufactured per month, the total raw material required, weekly storage requirement of each raw material, their mode of storage, their compatibility (flammability, corrosive, toxic), area needed by each raw material, one week storage of finished goods. Area adequacy, from overall safety perspective, has been provided in proposal and is satisfactory.</p>												
B-3	<p>Green belt area</p> <table border="1"> <thead> <tr> <th></th> <th>Total (Sq. meter)</th> </tr> </thead> <tbody> <tr> <td>Area in Sq. meter</td> <td>825 Sq. m. (Approx. 33 % of total plot area inside the premises)</td> </tr> <tr> <td>% of total area</td> <td>33%</td> </tr> </tbody> </table> <p><u>Comments:</u></p> <p>The condition shall be given that -</p> <p>The PP shall develop green belt (825 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.</p>							Total (Sq. meter)	Area in Sq. meter	825 Sq. m. (Approx. 33 % of total plot area inside the premises)	% of total area	33%
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30												
-												
D	WATER											

D-1	Source of Water Supply <ul style="list-style-type: none"> ➤ GIDC Water Supply ➤ Ref. No. GIDC/DEE (WS)/BRH/802, Dated: 19/08/2021 																																				
	Comments: Prior permission from concerned authority shall be obtained for withdrawal of water.																																				
D-2	Water consumption (KLD)																																				
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	<p>-</p> <p>Comments:</p> <p>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.</p>														
D-4	Break-up of waste water disposal & facility (For Domestic)														
	<p>1.2 KLD Domestic Waste Water collected and will be treated into ETP I. Domestic waste water will be used in aeration tank for adequate treatment.</p> <p>Comments:</p> <p>Domestic wastewater generation shall not exceed 1.20 KL/day for proposed project and it shall be treated in ETP. It shall not be disposed off through soak pit/ septic tank.</p>														
D-5	Break-up of waste water disposal & facility (For Industrial)														
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E-4	Fugitive emission details with its mitigation measures.				
<ul style="list-style-type: none"> - Whole process will be carried out in close loop. - Pipe line will be having minimum flange. - Pump with double mechanical seals - Proper ventilation. 					
Comments for E2, E3 & E4:					
<ol style="list-style-type: none"> 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 as per HWM, 2016	Quantity (MT/ Year)	Remarks
1.	Empty barrels/ containers/liners contaminated with hazardous chemicals /wastes	Raw Material and Packaging	33.1	50	Collection, Storage, Transportation, Decontamination, reuse or send back to supplier, and sold to Authorized end users registered under rule-9.
2.	Used or Spent Oil	From Machinery	5.1	0.5	Collection, Storage, Transportation and sold to authorized Recyclers.
3.	ETP Sludge	ETP	35.3	144	Collection, Storage, Transportation and sent to TSDF site. (Through GPS mounted vehicle)
4.	Process waste	From Product No: - 8,12 Maximum generation From Product Quinine Sulphate	28.1	48	
5.	Distillation Residue	From Product No: - 1 to 9,11-20,23-24,27-30 Maximum generation From Product Itraconazole, Bis	20.3	156	Collection, Storage, transportation and sent for co-processing in cement industries or disposal at common incineration at CHWIF. (Through GPS mounted

		(2-Chloroethyl) Amine Hydrochloride			vehicle)
6.	Spent Carbon	From Product No: - 6,10,11,13-15, 17,28,29 Maximum generation From Product Ofloxacin, 1-[2,3 Di Chloro Phenyl] Piperazine Hydrochloride	28.3	38	
7.	Hyflow	From Product No: - 6,14 Maximum generation From Product Itraconazole	28.1	40	
8.	Spent Catalyst	From Product No: - 2,8,10 Maximum generation From Product Doxofylline	28.2	5	
9.	Aluminium Chloride [30-40%]	From Product No: - 4 Maximum generation From Product Fluconazole	---	481	Collection, Storage, Transportation and sell to authorized end users registered under rule-9.
10	Ammonium Sulphate. [30-40%]	Scrubber & Product No: - 14 Maximum generation From Product Itraconazole	---	209	Collection, Storage, Transportation and sell to authorized end users registered under rule-9.
11	HCl Sol. [28-33%]	Scrubber & Product No: - 4,7,11,14-17,27-29 Maximum generation From Product Itraconazole, 1-[2,3 Di Chloro Phenyl] Piperazine Hydrochloride	SCH-II- / B (15)	977	Collection, Storage, and reused in manufacturing process and/or Collection, Storage, Transportation and sell to authorized end users registered under rule-9.
12	Sodium Bisulfite Sol. [NaHSO ₃ Sol.] [30-35%]	Scrubber & Product No: - 7,19,21,22,30 Maximum	--	790	Collection, Storage, Transportation and sell to authorized end users registered under rule-9.

		generation From Product Tigecyline, Di Methyl Amino Ethyl Chloride Hydrochloride (DMC HCL)			
13	Sodium Bromide [NaBr] Sol. [25-30%]	Scrubber & Product No: - 7,8,11,14,15,18 Maximum generation From Product Tigecyline,1-(3-Chlorophenyl)-4-(3-Chloropropyl) Piperazine Hydrochloride	--	817	Collection, Storage, Transportation and sell to authorized end users registered under rule-9.
14	Sodium Hydrosulfide Sol.[NaSH] [30-36%]	Scrubber & Product No: - 27 Maximum generation From Product 5-(Difluoromethoxy)-2-Mercapto Benzimidazole	---	313	Collection, Storage, Transportation and sell to authorized end users registered under rule-9.
15	Sulfuric Acid [H ₂ SO ₄] Sol. [60-70%]	From Product No: - 7 Maximum generation From Product Tigecyline	SCH-II- / B (15)	268	Collection, Storage, Transportation and sell to authorized end users registered under rule-9.
16	Spent Solvent	From Product No: - 1-9, 11-24,27-29	20.2	1318	Collection, Storage, Recovery and Recycle for manufacturing of product.
17	Mix Solvent	Stripper	20.2	66	Collection, Storage, and Transportation and sell to authorized end users registered under rule-9 and/or send to co-processing in cement industries.
18	Off-Specification Products	Products	SCH-I/ 28.4	10	Collection, storage, transportation and sent for co-processing in cement industries or disposal at common incineration at CHWIF.
19	Sodium Hypo chlorite Solution	APCM Scrubber	--	134	Collection, storage and sent to ETP for further Treatment.

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

- 4) Fly Ash generation :- Not Applicable
- 5) STP sludge generation:- Not Applicable

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

- All the solvents shall be directly distilled from product mixes and; if required shall be purified in packed column with the help of reflux.
- The solvent distillation system shall be designed so as to achieve minimum 95.0 % recovery of solvent.
- All the pumps shall be mechanical seal type to avoid any leakage of solvent.
- All necessary firefighting systems shall be provided with alarm system. Flame proof wiring and flame proof electrical accessories shall be provided to avoid any mishap.
- All the distillation column vents are also connected to cooling water/ chilled brine condensers for maximum possible recovery of the solvents.
- All the vents will be connected to a common carbon Absorber for removing traces of solvent from vent gases.
- Residue generated from the distillation will be incinerated in-house or sent to BEIL incinerator site.
- Two condenser will install with cooling water and chilled brine to recover the solvent.
- Primary Condenser HE-01: Cooling Tower water or Chilled water at 10 °C -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

VOC Trap Condenser HE-02: Chilled Brine at -05 °C will be used to trap any traces of Solvent, which is slipped from Secondary condenser.

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

Sr. No.	Product	Solvent	Boiling Point	Fresh Qty	Recover Qty	Rec.
				MT/Month	MT/Month	
1	Pregabline	Iso Propyl alcohol	82.5 °C	32	30.7	96.0
		Methanol	64.7 °C	8	7.7	96.0
		Chloroform	61.2 °C	16	15.4	96.0
2	Doxofylline	Methanol	64.7 °C	24	23.0	96.0
		Toluene	110.6°C	8	7.7	96.0
		Actone	56 °C	8	7.7	96.0
		DMF	153 °C	16	15.4	96.0
3	Rosuvastatin	Toluene	110.6°C	12	11.5	96.0

	Calcium	Acetone	56 °C	4	3.8	96.0
		Butanol	117.7 °C	5.2	5.0	96.0
4	Fluconazole	EDC	83.47 °C	40	38.4	96.0
		Toluene	110.6°C	60	57.6	96.0
		IPA	82.5 °C	28	26.9	96.0
5	Carbamazepine	Methanol	64.7 °C	16	15.4	96.0
		Methanol	64.7 °C	6	5.8	96.0
		Dichloromethane	39.6 °C	8	7.7	96.0
		Methyl tert butyl ether	55.2 °C	4	3.8	96.0
6	Levo Floxacin	Dimethyl formamide (DMF)	153 °C	4	3.8	96.0
		Toluene	110.6°C	10	9.8	98.4
		Acetone	56 °C	3.2	3.1	96.0
		Dimethyl sulfoxide (DMSO)	189 °C	4	3.8	96.0
		Isopropanol (IPA)	82.5 °C	3.6	3.5	96.0
7	Tigecycline	IPA	82.5 °C	12	11.5	96.0
		Butanol	117.7 °C	20	19.2	96.0
8	Tramadol	MDC	39.6 °C	4	3.8	96.0
		Toluene	110.6°C	10	9.6	96.0
		IPA	82.5 °C	12.4	11.9	96.0
9	Metoprolol Tartrate	Toluene	110.6°C	32	30.7	96.0
		Acetone	56 °C	12	11.5	96.0
		Toluene	110.6°C	6	6.0	96.0
11	Ketoconazole	Ethyl Acetate	77.1 °C	8	7.5	95.5
		Methylene chloride	39.6 °C	5	4.5	96.0
		Methanol	64.7 °C	20	19.6	96.0
		Dimethyl Solfoxide	189 °C	6	6.0	96.0
		Acetone	56 °C	5	4.5	96.0
12	Quinine Sulphate	Toluene	110.6°C	10	9.6	96.0
13	Ofloxacin	Butanol	117.7 °C	40	39.0	97.5
		Toluene	110.6°C	7.53	7.2	96.0
		Dimethyl formamide	153 °C	23.06	22.2	96.3
		Methylene chloride	39.6 °C	8.94	8.6	96.0
14	Itraconazole	Methanol	64.7 °C	5.65	5.4	96.0
		Acetone	56 °C	2.82	2.7	96.0
		n-Butanol	117.7 °C	2.82	2.7	96.0
		2-Bromo butane	91 °C	7.06	6.8	96.0
		Ethyle Acetate	77.1 °C	4.71	4.5	96.0
		Hydrobromic acid	67 °C	9.41	9.1	97.0
15	Valsartan	O-Xylene	144 °C	40	38.4	96.0
		Methanol	64.7 °C	16	15.4	96.0
		Ethyl Acetate	77.1 °C	16	15.4	96.0
16	1-Acetyl-4-(4-hydroxyphenyl) Piperazine	Methanol	64.7 °C	12	11.6	96.7

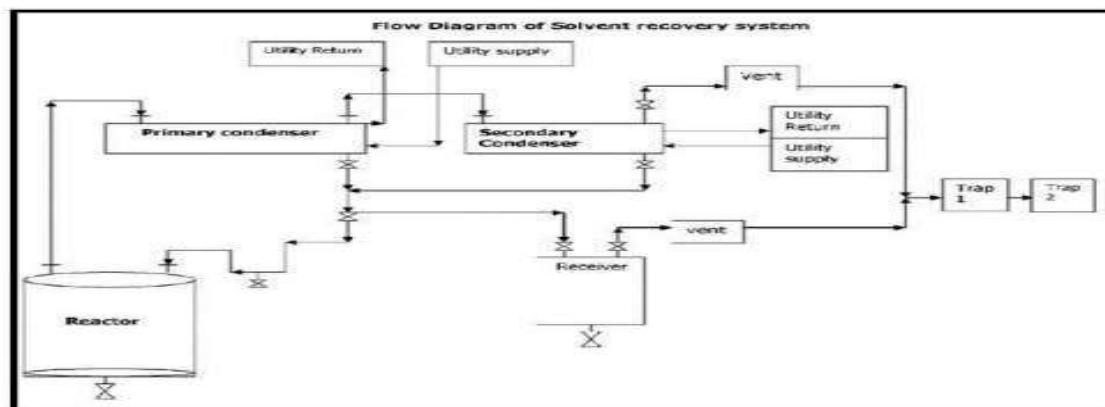
17	1-(2,3 Di Chloro Phenyl) Piperazine Hydrochloride	Methanol	64.7 °C	41.6	39.9	96.0
18	1-(3-Chlorophenyl)-4-(3-Chloropropyl) Piperazine Hydrochloride	Toluene	110.6°C	8	7.7	96.0
19	Bis (2-Chloroethyl) Amine Hydrochloride	EDC	83.47 °C	24	23.0	96.0
		Acetone	56 °C	16	15.5	97.0
20	1-(4-methoxyphenyl) piperazine hydrochloride	Toluene	110.6°C	12	11.6	96.7
21	Di Methyl Amino Ethyl Chloride Hydrochloride (DMC HCL)	Toluene/EDC	110.6°C	42.02	40.3	96.0
22	Di Ethyl Amino Ethyl Chloride Hydrochloride (DEC HCL)	Toluene/EDC	110.6°C	42.02	40.3	96.0
23	2-Amino 5-Methyl Thiazole	Toluene	110.6°C	20	19.2	96.0
24	1-(3-Chlorophenyl) Piperazine	Toluene	110.6°C	8	7.7	96.0
27	5-(Difluoromethoxy)-2-mercaptobenzimidazole	Chloroform	61.2 °C	12	11.6	96.7
28	Dibenzo[b,f][1,4] Thiazepin-11(10H)-One	Ethanol	78.37 °C	42	40.3	96.0
29	8-Chloro-11-(4-methyl-1-piperazinyl)-5H-dibenzo[b,e][1,4] diazepine	Toluene	110.6°C	23.2	22.3	96.0
		MDC	39.6 °C	8	7.7	96.0
		IPA	82.5 °C	10.4	10.0	96.0

G-2**LDAR proposed:**

- 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 5⁰C) 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

VOC Trap Condenser HE-02: Chilled Brine at -15⁰C will be used to trap any traces of Solvent which is slipped from Secondary condenser.

Monitoring of Solvent Losses

Inwarding, storage and consumption of solvents in various products shall be measured through Level Transmitters and Load cells weighing systems resp. The quantity at each stage shall be reconciled periodically to arrive at Losses.

Periodic monitoring of work area will be carried out to check the fugitive emission.

VOC detectors will be installed at various places to detect leak.

Preventive Maintenance to prevent Leakages

In order to prevent leakage from Pump, Seals, Valves etc., preventive maintenance shall be carried out periodically as per plan. Regular maintenance of valves, pumps, flanges, joints and other equipment will be done to prevent leakages and thus minimizing the fugitive emissions of VOCs.

Following frequency of monitoring of leaks and schedule for repair of leaks shall be followed:

Immediate Repair of devices in case of Leakages

A regular preventive maintenance schedule will be in place to replace or rectify all gaskets and joints to ensure no fugitive emissions shall take place.

Plant shall also maintain adequate number of spares and consumables required to repair the leaking

device Plant shall also have competent contractor team to handle Leakages and can repair the same immediately Standby equipments like Pumps, valves etc. shall be kept basis the criticality and usage Plant shall also have access equipments like Boom lift to handle leakages at height immediately																		
G-3	VOC emission sources and its mitigation measures																	
<ul style="list-style-type: none"> ➤ 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 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. ➤ Two condensers will install with cooling water and chilled brine to recover the solvent. ➤ Primary Condenser HE-01: Cooling Tower water or Chilled water at 5 °C 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. ➤ VOC Trap Condenser HE-02: Chilled Brine at -15 °C will be used to trap any traces of Solvent which is slipped from Secondary condenser. ➤ Emission of VOCs can be trapped from breathing and loading losses from storage tanks, venting of process vessels, leak from piping and equipment by means of hood connected with blower and send to condenser as shown in following diagram. ➤ Condensed VOCs will be send to spent solvent recovery plant. 																		
Comments:																		
<ol style="list-style-type: none"> 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																	
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 5%;">S. N.</th> <th style="width: 35%;">Name of chemical</th> <th style="width: 15%;">Quantity (Nos.)</th> <th style="width: 15%;">Total (Nos.)</th> <th style="width: 30%;">Total Qty. to be store (KL)</th> </tr> </thead> <tbody> <tr> <td colspan="5" style="text-align: center;">Non- PESO</td> </tr> <tr> <td style="text-align: center;">1</td> <td>Sulphuric Acid</td> <td style="text-align: center;">10 KL</td> <td style="text-align: center;">1 Nos.</td> <td style="text-align: center;">10</td> </tr> </tbody> </table>			S. N.	Name of chemical	Quantity (Nos.)	Total (Nos.)	Total Qty. to be store (KL)	Non- PESO					1	Sulphuric Acid	10 KL	1 Nos.	10
S. N.	Name of chemical	Quantity (Nos.)	Total (Nos.)	Total Qty. to be store (KL)														
Non- PESO																		
1	Sulphuric Acid	10 KL	1 Nos.	10														

2	Hydrochloric Acid	250 Lit	35 Nos.	8.8
3	Nitric acid	250 Lit	32 Nos.	8
PESO- Drum				
1	Acetic acid	250 Lit	29 Nos.	7.3
2	EDC	250 Lit	24 Nos.	6.1
3	DMS	250 Lit	11 Nos.	2.6
4	DMF	250 Lit	27 Nos.	6.8
5	Ethyl acetate	250 Lit	24 Nos.	6
6	IPA	250 Lit.	45 Nos.	11.3
7	MDC	250 Lit.	12 Nos.	3
8	O-xylene	250 Lit.	10.0 Nos.	10
9	Ethanol	250 Lit.	42 Nos.	10.5
10	Methanol	13 KL	1 Nos.	12.5
11	Toluene	12 KL	1 Nos.	11.3
Cylinder				
1	Hydrogen Gas	60 Kg	15 Nos.	0.9

Type of Hazardous Chemicals	Safety measures
FLAMMABLE & EXPLOSIVE	<ul style="list-style-type: none"> Materials have been Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Safety board's displayed on the tank. Effective ventilation must be provided. For accidental contact if you feel unwell, seek medical advice immediately. Handling of Acetone with Safety gloves and protective clothing
CORROSIVE & CHEMICALS	<ul style="list-style-type: none"> Stored out of direct sunlight and convenient height. Separate in storage from incompatible chemicals. Labeling is done. Removal of steam fumes and dust. Adequate ventilation. Use of drum pump for transferring. Emergency shower and eyewash provided. Check valve, hoses, pipes, gland, clips, and pumps. PPE and First Aid is provided.
TOXIC CHEMICALS	<ul style="list-style-type: none"> All the toxic chemicals are pumped in closed loop to the reactors to avoid fugitive emission All the toxic chemicals will be stored under adequate safe condition. The storage of corrosive and toxic chemicals will be segregated from each other. Smoking is prohibited inside the factory. Employees will be properly trained for handling of toxic and corrosive chemicals. All pipe joints will be provided with heavy duty gaskets to prevent any leakage. Self-breathing apparatus will be provided and workers will be trained about their use also. Spare barrels of sufficient quantity will be kept ready for any emergency spillage or leakage. Drum trolley will be used for the movement of drums of hazardous chemicals. Liquid chemicals will be transferred by mechanical seal pump through closed pipeline.

➤ **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
Hydrogenation process:-A	<p>For Hydrogen cylinders</p> <ol style="list-style-type: none"> 1. Hydrogen cylinders will be stored in cylinder storage area. Cylinder storage license will be obtained from PESO as per Gas cylinder rules. 2. Hydrogen cylinder storage area will be made well ventilated and safe distance will be maintained as per gas cylinder rule. 3. Sprinkler system provision will be made in cylinder storage area. 4. Gas detectors will be provided in Hydrogen cylinder storage area. 5. Copper tube will be used for Hydrogen cylinder connection with header. PRV station will be provided for Hydrogen and nitrogen cylinder header. 6. Non sparking tools will be used for cylinder connection with header. FLP type area will be provided. 7. Total enclosed process system. 8. Instrument & Plant Air System. DCS operational plant. 7. Nitrogen blanketing in Hydrogenation reactor. 8. Safety valve and Rupture disc provided on reactor. 11. Cooling Chilling and power alternative arrangement have been made on reactor. 12. Hydrogen and Nitrogen Cylinder bank away from the autoclave reactor. 13. PRV station with shut off valve, safety valve provision will be made for hydrogenation reaction safety. 11. Before Hydrogen Gas charging into reactor and after completion of reaction Nitrogen flushing will be done. 12. Flame arrestor will be provided on vent line of reactor and it will be extended up to roof level. 16. Open well ventilated and fragile roof will be provided to on reactor. 17. Safe Catalyst charging method will be adopted. 18. SOP will be prepared and operators will be trained for the same. 17. Static earthing and electric earthing (Double) provided. 20. Rector vent extended outside the process area and flame arrestor provided on vent line. 21. Dumping vessel arrangement will be made. 22. Jumpers for static earthing on pipeline flanges of flammable chemical will be provided. <p>Details regarding project safety aspects of Hydrogenation as per the prevailing norms.</p>

Hydrogenation Plant:

- 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.

Process Safety:

- Safety measures will be adopted from the design stage.
- Safety Valve and pressure gauge will be provided on reactor and its jacket (if jacket is provided).
- Utility like Chilling, cooling, vacuum, steaming and its alternative will be provided to control reaction parameters in a safe manner.
- Free Fall of any flammable material in the vessel will be avoided.
- Static earthing provision will be made at design stage to all solvent handling equipments, reactors, vessels & powder handling equipments.
- Any reaction upsets will be confined to the reaction vessel itself.
- All emergency valves and switches and emergency handling facilities will be easily assessable.
- Further all the vessels will be examined periodically by a recognized competent person under the Gujarat Factory Rules.
- All the vessels and equipments will be earthed appropriately and protected against Static Electricity. Also for draining in drums proper earthing facilities will be provided.
- Materials will be transferred by pumping through pipeline or by vacuum from drums.
- 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.
- Jumpers will be provided on all solvent handling pipeline

	<ul style="list-style-type: none"> flanges. • Caution note, safety posters, stickers, periodic training & Updatation in safety and emergency preparedness plan will be displayed and conducted. • Flame proof light fittings will be installed in the plant. • All the Plant Personnel will be provided with Personal Protection • 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 																			
Bromination	Not Applicable																			
Nitration process	Not Applicable																			
Exothermic Reaction	Not Applicable																			
Chlorination Process safety measures: (Chlorine Gas)	Not Applicable																			
H-3	Details of Fire Load Calculation																			
	<table border="1"> <tr> <td>Total Plot Area:</td> <td>2500 Sq.m.</td> </tr> <tr> <td>Area utilized for plant activity:</td> <td>675 sq. m</td> </tr> <tr> <td>Area utilized for Hazardous Chemicals Storage:</td> <td>225 sq. m</td> </tr> <tr> <td>Number of Floors:</td> <td>G+2</td> </tr> <tr> <td>Water requirement for firefighting in KLD:</td> <td>100 KL</td> </tr> <tr> <td>Water storage tank provided for firefighting in KLD:</td> <td>200 KL</td> </tr> <tr> <td>Details of Hydrant Pumps:</td> <td>--</td> </tr> <tr> <td>Nearest Fire Station :</td> <td>18 km</td> </tr> <tr> <td>Applicability of Off Site Emergency Plan:</td> <td>--</td> </tr> </table>		Total Plot Area:	2500 Sq.m.	Area utilized for plant activity:	675 sq. m	Area utilized for Hazardous Chemicals Storage:	225 sq. m	Number of Floors:	G+2	Water requirement for firefighting in KLD:	100 KL	Water storage tank provided for firefighting in KLD:	200 KL	Details of Hydrant Pumps:	--	Nearest Fire Station :	18 km	Applicability of Off Site Emergency Plan:	--
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Details of Hydrant Pumps:	--																			
Nearest Fire Station :	18 km																			
Applicability of Off Site Emergency Plan:	--																			
	<p>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.</p>																			
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:	20 Employees
Number of Contractual person/Labour:	10 Employees
Area provided for OHC:	30 Sq. m.
Number of First Aid Boxes:	20
Nearest General Hospital:	--
Name of Antidotes to be store in plant:	Artificial respiration, First Aid, etc.

-

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.

• **DELIBRATION AND RECOMMENDATION:**

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

Conditions with which Environment Clearance is recommended:

Construction Phase

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

SPECIFIC CONDITIONS:

1. PP shall comply conditions of any subsequent amendment or expansion or change in product mix, after the 31st December 2021, 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 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. Unit shall strictly adhere with rent agreement submitted by PP stating that project proponent is responsible for any noncompliance of norms not achieving by PP asd mentioned by CETP of GIDC Saykha and legal action taken by GPCB as CETP membership is in name of plot owner in place of project proponent (Rent owner).
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 measures shall be taken to avoid soil and ground water contamination within premises.
8. Unit shall not manufacture more than two products from proposed product list, at a given point of time as per details submitted by PP.
9. Project proponent (PP) shall not commissioning of proposed project till Consent to operate shall be obtained by CETP of GIDC Saykha for full fledged capacity.

10. 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 Store Bromine Bottle in cool dry separate area, out of direct sunlight.

WATER

11. Total water requirement for the project shall not exceed 32 KLD. Unit shall reuse 6.60 KLD of treated industrial effluent within premises. Hence, fresh water requirement shall not exceed 25.40 KLD and it shall be met through GIDC only. Prior permission from concerned authority shall be obtained for withdrawal of water.
12. The industrial effluent generation from the project shall not exceed 19.40 KLD.
13. High COD effluent stream shall be treated in ETP-1 followed by solvent stripper and then treated effluent along with low COD stream shall be further treated in ETP-2.
14. Total industrial effluent (High COD and Low Cod stream) shall be treated in-house fullfledged ETP - 2(primary, secondary and tertiary). Then treated effluent shall be sent to CETP of GIDC saykha for further treatment and disposal.
15. Treated waste water shall be discharged to CETP only after complying with the inlet norms of CETP 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 ETP. It shall not be disposed off through soak pit/ septic tank.
17. Unit shall provide ETP with adequate capacity.
18. The PP shall ensure to dispose off Waste water to the Common Facilities having valid CTO of GPCB.
19. The unit shall provide metering facility at the inlet and outlet of ETP and maintain records for the same.
20. Proper logbooks of ETP; reuse/ recycle of treated/ untreated effluent; chemical consumption in effluent treatment; quantity & quality of treated effluent disposal to CETP; power consumption etc. shall be maintained and shall be furnished to the GPCB from time to time.

AIR:

21. Unit shall not exceed fuel consumption for Boiler, TFH and D G Set as per the point no. E-2 as mentioned above.
22. Unit shall provide adequate APCM with flue gas generation sources to achieve the norms prescribed by GPCB.
23. Unit shall provide adequate APCM with process gas generation sources as the point no. **E-3** as mentioned above.

24. The fugitive emission in the workzoneenvironment shall be monitored. The emission shall conform to the standards prescribed by the concerned authorities fromtime to time (e.g. Directors of IndustrialSafety& Health). Following indicativeguidelines shall also be followed to reducethe fugitive emission.

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

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

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

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

27. Solvent management shall be carried out as follows:

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

28. Regular monitoring of groundlevel concentration of PM₁₀, PM_{2.5}, SO₂, NO_x, HCl, HBr, H₂S, NH₃and VOCs shall be carried out in the impactzoneand its records shall be maintained. Ambient air quality levels shall not exceed the standards stipulated by the GPCB. If at any stage these levels are found toexceed the prescribed limits, necessary additionalcontrol measures shall be taken immediately. The location of the stations and frequency of monitoring shall be decided in consultation with the GPCB.

HAZARDOUS / SOLID WASTES:

29. All the hazardous/ solid waste management shall be taken care as per the point no. F-1 as mentioned above.
30. Authorized end-users shall have permissions from the concerned authorities under the Rule 9 of the Hazardous and Other Wastes (Management and Transboundary Movement) Rules 2016.
31. Unit shall explore the possibilities for environment friendly methods like co-processing of hazardous waste for disposal of Incinerable & land fillable wastes before sending to CHWIF & TSDF sites respectively.
32. The project proponent has to obtain membership of TSDF site & CHWIF before obtaining CTO of GPCB.
33. The unit shall submit the list of authorized end users of hazardous wastes along with MoU signed with them at least two months in advance prior to the commencement of production. In the absence of potential buyers of these items, the unit shall restrict the production of the respective items.

GREENBELT AREA

34. The PP shall develop green belt (825 sq. Meter within premises 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.

OTHERS:

35. The project proponent shall carry out the entire activities [Provide Solar Light facilities with maintenance to nearby village. Nos. of Solar Light will be install:- 20 Nos. and Rainwater harvesting system –Argama village] proposed under CER shall be part of the Environment Management Plan (EMP) as per the MoEF&CC's OM no. F. No. 22-65/2017-IA.III dated 30.09.2020. This shall be monitored and the monitoring report shall be submitted to the regional office of MoEF&CC as a part of half-yearly compliance report and to the District Collector. The monitoring report shall be posted on the website of the project proponent.
36. All the environmental protection measures and safeguards proposed in the Form-1 & PFR submitted by the project proponent and commitments made in their application shall be strictly adhered to in letter and spirit.

COMPLIANCE OF ENVIRONMENT CLEARANCE/REPORTING/ADMINISTRATION/APPEAL:

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

immediately be informed to SEIAA and all concerned authorities.

39. Designated key person shall submit six monthly compliance report to SEIAA/SEAC, MOEF&CC, GPCB and Nodal Department of the Government.
40. The Nodal Department or any authority or officer authorized by MOEF&CC/SEIAA can inspect the site of the project and all the facilities, for verification of compliances of environment clearance conditions.
41. In case of violation reported upon, the project proponent shall be responsible for all the legal actions as per Environment Protection Act, 1986 including SEIAA may cancel, withdraw or keep in abeyance, the Environment Clearance accorded.
42. Any person including the project proponent affected by this Environment Clearance order may file appeal to Honorable National Green Tribunal West Zone branch, Pune, preferably within a period of thirty days from the date of issue of Environment Clearance as prescribe under section 16 of National Green Tribunal Act 2010.
43. All complains and public grievance or representations may be addressed to SEIAA/SEAC in the email addresses (a) msseiaagj@gmail.com& (b) seacgujarat@gmail.com

9.	SIA/GJ/IND2/206663/2021	M/s. Pride Drugs & Pharma Pvt. Ltd New Block no. 361,363, Bileshwarpura Kalol-Mehsana Highway, P.O Chhatral, Ta: Kalol, Dist.: Gandhinagar -382729	EC-Reconsideration
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Category of the unit: **5(f)**

Project status: Expansion

- Project proponent (PP) submitted online application vide no. SIA/GJ/IND2/206663/2021 dated: 30.03.2021 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 proposed for manufacturing of synthetic organic chemicals [API] as tabulated below,

Sr No	Product	API/Intermediate	CAS No.	Quantity (MT/Month)			End use
				Existing	Proposed	Total	
Existing							
1.	Ferrous Ascorbate	API	24808-52-4	18.00	7.000	25.00	It is an Oral drug used for iron deficiency/anemia for especially for pregnant ladies, kids, infants, general population.
2.	Iron Polymalto	API	53858-86-9	2.00	8.00	10.00	IPC is an Oral & Injectable Drug used for iron

	se Complex						deficiency/anemia for especially for pregnant ladies, kids, infants, general population.
3.	Iron Sucrose Complex	API	8047-67-4	1.667	5.333	7.00	Iron sucrose injection is used treat iron-deficiency anemia
Proposed							
4.	Dydrogesterone	API	152-62-5	00	0.030	0.030	Dydrogesterone helps to regulate the healthy growth and normal shedding of the uterus lining. And useful in treatment of menstrual disorder And used to prevent miscarriages
5.	Sucroferri c Oxyhydroxide	API	20344-49-4	00	1.50	1.50	Used to lower high blood phosphate levels in people who are on dialysis due to severe kidney disease.
6.	Ritonavir	API	155213-67-5	00	1.00	1.00	Ritonavir is an antiviral medicine that prevents human immunodeficiency virus (HIV) from multiplying in your body
7.	Atazanavir	API	198904-31-3	00	0.833	0.833	Atazanavir is an oral medication that is used for treating infections caused by the human immunodeficiency virus (HIV)
8.	R & D products		-	00	0.030	0.030	R&D Of Drugs Helpful In Covid-19 Treatment.
Total				21.667	23.726	45.393	

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: at a time 3 product.

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 (n-1, n-2) etc.	Name of API in which Intermediate Used/ End use of said Intermediate	CAS No. (API)	
1.	Ferrous Ascorbate	24808-52-4	API	-	-	24808-52-4	It is an Oral drug used for iron deficiency/anemia for especially

							for pregnant ladies, kids, infants, general population.
2.	Iron Polymaltose Complex	53858-86-9	API	-	-	53858-86-9	IPC is an Oral & Injectable Drug used for iron deficiency/anemia for especially for pregnant ladies, kids, infants, general population.
3.	Iron Sucrose Complex	8047-67-4	API	-	-	8047-67-4	Iron sucrose injection is used to treat iron-deficiency anemia in people with chronic kidney disease
4.	Dydrogesterone	152-62-5	API	-	-	152-62-5	Dydrogesterone helps to regulate the healthy growth and normal shedding of the uterus lining. And useful in treatment of menstrual disorder and used to prevent miscarriages
5.	Sucroferric Oxyhydroxide	20344-49-4	API	-	-	20344-49-4	Used to lower high blood phosphate levels in people who are on dialysis due to severe kidney disease.
6.	Ritonavir	155213-67-5	API	-	-	155213-67-5	Ritonavir is an antiviral medicine that prevents human immunodeficiency virus (HIV) from multiplying in your body
7.	Atazanavir	198904-31-3	API	-	-	198904-31-3	Atazanavir is an oral medication that is used for treating infections caused by the human

							immunodeficiency virus (HIV)
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- 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 10.08.2021.
- Salient features of the project including Water, Air and Hazardous waste management are submitted.
- During the meeting dated 10.08.2021, 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 Shree Green Consultants present during video conference meeting.
- This is an existing unit involved in manufacturing of synthetic organic chemicals [API] for which EC was obtained on dated: 20.06.2008. Unit is having CCA valid up to dated: 08.08.2021. Self-Certified compliance report of existing CCA is submitted.
- Committee noted that "there is no litigation pending before any court of Law and no public complaints against the Project'. There is one SCN issued by GPCB in last three years.
- Now, unit has proposed for expansion for manufacturing of synthetic organic chemicals [API]at New Block no. 361,363, Bileshwarpura, Kalol - Mehsana Highway P.O Chhatral, Ta: Kalol, Dist.: Gandhinagar,located outside notified area. Total plot area is 10,547.13Sq. m.
- Committee deliberated on product profile with specific end-use of proposed product in which unit has proposed for expansion of Ferrous Ascorbate, Iron Polymaltose complex and Iron Sucrose Complex which is considered as API which is not acceptable.
- PP also presented Central Drugs Standard Control Organisation in which Iron Polymaltose complex and Iron Sucrose Complex is considered as API for export purpose only.
- **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. Documentary evidence regarding considering Ferrous Ascorbate, Iron Polymaltose complex and Iron Sucrose Complex as API and in line with MoEF&CC's Notification dated 27/03/2020.
- PP submitted the reply of the said points along with other supporting documents.
- This proposal is reconsidered in SEAC meeting dated **18.10.2021**. PP along with their technical expert/consultant from M/s Shree Green Consultants remains present in the meeting and made presentation before committee.

- During meeting dated: 18.10.2021, PP presented documentary evidence regarding Ferrous Ascorbate, Iron Polymaltose complex and Iron Sucrose Complex as API and in line with MoEF&CC's Notification dated 27/03/2020. But looking to proposal of byproducts namely CaSO₄ and NaCl which seems Hazardous waste, Committee insisted for submission of revised product profile with discontinue byproduct from product profile and subsequent changes in Water, Air, Hazardous waste and PFR details.
- This is an existing unit and proposed for expansion of API and its intermediate at Vil- Bileshwarpura, Ta-Kalol, Dist-Gandhinagar, located outside notified area. Unit is having valid EC and CCA for existing plant. PP submitted self certified compliance report (CCR) for existing plant EC and CCA. Looking to legal show cause notice details and its compliance not presented by technical expert of PP, Committee insisted for details of legal notice, legal court case and public complaint along with compliance of SCN issued by GPCB in last three years. Also looking to CCR of existing plant EC showing some of conditions are being complied, non complied etc., hence Committee insisted for submission of summary of all Existing plant EC order conditions which are complied, being complied, non complied, partially complied etc and time bound action plan for which non complied and partially complied of EC order conditions for existing plant.
- Looking to siting criteria showing Bileshwarpura village is 490 meter distance from proposed project, Committee insisted for compliance of siting criteria with respect to residential habitat of Bileshwarpura village located at 490 meter distance from proposed project, as per details submitted by PP.
- Committee noted the following details:
 - ✓ Site Plan/ layout with fire plan and provision of separate entry & exit, adequate wide peripheral road, production area, ETP, raw material & finished goods storage areas, hazardous waste storage areas, utility area, hydrogenation area, etc.
 - ✓ Source of water is Borewell.
 - ✓ Generated industrial effluent will be treated in ETP and then will be evaporated in in-house MEE.
 - ✓ Natural gas is proposed as fuel. Two stage scrubber proposed as APCM for process gas emission stack.
 - ✓ 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: 400 KL) , main pump, diesel pump and jockey pump and OHC of 50 sq. meter.
- 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:
 - ✓ Revised water balance diagram with mentioning domestic effluent disposal other than soakpit and

septic tank.

- ✓ CGWA authority permission letter for extraction of ground water source for existing plant from bore well within premises.
- ✓ Revised fire plan with mentioning fire hydrant network system provided in existing as well as proposed plant as well as status of fire NOC from competent authority, for existing plant.
- **After detailed discussion, Committee unanimously decided to consider the proposal in the upcoming SEAC meeting only after satisfactory submission of the following:**
 1. Submission of revised product profile with discontinue of byproduct from product profile and subsequent changes in Water, Air, Hazardous waste, form-1 and PFR details.
 2. Details of legal notice, legal court case and public complaint along with compliance of SCN/legal notices issued by GPCB in last three years.
 3. Submission of summary of all existing plant, EC order conditions which are complied, being complied, non complied, partially complied etc and time bound action plan for compliance of non complied and partially complied conditions of EC order for existing plant.
 4. Compliance of siting criteria with respect to residential habitat of Bilesharpura village located at 490 meter distance from proposed project, as per details submitted by PP.
 5. Revised water balance diagram with mentioning domestic effluent disposal other than soakpit and septic tank.
 6. CGWA authority permission letter for extraction of ground water source for existing plant, from bore well within premises.
 7. Revised fire plan with mentioning fire hydrant network system provided in existing as well as proposed plant as well as status of fire NOC from competent authority, for existing plant.
- PP submitted the reply of the said points along with other supporting documents.
- This proposal is reconsidered in SEAC meeting dated **16.02.2022**. PP along with their technical expert/consultant from M/s Shree Green Consultants remains present in the meeting and made presentation before committee.
- During meeting, Committee noted that PP presented revised product profile with discontinue of byproduct from product profile. Technical expert of PP informed that there is no change in water consumption, waste water generation details & air pollution control measure. There is only change in Hazardous waste generation details. PP presented Show cause notice issued by GPCB in last three years and also presented reply of SCN submitted at GPCB during meeting.
- For compliance of siting crieteria with respect to Bileshwarpura village located at 490 meter distance from proposed project, technical expert of PP informed that this is an existing pharma product manufacturing unit since 01/08/2009 and now expansion is sought in the same premises without additional land acquiring. Existing land is utilized for this expansion.

- PP presented revised water balance diagram, applied at CGWA for ground water source, revised fire plan with mentioning fire hydrant network system provided in existing as well as proposed plant as well as status of fire NOC from competent authority.
- PP presented revised salient features of the project including Water, Air and Hazardous waste management submitted.

Sr. no.	Particulars	Details		
A-1	Total cost of Proposed Project (Rs. in Crores):			
	Existing (Rs. In crores)	Proposed (Rs. In Crores)	Total (Rs. In crores)	
	21.82	3.00	24.82	
	Break-up of proposed project Cost:			
	Details	Existing	Proposed	Total
	Land	153.04	10	163.04
	Building	977.87	150	1127.87
	Machinery	841.56	100	941.56
	Miscellaneous	210.39	40	250.39
	Total	2182.86	300	2482.86

A-2	Details of Environmental Management Plan (EMP)	As below:
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Sr. No.	Unit	Detail	Capital Cost (Rs. In Lacs)	Cost (Rs. In Lacs/Month)		
				Operating	Maintenance	Recurring
1	Waste water	Upgradation of ETP, MEE and treatment cost	35	5	0.5	5.5
2	Air	Installation of Stack and Cost of APCM	20	2	0.5	2.5
3	Noise	Acoustic System on noise generating Equipments	0	0.2	0.1	0.3
4	Hazardous waste and AWH Monitoring	In house lab+ outsourced monitoring	7	4	0	4
5	Rain Water Harvesting	Recharging pits – 2 nos.	2	0.5	0.5	1
6	Green Belt Development (3300 square meter)	Greenbelt Development cost	2	0.5	0.3	0.8
7	Fire & Safety	Fire hydrant & safety and pipeline System	53	0.2	0.3	0.5

		Fire extinguisher (22 Nos) and foam type trolley (8 Nos)	12	0.04	0.07	0.11
		DCS	40	0	1	1
8	Occupational Health	Facility of dispensary with beds and other essential medical requirements in case of emergency or accidents, availability of antidotes in case of accidents or emergency.	2	1	0.5	1.5
9	CER activities	-	3	0	0	0
	Total		180	13.54	3.77	17.31

Total EMP cost budgeted is Rs. 180.00 Lacs.

Cost of Project in Crores per Annum:	24.82
EMP Capital Cost in Crores per Annum and Percentage:	1.80 (23.37 %)
EMP Recurring Cost in Crores per Annum and Percentage:	0.173 (0.5 %)

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 -

Sr. No.	CER – Proposed planned Activities	Village Name	Year wise budget (Rs. in Lacs)		
			1 st Year	2 nd Year	Total
1	Rain water harvesting system providing in 10 households	Ambavpura and Indrad Village	0.50	0.50	1.00
2	Provision of Solar street light (20 nos. 10,000 /- each)	Chadasna, Pansar villages	1.0	1.0	2.0
Total (Rs. in Lacs)			1.50	1.50	3.00

Total CER cost allocated is Rs. 3.00 Lacs which will be utilized in 2 year.

B Land / Plot ownership details:

B-1 Plot area

Existing	Proposed	Total
10547.13Sq.m.	0.00 Sq.m	10547.13 Sq.m

B-2

Area adequacy

Sr. No.	Name of the unit	Total Sq. m.	% of Total Plot area
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1	Production Plant	1062.58	10.07
2	Admin block	237.39	2.25
3	Utility and Boiler House	312.48	2.96
4	ETP, MEE & Spray Dryer	398.8	3.78
5	Hazardous waste storage area	123.14	1.17
6	Raw Material and Product storage	1318.24	12.50
7	Green belt	3542.16	33.58
8	Fire Hydrant Tank	75	0.71
9	Toilet Block	27.97	0.27
10	Tank Farm Area	586.24	5.56
11	Security Cabin	44.75	0.42
12	Transformer Yard	40.14	0.38
13	QA Office Building	70.32	0.67
14	Gas Station	30	0.28
15	Open & Road	2577.92	24.44
16	OHC area	100	0.95
	Total	10547.13	100.00

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	Total
Area in Sq.m	3542.16	0.0	3542.16
% Total area	33.58	0.0	33.58

Comments:

The condition shall be given that -

The PP shall develop green belt (3542Sq. 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						
		Current	Expansion	Total		
	Permanent	44	10	54		
	Contract	41	12	53		
	Total	85	22	107		
-						
D						
WATER						
D-1	Source of Water Supply (Bore well, Surface water, Tanker supply etc...) • Bore-well (Ground water supply)					
	Comments: 4) Prior permission from concerned authority shall be obtained for withdrawal of water.					
D-2	Water consumption (KLD)					
	-					
	Sr. No.	Particulars	Water Consumption (KLD)			Remark
			Existing	Proposed	Total	
	1	Domestic	1.50	1.10	2.60	FW 2.60
	2	Gardening	1.50	3.50	5.00	TW 5.00
	3	Industrial				
		a) Processing	7.12	8.20	15.32	(FW 7.73 + TW 7.59)
		b) Washing	2.000	2.50	4.50	TW 4.50
		c) Boiler	8.800	0.00	8.80	(0.7 TW + 8.1 RW)
		d) Cooling	2.57	0.00	2.57	(0.13 TW + 2.44 RW)
		Sub Total (a+b+c+d)	20.49	10.70	31.19	(7.73 FW + 12.92 TW + 10.54 RW)
	Total (1+2+3)		23.49	15.30	38.79	
	-					
	Total Water Consumption: 38.79 KLD					
	Total Fresh Water Consumption: 12.43 KLD					
	Total Recycled Water: 10.54 KLD					
	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)					
	-					
	Sr. No.	Particulars	Wastewater Generation (KLD)			
			Existing	Proposed	Total	
	1	Domestic	1.20	0.9	2.10	
	2	Industrial				
		a) Processing	5.15	7.10	12.25	
		b) Washing	2.00	2.50	4.50	
		c) Boiler	0.70	0.0	0.70	
		d) Cooling	0.13	0.0	0.13	

	Sub Total (a+b+c+d)	7.98	9.60	17.58		
	Total (1+2)	9.18	10.50	19.68		
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)					
Domestic Effluent (2.10 KLD) is disposed of through septic tank/soak pit system.						
D-5	Break-up of waste water disposal & facility (For Industrial)					
-						
	Sr. no.	Quantity KLD	Facility			
	1	31.19	Industrial effluent will be treated in Multiple Effect Evaporator followed by primary treatment. MEE Condensate will be reused in process and gardening purpose & MEE salt will be sent to TSDF site.			
	Total	31.19				
Comments:						
Total effluent will be treated in ETP. Treated effluent shall be evaporated in in-house MEE. Unit shall provide ETP and MEE with adequate capacity.						
E	AIR					
E-1	Power (Electricity) requirement :1500 KVA					
E-2	Flue gas emission details					
-						
Stack No.	Source of emission	Stack Height (m)	Fuel	Type of Emission	Permissible limit	APCM
Existing						
1	Boiler (2 TPH)	30	Natural Gas	PM SO ₂ NO _x	150 mg/Nm ³ 100 ppm 50 ppm	Adequate Stack Height
2	Hot Air Generator	27	Natural Gas	PM SO ₂ NO _x	150 mg/Nm ³ 100 ppm 50 ppm	Adequate stack height
Proposed						
1	D.G. Set (500 KVA)	9.0	HSD	PM SO ₂ NO _x	150 mg/Nm ³ 100 ppm 50 ppm	Acoustic Enclosure Adequate stack height

-							
E-3		Process gas					
-							
Stack No.	Source of emission	Stack Height (m)	Type of Emission			APCM	
1	Reaction Vessel	24	PM SO ₂ NO _x			Two stage Scrubber	
2	Spray Dryer	16	PM			Bag Filter	
1	Spray Dryer	16	PM			Wet scrubber with Bag Filter	
-							
E-4		Fugitive emission details with its mitigation measures.					
<ul style="list-style-type: none"> ➤ The raw materials will be stored in closed containers and will be handled through closed system to avoid the handling losses. ➤ System of leak detection and repair of pump/pipeline based on preventive maintenance. ➤ The reactors are connected to an efficient condenser system with cooling/chilling water/brine circulation. ➤ Reactor and solvent handling pumps are having mechanical seals to prevent leakages. Also provide with breather valve to prevent losses. ➤ Solvent are taken from storage tank to reactors through closed pipeline. ➤ Storage tanks are vented through trap receiver & condenser operated on cooling water. ➤ The condensers are provided with sufficient HTA and residence time so as to prevent any loss of solvent. ➤ Proper earthing is provided where ever solvent handling is done. ➤ Entire plant is flameproof. ➤ Solvents are stored as per statutory requirement. Solvent are kept at a separate specified area with all the safety measures. ➤ The sprinkling of water is done along the internal roads in the plant in order to control the dust arising due to the movement of vehicular traffic. ➤ Thick greenbelt is developed around the plant to arrest the fugitive emissions 							
<u>Comments for E2, E3 & E4:</u>							
<ol style="list-style-type: none"> 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.	Type of Waste	Source	Category	Quantity (MT/Year)			Mode of Disposal
				Existing	Proposed	Total	

1	ETP Sludge	ETP	I-35.3	3.49	11.00	14.49	Collection, Storage, Transportation, disposal at TSDF.
2	Used Oil	Used / overflow Thermopack oil Spent lubricating Oil /grease Used oil such as Hydraulic testing oil, transformer oil	I-5.1	0.01	0.00	0.01	Collection, Storage, Transportation, disposal by selling to registered Re-refiner.
3	Discarded Containers & Bags/Liners	All containers for RM, Intermediates, Consumables (MS / HDPE)	I-33.3	161.16	110.00	271.16	Collection, Storage, Decontamination and sale to authorized decontamination facility.
4	Spent Charcoal /Spent Carbon	Process Unit	I-28.3	52.00	0.00	52.00	Collection, Storage, Treatment, Transportation, disposal at TSDF.
5	Filter & Filter Material	product filtration	I-35.1	36.00	15.00	51.00	Collection, Storage, Treatment, Transportation, disposal at Incineration/TSDF.
6	Spent solvent	Manufacturing process of Dydrogesterone and Ritonavir	I-28.6	0.00	450.00	450.00	Collection, Storage, Transportation Disposal at common incineration and sell it to authorized end user having permission under Rule-9 after making MOU
7	Date expired products	Products storage	I-28.5	0.00	0.60	0.60	Collection, Storage, Transportation Disposal at CHWIF
8	Off specification products	Production	I-28.4	0.00	1.2	1.2	Collection, Storage, Transportation Disposal at CHWIF
9	MEE salt	MEE	I-35.3	0.00	250	250	Collection, Storage, Transportation Disposal at TSDF site
10	Distillation Residue	Product, Atazanavir Ritonavir Dydrogesterone Iron Sucrose	I-20.3	0.00	125	125	Collection, Storage, Treatment, Transportation, disposal at TSDF.
11	Process Residue	Manufacturing process	28.1	0.00	48.00	48.00	Collection, Storage, Transportation and disposal to Incineration / Co Processing / Cement Industry
12	Spent Acid	Manufacturing process of Iron (III) Polymaltose complex	I-28.1	0.00	75	75	Collection, Storage, Transportation Disposal at common incineration and sell it to authorized

		Ritonavir Atazanavir					end user having permission under Rule-9 after making MOU
13	Calcium Sulphate (By Product)	Ferrous Ascorbate Iron Polymaltose Complex Iron Sucrose Complex		95.04	36.96	132.0	Collection, Storage, Transportation Disposal and sell cement industry
14	Sodium Chloride (By Product)	Ferrous Ascorbate Iron Polymaltose Complex Iron Sucrose Complex		25.92	103.68	129.6	Collection, Storage, Treatment, Transportation, disposal at TSDF.
F-2		Non- Hazardous wastemanagement matrix					
Sr. No.	Non-Hazardous waste	Specific Source of generation (Name of the Activity, Product etc.)	Quantity (MT/ Annum)	Management of HW			
1	-	-	-	-			
Comments:							
<p>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.</p> <p>2. The project proponent has to obtain membership of TSDF site & CHWIF before obtaining CTO of GPCB.</p>							
G		Solvent management, VOC emissions etc.					
G-1		Types of solvents, Details of Solvent recovery, % recovery, reuse of recovered Solvents etc.					
Sr. No.	Raw Material Name	Quantity (MT/Month)	% Recovery	Recovered solvent (MT/Month)			
1	THF	50.00	95.62	47.81			
2	Acetonitrile	7.04	97.11	6.84			
3	MDC	9.13	93.45	8.53			
4	Methanol	4.88	95.78	4.67			
5	Toluene	25.61	94.05	24.09			
6	n- Heptane	0.99	98.19	0.97			
7	Acetone	9.12	97.32	8.88			
8	Ethyl Acetate	27.62	93.54	25.84			
9	cyclohexane	5.18	95.87	4.97			
G-2		LDAR proposed:					
<ul style="list-style-type: none"> ➤ Provision of mechanical seal in pump. ➤ Regular inspection of tank roof seals ➤ Adequate measures for the minimization/prevention of the fugitive emission. ➤ Regular maintenance of valves, pumps and other equipment to prevent leakage. ➤ Entire process to be carried out in the closed reactors with proper maintenance of temperature. ➤ Regular periodic monitoring of work area to check the fugitive emission. ➤ Adequate stack heights as per the CPCB estimation will be provides at all locations to reduce GLCs of pollutants. ➤ All the solvents shall be directly distilled from product mixes and; if required shall be purified in packed 							

column with the help of reflux.

- The solvent distillation system shall be designed so as to achieve minimum 95.0 % recovery of solvent.

G-3 VOC emission sources and its mitigation measures

- Unit will prepare summary of possible Sources of equipment leaks like; Pumps, Valves, Joints/ Connectors, Pressure relief devices, Open-ended lines etc.
- Regular monitoring to check and repair leaking components, including valves, pumps, connectors, compressors, and agitators, in order to minimize the emission of fugitive volatile organic compounds (VOCs).
- Unit will use VOC meter to detect the VOCs and its source and accordingly, repairing any leakages.
- Find the Sources of leakages, its Causes and Control the Leaks by way of modifying/replacing leaking equipment with “leak less” components.
- Develop awareness of the benefits of leak detection and repair into the company’s operating and maintenance program in terms of cost savings, environmental protection, and worker and community safety.
- Use Double seal/mechanical seal for control of VOC.
- Closed handling system shall be provided for chemicals.
- Storage tanks shall be vented through trap receiver and condenser operated on chilled water.
- The condensers shall be providing with sufficient HTA and residence time to achieve maximum recovery

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

Sr. no	Name of Chemical	Capacity of Tank/Drum	Number of Tanks/Drum	Hazardous Characteristics of Chemical
1	H2SO4	200 litres	25 Drum	Corrosive
2	Acetone	200 litres	20 Drum	Flammable
3	phosphoric acid	200 litres	3 Drum	Corrosive
4	HCl	15 KL	3Tank Farm	Corrosive
5	MDC	20	20 Drum	Toxic
6	cyclohexane	200 litres	10 Drum	Flammable
7	liq. Ammonia	200 litres	25 Drum	Toxic
8	Ethyl Acetate	200 litres	50 Drum	Corrosive
9	Toluene	2 KL	1 Tank Farm	Flammable
10	Acetonitrile	200 litres	15 Drum	Flammable
11	Methanol	5 KL	1 Tank Farm	Flammable
12	n Hapten	200 litres	5 Drum	Flammable

Brief note on storage of Hazardous chemicals in Tanks

- Tanker unloading procedure will be prepared.
- Caution note and emergency handling procedure will be displayed at unloading area and trained all operators.
- Storage tank will be constructed away from the process plant.

- Dyke wall will be provided to all storage tanks, collection pit with valve provision.
- Double drain valve will be provided.
- Level gauge will be provided on all storage tanks.
- Fire hydrant system with jockey pump will be installed.

Brief note on 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.
- Drum handling trolley/stackers/fork lift will be used for drum handling.
- 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.
- Solvents transfer by vacuum or by pump only.
- Static earthing will be provided.

- SS flexible hose/conductive hose will be used.

Safety details of Hazardous Chemicals:

Types of hazardous chemicals	Safety measures
Flammable chemicals	Earthing and bonding, inertization, spill containment kit, fire hydrant system, fire suppression and sprinkler system, flame proof electrical fittings, Local exhaust ventilation, emergency preparedness plan, mock drills, firefighting training etc.
Explosive chemicals	Separate storage, charging through PTS system, Assembly points, emergency handling procedure, safety instruction board, permit to work system, training and awareness, Earthing and bonding, inertization, spill containment kit, fire hydrant system, fire suppression and sprinkler system, flame proof electrical fittings, Local exhaust ventilation, emergency preparedness plan, mock drills, firefighting training etc.
Toxic Chemicals	Use of proper PPE, Neutralization agents, handling with full body suit with airline respirator, use of isolated handling of highly hazardous chemicals, administrative control, process controls etc.

- **Applicability of PESO: will be obtained.**

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
Mild Exothermic Reaction (35 to	<ul style="list-style-type: none"> • DCS based Automation system • Pressure gauge and Safety Control valve shall

	40 degree C)	be installed. <ul style="list-style-type: none"> • safety valve and rupture disc • auto dump or auto quench/, suppress System for reaction vessel • Reactant mass in reactor is added such that surface-to-volume ratio is maintained and runaway reaction is prevented. • Cooling – jacketed system for the reactor is in place to maintain the reaction temperature. 	
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H-3 Details of Fire Load Calculation

Total Plot Area:	10547.13 Sq. m
Area utilized for plant activity:	3876.00 Sq. m.
Area utilized for Hazardous Chemicals Storage:	123.14 Sq. m.
Number of Floors:	Ground
Water requirement for firefighting in KLD:	350
Water storage tank provided for firefighting in KLD:	2 X 200 KL
Details of Hydrant Pumps:	Main Pump: 1 Nos. Jokey pump: 1 Nos. Diesel pump: 1 Nos.(SB)
Nearest Fire Station:	Fire station- Kalol
Applicability of Off Site Emergency Plan:	Offsite emergency plan is prepared for propose project.

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 400 KL. SEAC found it as per the requirement.

H-4 Details of Fire NOC/Certificate:

We will obtain fire NOC.

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

-	
Number of permanent Employee:	54
Number of Contractual person / Labour:	53
Area provided for OHC:	50 Sq. m.
Number of First Aid Boxes:	2
Nearest General Hospital:	Government Hospital
Name of Antidotes to be store in plant:	Artificial respiration, First Aid, etc
-	

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.

• DELIBERATION AND RECOMMENDATION:

"On the basis of information provided to SEAC on project, its location, technical, physical and

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

Conditions with which Environment Clearance is recommended:

Construction Phase

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

SPECIFIC CONDITIONS:

1. PP shall comply conditions of any subsequent amendment or expansion or change in product mix, after the 31st December 2021, 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 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. (a) R & D products shall be of similar chemistry in line with the EIA Notification vide S.O. 1223 (E) dated 27/03/2020 and the pollution load shall remain the same as committed. (b) Project proponent shall not take continuous/commercial production of the R & D materials. Necessary approvals shall be obtained from the concern authorities prior to commercial production of R & D materials. (c) Unit shall submit

relevant details of R & D products like raw materials, its safety measures to the regulatory authority well before R & D activity. (d) Unit shall submit relevant details of R & D products like different wastes generated (Quantity & Quality) and its management to the regulatory authority within a month of R & D activity.

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 measures shall be taken to avoid soil and ground water contamination within premises.
8. Unit shall not manufacture more than three products from proposed product list, at a given point of time as per area adequacy submitted by PP.
9. Project proponent (PP) shall not commissioning of proposed expansion project till CGWA permission shall be obtained for ground water source within premises for proposed expansion project from competent authority.

10. 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.

WATER

11. Total water requirement for the project shall not exceed 38.79 KLD. Unit shall reuse 28.46 KLD of treated industrial effluent and boiler condensate within premises. Hence, fresh water requirement shall not exceed 10.33 KLD and it shall be met through bore well 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 17.58 KLD.
13. Total effluent stream shall be treated in ETP and then treated effluent shall be evaporated in in-house MEE. 15.82 KLD, MEE condensate shall be reused back in process within plant premises.
14. Treated waste water shall be fed to MEE only after ensure, no adverse impact on Human Health and Environment.
15. Domestic wastewater generation shall not exceed 2.10 KL/day for proposed project and it shall be treated in STP. It shall not be disposed off through soak pit/ septic tank.
16. Unit shall provide ETP and MEE with adequate capacity.
17. Unit shall provide buffer storage for treated effluent storage in case of any emergency like shut down of in-house MEE.
18. The unit shall provide metering facility at the inlet and outlet of ETP, MEE and maintain records for the same.
19. Proper logbooks of ETP, MEE; reuse/ recycle of treated/ untreated effluent; chemical consumption in effluent treatment; quantity & quality of treated effluent fed to MEE; power consumption etc. shall be maintained and shall be furnished to the GPCB from time to time.

AIR:

20. Unit shall not exceed fuel consumption for Boiler, HAG and D G Set as per the point no. E-2 as mentioned above.
21. Unit shall provide adequate APCM with flue gas generation sources to achieve the norms prescribed by GPCB.
22. Unit shall provide adequate APCM with process gas generation sources as the point no. E-3 as mentioned above.
23. The fugitive emission in the workzoneenvironment shall be monitored. The emission shall conform to the standards prescribed by the concerned authorities fromtime to time (e.g. Directors of IndustrialSafety& Health). Following indicativeguidelines shall also be followed to reducethe fugitive emission.
 - Internal roads shall be either concreted or asphalted or paved properly to reducethe fugitive emission during vehicular movement.
 - Air borne dust shall becontrolled with water sprinklers at suitable locations in the plant.
 - A green belt shall be developed all around the plant boundary and also along the roads to mitigate fugitive & transport dust emission.

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

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

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

26. Solvent management shall be carried out as follows:

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

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

HAZARDOUS / SOLID WASTES:

28. All the hazardous/ solid waste management shall be taken care as per the point no. F-1 as mentioned above.

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

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

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

32. 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

33. The PP shall develop green belt (3542 sq. Meter within premises 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.

OTHERS:

34. The project proponent shall carry out the entire activities [Provide Rain water harvesting system providing in 10 households of Ambavpura and Indrad Village and Provision of Solar street light (20 nos) in Chadasna, Pansar villages] proposed under CER shall be part of the Environment Management Plan (EMP) as per the MoEF&CC's OM no. F. No. 22-65/2017-IA.III dated 30.09.2020. This shall be monitored and the monitoring report shall be submitted to the regional office of MoEF&CC as a part of half-yearly compliance report and to the District Collector. The monitoring report shall be posted on the website of the project proponent.

35. All the environmental protection measures and safeguards proposed in the Form-1 & PFR submitted by the project proponent and commitments made in their application shall be strictly adhered to in letter and spirit.

COMPLIANCE OF ENVIRONMENT CLEARANCE/REPORTING/ADMINISTRATION/APPEAL:

36. Project proponent shall inform to all the concerned authorities including Municipal Corporation and District Collector and shall also give wide publicity through advertisement in minimum two local newspapers within seven days, about the Environment Clearance order accorded.

37. Project proponent shall appoint a key person in the organization who shall be responsible for compliance of above condition fully on behalf of the proponent. It shall not mean that appointing a key person shall exempt the project proponent from the responsibility of compliance. Any change in key person shall immediately be informed to SEIAA and all concerned authorities.

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

39. The Nodal Department or any authority or officer authorized by MOEF&CC/SEIAA can inspect the site of the project and all the facilities, for verification of compliances of environment clearance conditions.

40. In case of violation reported upon, the project proponent shall be responsible for all the legal actions as per Environment Protection Act, 1986 including SEIAA may cancel, withdraw or keep in abeyance, the Environment Clearance accorded.

41. Any person including the project proponent affected by this Environment Clearance order may file appeal

to Honorable National Green Tribunal West Zone branch, Pune, preferably within a period of thirty days from the date of issue of Environment Clearance as prescribe under section 16 of National Green Tribunal Act 2010.

42. All complains and public grievance or representations may be addressed to SEIAA/SEAC in the email addresses (a) msseiaagj@gmail.com& (b) seacgujarat@gmail.com

10.	SIA/GJ/IND2/206774/2021	M/s. Arvee Speciality Chemicals Pvt. Ltd. Survey No. 272/001, 272/002 and 273, Village: Bhalthi, Tal.: kadi, Dist.: Mehsana	EC-Reconsideration
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Category of the unit: **5(f)**

Project status: **New**

- Project proponent (PP) has submitted online application vide no. SIA/GJ/IND2/206774/2021 on dated 30/03/2021 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 proposed for manufacturing of synthetic organic chemicals **[API and Its Intermediates]** as below,

S. N	Name of Product	CAS No.	API/ Intermediate	Proposed Qty. (MT/ Month)	End Use
1	5-Sodiosulfo Isophthalic Acid (Na-SIPA)	6362-79-4	Intermediate	500	Iodixanol/ to help diagnose certain disorders of the brain, blood vessels, heart, kidneys, and other internal organs.
2	5-Hydroxy Isophthalic Acid (5-HIPA)	618-83-7	Intermediate		Iodixanol/ to help diagnose certain disorders of the brain, blood vessels, heart, kidneys, and other internal organs.
3	5-Nitro Isophthalic Acid (5-NIPA)	618-88-2	Intermediate		Iopamidol/used to help diagnose or find problems in the brain, heart, head, blood vessels, and other parts of the body
4	Dimethyl 5-Nitro Isophthalate (DM 5-NIPA)	13290 - 96 - 5	Intermediate		Iodamide /used to diagnose the uterus and Fallopian tubes

5	Mono Methyl 5-Nitroisophthalic Acid (MM5-NIPA)	618 - 88 - 2	Intermediate	lotrolon/ used to diagnose spaces surrounding the central nervous system
6	5-Amino Isophthalic Acid (5-AIPA)	99-31-0	Intermediate	lohexol / used to diagnose or find problems in the brain, back, heart, head, blood vessels, and other parts of the body
7	Dimethyl 5-Amino Isophthalic Acid (DM-5-AIPA)	99-31-0	Intermediate	loversol / to identify certain disorders of the heart, brain and blood vessels
8	5-Amino Tri Iodo Isophthalic Acid (ATIPA)	35453-19-1	Intermediate	lohexol / used to diagnose or find problems in the brain, back, heart, head, blood vessels, and other parts of the body
9	5-Amino Tri Iodo Dichloride	37441-29-5	Intermediate	loversol / to identify certain disorders of the heart, brain and blood vessels
10	5-Amino N-N-Bis(2-3 Dihydroxy Propyl)Isophthalamide HCl (ABA-HCl)	203515-86-0	Intermediate	loversol / to identify certain disorders of the heart, brain and blood vessels
11	5-Amino N-N-Bis(2-3 Dihydroxy Propyl)2,4,6 Trilodolsophthalamide (ABATRIIODO)	76801-93-9	Intermediate	Iopamidol/used to help diagnose or find problems in the brain, heart, head, blood vessels, and other parts of the body
12	5-Acetylamino N-N-Bis(2-3 DihydroxyPropyl) 2,4,6 Trilodolsophthalamide	31127-80-7	Intermediate	lohexol / used to diagnose or find problems in the brain, back, heart, head, blood vessels, and other parts of the body
13	3,5 Di Nitro Benzoic Acid (DNBA)	99-34-3	Intermediate	Iodide/ used to loosen and break up mucus in the airways
14	3,5 Di Amino Benzoic Acid (DABA)	535-87-5	Intermediate	Triombrast/ in diagnosis of urological diseases
15	2-Chloro 5-Nitro Benzoic Acid	2516-96-3	Intermediate	Mesalamine/ to treat a certain bowel disease, to reduce symptoms of ulcerative colitis
16	4-Chloro 3,5 Di Nitro Benzoic Acid	118-97-8	Intermediate	Iodixanol/ to help diagnose certain disorders of the brain, blood vessels, heart, kidneys, and other internal organs.
17	4-Chloro 3,5 Di Amino Benzoic Acid	118-97-8	Intermediate	<u>Motofen</u> /used to treat diarrhea
18	4-Chloro 3,5 Di Amino Benzoic Acid Isobutyl Ester	32961-44-7	Intermediate	<u>Intestinex</u> / Anti Diarrheal Agent

19	3 Sulpho Benzoic Acid Sodium Salt	17625-03-5	Intermediate	Triombrast/ in diagnosis of urological diseases
20	Thiopene 2-Aldehyde	98-03-3	Intermediate	Pyrantel Palmate/ anthelmintics
21	Thiopene 2-Acetyl	39098-97-0	Intermediate	Artatinolol HCl/used in the treatment of high blood pressure
22	Thiopene 2-Methanol	636-72-6	Intermediate	Eprosartan/ AntiHypertension
23	Thiopene 2-Carbo Oxalyic Acid	527-72-0	Intermediate	Duloxetine Hydrochloride/ Anti dispersant drug
24	4-Amino Pyridine (4AP)	504-24-5	Intermediate	Astemizole/ AntHistaminie
25	Thiophene-2,5-Dicarboxylic Acid	527-72-0	Intermediate	Rivaroxaban / Antithrombotic
26	2-Thiophene carbonyl chloride	5271-67-0	Intermediate	Rivaroxaban / Antithrombotic
27	2-Thiophene acetic acid	1918-77-0	Intermediate	Cefoxitin / Antibiotic
28	2-Thiophene acetyl chloride	39098-97-0	Intermediate	Cefoxitin / Antibiotic
29	Thiophene-2-Ethanol	5402-55-1	Intermediate	Clopidogrel / Antiplatelet
30	1-Phenylpiperazine	92-54-6	Intermediate	Alpertine / Antipsychotic,neuroleptic
31	Sodium 5-Nitroisophthalic Acid Monomethyl Ester	1955-46-0	Intermediate	IOHEXOL /used to diagnose or find problems in the brain, back, heart, head, blood vessels, and other parts of the body
32	5-Amino-N,N'-bis(2,3-dihydroxypropyl)-2,4,6-Triiodoisophthalamide	76801-93-9	Intermediate	IOHEXOL /used to diagnose or find problems in the brain, back, heart, head, blood vessels, and other parts of the body
33	5-Acetylamino-N,N'-bis(2,3-dihydroxypropyl)-2,4,6-Triiodoisophthalamide	31127-80-7	Intermediate	IOHEXOL /used to diagnose or find problems in the brain, back, heart, head, blood vessels, and other parts of the body
34	3,5-Dichlorobenzoic acid	51-36-5	Intermediate	Bemesetron / Serotonin antagonist
35	3-Hydroxy-2-naphthoic acid	92-70-6	Intermediate	Antibacterial
36	Thiophene	110-02-1	Intermediate	Atreleuton /Antiallergic, antiasthmatic
37	3-Methyl thiophene	616-44-4	Intermediate	halo and aldehyde derivatives

38	3-Methyl thiophene-2-aldehyde	5834-16-2	Intermediate		Treatment for allergically disorder
39	2-Bromothiophene	1003-09-4	Intermediate		Thihexinol / Anticholinergic
40	2-Chlorothiophene	96-43-5	Intermediate		Ticloamarol / Anticoagulant
41	Thiophenol	108-98-5	Intermediate		Butoconazole / Antifungal
42	p-Hydroxybenzaldehyde	123-08-0	Intermediate		Amoxilline / Antibacterial
43	p-Hydroxybenzyl alcohol	623-05-2	Intermediate		Bisoprololfumarate / Antihypertensive
44	Phenyl phosphrous dichloride	824-72-6	Intermediate		cepham compounds / Anti infection, antimicrobial
45	(+)- α -Fosfomycinphenylethylamine	25383-07-7	Intermediate		Fosfomycin/ Antibiotic
46	1,4,7,10-tetraazacyclododecane-1,4,5,10-tetraacetic acid (DOTA)	60239-18-1	Intermediate		IOHEXOL /used to diagnose or find problems in the brain, back, heart, head, blood vessels, and other parts of the body
47	2,6-Dichloro phenol	87-65-0	Intermediate		Dichlorofenac / Anti-inflammatory
48	Hydrochlorothiazide	58-93-5	API		API /Treat high blood pressure
49	(+) Thiophene Glycine ester HCl	5680-79-5	Intermediate		Clopidogrel/ Antiplatelet
50	Clopidogrel	113665-84-2	API		API/ Antiplatelet
51	Metformin hydrochloride	1115-70-4	API		API/ Oral hypoglycemic
52	(Methyl 4-butylamido-3-methylbenzoate) & (Methyl 4-butylamido-3-methyl-5-nitrobenzoate)	152628-01-8	Intermediate		Telmisartan / antihypertensive
53	(Methyl 7-methyl-2-propyl-1H-benzo[d]imidazole-5-carboxylate) & (7-methyl-2-propyl-1H-benzo[d]imidazole-5-carboxylic acid)	152628-00-7	Intermediate		Telmisartan / antihypertensive
54	Telmisartan	144701-48-4	API		API / antihypertensive
55	Phenylpherine hydrochloride	61-76-7	API		API/ Treatment of sinusitis bronchitis

56	Metoprolol succinate	98418-47-4	API	API /To treat angina (Chest pain) and hypertension (high blood pressure)
57	Carbamazepine	298-46-4	API	API/ To prevent and control seizures
58	Modafinil	68693-11-8	API	API / To treat excessive sleepiness
59	Flurbiprofen	5104-49-4	API	API / Anti-inflammatory
60	5'-O-Trityl Thymidine	5964-41-0	Intermediate	Zidovudine / To treat HIV
61	Zidovudine	30516-87-1	API	API / To treat HIV
62	ITR-INT-A	89848-21-5	Intermediate	Itraconazole / Antifungal
63	Itraconazole	84625-61-6	API	API/ Antifungal
64	Fluconazole	86386-73-4	API	API/ Antifungal
65	Tranexamic acid	1197-18-8	API	API / To control excessive bleeding during dental procedures
66	Chlorhexidine base	55-56-1	API	API / Treat gingivitis
67	Amlodipine Besylate	111470-99-6	API	API /Treat high blood pressure
68	Diatrizoic Acid	117-96-4	API	API / Diagnostic aid
69	Iopamidol	60166-93-0	API	API /Diagnostic aid
70	Iohexol	66108-95-0	API	API /Radiocontrast agent
71	Tioconazole	65899-73-2	API	API/ Antifungal
72	Pyrantel citrate	5685-86-9	Intermediate	Pyrantel Pamoate / Anthelmintic
73	Pyrantel Pamoate	22204-24-6	API	API / Anthelmintic
74	Prasugrel	389574-19-0	API	API / Cardiovascular
R & D				0.1 MT/Month
Total Quantity				500 MT/Month

Brief Note of Product Profile:

- No of Manufacturing Plants: 2 Nos**
- Brief Note regarding number of Products to be manufactured considering plant capacity:**
 - 2 – 3 products to be manufactured considering plant capacity of 20TPD.**

ENDUSE OF PRODUCTS

S. N.	Name of 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	5-Sodiosulfo Isophthalic Acid (Na-SIPA)	6362-79-4	Intermediate	(N-2)	Iodixanol	92339-11-2	Iodixanol/ to help diagnose certain disorders of the brain, blood vessels, heart, kidneys, and other internal organs.
2	5-Hydroxy Isophthalic Acid (5-HIPA)	618-83-7	Intermediate	(N-4)	Iodixanol	92339-11-2	Iodixanol/ to help diagnose certain disorders of the brain, blood vessels, heart, kidneys, and other internal organs.
3	5-Nitro Isophthalic Acid (5-NIPA)	618-88-2	Intermediate	(N-4)	Iopamidol	60166-93-0	Iopamidol/used to help diagnose or find problems in the brain, heart, head, blood vessels, and other parts of the body
4	Dimethyl 5-Nitro Isophthalate (DM 5-NIPA)	13290 - 96 - 5	Intermediate	(N-4)	Iodamide	440-58-4	Iodamide /used to diagnose the uterus and Fallopian tubes
5	Mono Methyl 5-Nitroisophthalic Acid (MM5-NIPA)	618 - 88 - 2	Intermediate	(N-3)	Iotrolon	13290 - 96 - 5	Iotrolon/ used to diagnose spaces surrounding the central nervous system
6	5-Amino Isophthalic Acid (5-AIPA)	99-31-0	Intermediate	(N-3)	Iohexol	66108-95-0	Iohexol / used to diagnose or find problems in the brain, back, heart, head, blood vessels, and other parts of the body
7	Dimethyl 5-Amino Isophthalic Acid (DM-5-AIPA)	99-31-0	Intermediate	(N-4)	Ioversol	87771-40-2	Ioversol / to identify certain disorders of the heart, brain and blood vessels
8	5-Amino Tri Iodo Isophthalic Acid (ATIPA)	35453-19-1	Intermediate	(N-4)	Iohexol	66108-95-0	Iohexol / used to diagnose or find problems in the brain, back, heart, head, blood vessels, and other parts of the body
9	5-Amino Tri Iodo Dichloride	37441-29-5	Intermediate	(N-3)	Ioversol	87771-40-2	Ioversol / to identify certain disorders of the heart, brain and blood vessels
10	5-Amino N-N-Bis(2-3 Dihydroxy	203515-86-0	Intermediate	(N-2)	Ioversol	87771-40-2	Ioversol / to identify certain disorders of

	Propyl)Isophthalamide HCl (ABA-HCl)						the heart, brain and blood vessels
11	5-Amino N-N-Bis(2-3 Dihydroxy Propyl)2,4,6 Trilodolsophthalamide(ABATRIIODO)	76801-93-9	Intermediate	(N-3)	Iopamidol	60166-93-0	Iopamidol/used to help diagnose or find problems in the brain, heart, head, blood vessels, and other parts of the body
12	5-Acetylamino N-N-Bis(2-3 DihydroxyPropyl) 2,4,6 Trilodolsophthalamide	31127-80-7	Intermediate	(N-2)	Iohexol	66108-95-0	Iohexol / used to diagnose or find problems in the brain, back, heart, head, blood vessels, and other parts of the body
13	3,5 Di Nitro Benzoic Acid (DNBA)	99-34-3	Intermediate	(N-4)	Iodide	7553-56-2	Iodide/ used to loosen and break up mucus in the airways
14	3,5 Di Amino Benzoic Acid (DABA)	535-87-5	Intermediate	(N-3)	Triombrast	8065-20-1	Triombrast/ in diagnosis of urological diseases
15	2-Chloro 5-Nitro Benzoic Acid	2516-96-3	Intermediate	(N-4)	Mesalamine	89-57-6	Mesalamine/ to treat a certain bowel disease,to reduce symptoms of ulcerative colitis
16	4-Chloro 3,5 Di Nitro Benzoic Acid	118-97-8	Intermediate	(N-3)	Iodixanol	92339-11-2	Iodixanol/ to help diagnose certain disorders of the brain, blood vessels, heart, kidneys, and other internal organs.
17	4-Chloro 3,5 Di Amino Benzoic Acid	118-97-8	Intermediate	(N-4)	<u>Motofen</u>	35607-36-4	<u>Motofen</u> /used to treat diarrhea
18	4-Chloro 3,5 Di Amino Benzoic AcidIsobutyl Ester	32961-44-7	Intermediate	(N-3)	<u>Intestinex</u>	68333-16-4	<u>Intestinex</u> / Anti-Diarrheal Agent
19	3 Sulpho Benzoic Acid Sodium Salt	17625-03-5	Intermediate	(N-4)	Triombrast	8065-20-1	Triombrast/ in diagnosis of urological diseases
20	Thiopene 2-Aldehyde	98-03-3	Intermediate	(N-3)	Pyrantel Palmate	22204-24-6	Pyrantel Palmate/ anthelmintics
21	Thiopene 2-Acetyl	39098-97-0	Intermediate	(N-4)	Artatinolol HCl	68377-91-3	Artatinolol HCl/used in the treatment of high blood pressure
22	Thiopene 2-Methanol	636-72-6	Intermediate	(N-3)	Eprosartan	133040-01-4	Eprosartan/ Antihypertension
23	Thiopene 2-Carbo Oxalyic Acid	527-72-0	Intermediate	(N-4)	Duloxetine Hydrochloride	136434-34-9	Duloxetine Hydrochloride/

							Anti depressant drug
24	4-Amino Pyridine (4AP)	504-24-5	Intermediate	(N-4)	Astemizole	1997-04-01	Astemizole/ Anti Histaminie
25	Thiophene-2,5-Dicarboxylic Acid	527-72-0	Intermediate	(N-2)	Rivaroxaban	366789-02-8	Rivaroxaban / Antithrombotic
26	2-Thiophene carbonyl chloride	5271-67-0	Intermediate	(N-1)	Rivaroxaban	366789-02-8	Rivaroxaban / Antithrombotic
27	2-Thiophene acetic acid	1918-77-0	Intermediate	(N-4)	Cefoxiti	33564-30-6	Cefoxitin / Antibiotic
28	2-Thiophene acetyl chloride	39098-97-0	Intermediate	(N-3)	Cefoxiti	33564-30-6	Cefoxitin / Antibiotic
29	Thiophene-2-Ethanol	5402-55-1	Intermediate	(N-2)	Clopidogrel	113665-84-2	Clopidogrel / Antiplatelet
30	1-Phenylpiperazine	92-54-6	Intermediate	(N-4)	Alpertine	27076-46-6	Alpertine / Antipsychotic, neuroleptic
31	Sodium 5-Nitroisophthalic Acid Monomethyl Ester	1955-46-0	Intermediate	(N-3)	Iohexol	66108-95-0	IOHEXOL /used to diagnose or find problems in the brain, back, heart, head, blood vessels, and other parts of the body
32	5-Amino-N,N'-bis(2,3-dihydroxypropyl)-2,4,6-Triiodoisophthalamide	76801-93-9	Intermediate	(N-2)	Iohexol	66108-95-0	IOHEXOL /used to diagnose or find problems in the brain, back, heart, head, blood vessels, and other parts of the body
33	5-Acetylamino-N,N'-bis(2,3-dihydroxypropyl)-2,4,6-Triiodoisophthalamide	31127-80-7	Intermediate	(N-1)	Iohexol	66108-95-0	IOHEXOL /used to diagnose or find problems in the brain, back, heart, head, blood vessels, and other parts of the body
34	3,5-Dichlorobenzoic acid	51-36-5	Intermediate	(N-2)	Bemesetron	40796-97-2	Bemesetron / Serotonin antagonist
35	3-Hydroxy-2-naphthoic acid	92-70-6	Intermediate	(N-3)	Macimorelin acetate	945212-59-9	Macimorelin acetate/ Antibacterial
36	Thiophene	110-02-1	Intermediate	(N-4)	Atreleuton	154355-76-7	Atreleuton /Antiallergic, Antiasthamatic
37	3-Methyl thiophene	616-44-4	Intermediate	(N-4)	Atreleuton	154355-76-7	Atreleuton /Antiallergic, antiasthamatic
38	3-Methyl thiophene-2-aldehyde	5834-16-2	Intermediate	(N-3)	Atreleuton	154355-76-7	Atreleuton /Antiallergic, antiasthamatic

39	2-Bromothiophene	1003-09-4	Intermediate	(N-4)	Thihexinol	7219-91-2	Thihexinol / Anticholinergic
40	2-Chlorothiophene	96-43-5	Intermediate	(N-4)	Tiocloamarol	22619-35-8	Tiocloamarol / Anticoagulant
41	Thiophenol	108-98-5	Intermediate	(N-4)	Butoconazole	64872-77-1	Butoconazole / Antifungal
42	p-Hydroxybenzaldehyde	123-08-0	Intermediate	(N-2)	Amoxilline	26787-78-0	Amoxilline / Antibacterial
43	p-Hydroxybenzyl alcohol	623-05-2	Intermediate	(N-3)	Bisoprololfumarate	104344-23-2	Bisoprololfumarate / Antihypertensive
44	Phenyl phosphrous dichloride	824-72-6	Intermediate	(N-1)	cepham compounds	123457-83-0.	cepham compounds / Anti infection, antimicrobial
45	(+)- α -Fosfomycinphenylethylamine	25383-07-7	Intermediate	(N-1)	Fosfomycin	23155-02-4	Fosfomycin/ Antibiotic
46	1,4,7,10-tetraazacyclododecane-1,4,5,10-tetraacetic acid (DOTA)	60239-18-1	Intermediate	(N-1)	Iohexol	66108-95-0	IOHEXOL /used to diagnose or find problems in the brain, back, heart, head, blood vessels, and other parts of the body
47	2,6-Dichloro phenol	87-65-0	Intermediate	(N-3)	Dichlorofenac	15307-86-5	Dichlorofenac / Anti-inflammatory
48	Hydrochlorothiazide	58-93-5	API	-	-	-	API /Treat high blood pressure
49	(+) Thiophene Glycine ester HCl	5680-79-5	Intermediate	(N-1)	Clopidogrel	113665-84-2	Clopidogrel/ Antiplatelet
50	Clopidogrel	113665-84-2	API	-	-	-	API/ Antiplatelet
51	Metformin hydrochloride	1115-70-4	API	-	-	-	API/ Oral hypoglycemic
52	(Methyl 4-butylamido-3-methylbenzoate) & (Methyl 4-butylamido-3-methyl-5-nitrobenzoate)	152628-01-8	Intermediate	(N-2)	Telmisartan	144701-48-4	Telmisartan / antihypertensive
53	(Methyl 7-methyl-2-propyl-1H-benzo[d]imidazole-5-carboxylate) & (7-methyl-2-propyl-1H-benzo[d]imidazole-5-carboxylic acid)	152628-00-7	Intermediate	(N-3)	Telmisartan	144701-48-4	Telmisartan / antihypertensive
54	Telmisartan	144701-48-4	API	-	-	-	API / antihypertensive
55	Phenylperine hydrochloride	61-76-7	API	-	-	-	API/ Treatment of sinusitis bronchitis

56	Metoprolol succinate	98418-47-4	API	-	-	-	API /To treat angina (Chest pain) and hypertension (high blood pressure)
57	Carbamazepine	298-46-4	API	-	-	-	API/ To prevent and control seizures
58	Modafinil	68693-11-8	API	-	-	-	API / To treat excessive sleepiness
59	Flurbiprofen	5104-49-4	API	-	-	-	API / Anti-inflammatory
60	5'-O-Trityl Thymidine	5964-41-0	Intermediate	(N-2)	Zidovudine	30516-87-1	Zidovudine / To treat HIV
61	Zidovudine	30516-87-1	API	-	-	-	API / To treat HIV
62	ITR-INT-A	89848-21-5	Intermediate	(N-1)	Itraconazole	84625-61-6	Itraconazole / Antifungal
63	Itraconazole	84625-61-6	API	-	-	-	API/ Antifungal
64	Fluconazole	86386-73-4	API	-	-	-	API/ Antifungal
65	Tranexamic acid	1197-18-8	API	-	-	-	API / To control excessive bleeding during dental procedures
66	Chlorhexidine base	55-56-1	API	-	-	-	API / Treat gingivitis
67	Amlodipine Besylate	111470-99-6	API	-	-	-	API /Treat high blood pressure
68	Diatrizoic Acid	117-96-4	API	-	-	-	API / Diagnostic aid
69	Iopamidol	60166-93-0	API	-	-	-	API /Diagnostic aid
70	Iohexol	66108-95-0	API	-	-	-	API /Radiocontrast agent
71	Tioconazole	65899-73-2	API	-	-	-	API/ Antifungal
72	Pyrantel citrate	5685-86-9	Intermediate	(N-1)	Pyrantel Pamoate	22204-24-6	Pyrantel Pamoate / Anthelmintic
73	Pyrantel Pamoate	22204-24-6	API	-	-	-	API / Anthelmintic
74	Prasugrel	389574-19-0	API	-	-	-	API / Cardiovascular

- 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.
- The proposal was considered in the meeting dated 03.08.2021.
- Salient features of project details and water, air and Hazardous waste management are submitted
- During the meeting dated 03.08.2021, the project was appraised based on the information furnished in Form – 1, Pre-Feasibility Report, Environment Management Plan and details submitted by e-mail.
- Technical expert of Project proponent (PP), ECOGREEN ENVIRO SERVICES remains present during video conference meeting.

- This is a Greenfield project proposed for manufacturing of API and its intermediate at Survey No. 272/001, 272/002 and 273, Village: Bhalthi, Tal.: kadi, Dist.: Mehsana, outside notified area..
- Looking to siting criteria of proposed project presented by PP showing Narmada canal is at 300 meter from proposed project, technical expert of PP presented Sardar Sarovar Nigam Ltd letter for recommendation regarding NA of proposed project without date and signed by competent authority and hence Committee asked for justification regarding such type misleading authenticated document without signed by competent authority. PP and technical expert of PP could not able to justify regarding such type misleading information submitted by them.
- **After detailed discussion, it was decided to defer the proposal and consider the same in one of upcoming meeting only after clarification regarding submission of misleading information like Sardar Sarovar Nigam Ltd letter for recommendation regarding NA of proposed project without date and signed by competent authority and following document,**

1. Compliance of Siting crieteria with respect to proposed project location is at approx. 300 meter distance from Narmada canal, considering pollution potential of proposed API products.

- PP submitted reply of above query generated on SEAC VC meeting dated 02.08.2021, through e-mail.
- This proposal is reconsidered in SEAC meeting dated **18.10.2021**. PP along with their technical expert/consultant, M/s. ECOgreen ENVIRO SERVICES remains present in the meeting and made presentation before Committee.
- During meeting dated 18.10.2021, PP presented documentary evidence “No objection Certificate” of Sardar Sarovar Narmada Nigam Limited for establishment of Bulk Drug & Bulk Drug Intermediates Manufacturing Unit, under name of M/S. ARVEE SPECIALITY CHEMICALS PVT. LTD, with respect to compliance of Narmada canal at @300 meter distance from proposed project.
- This is Greenfield project of API and its intermediate at village-Bhalthi, Taluka: Kadi, Dist.: Mehsana, located outside notified area. Source of water supply is bore well and applied for CGWA permission for ground water source. Looking to layout plan showing Kadi-Viramgam Road passing through premises of proposed product, Committee insisted for submission of “No objection Certificate” of Kadi-Viramgam road passing through premises from competent authority for establishment of Bulk Drug & Bulk Drug Intermediates Manufacturing Unit with its recommendation. Also Committee insisted for submission of revised siting criteria with mentioning details of distance of state highway/national highway, residential habitat, ECZ of Thor bird sanctuary, water body, school from proposed project.
- Committee noted the following details:
 - ✓ Site Plan/ layout with fire plan and provision of separate entry & exit, adequate wide peripheral road, production area, ETP, raw material & finished goods storage areas, hazardous waste storage areas, utility area, greenbelt area etc.
 - ✓ Product profile discussed in depth. At a time two or three products from proposed product list will be

manufactured.

- ✓ Generated industrial effluent will be segregated and low COD stream and high COD stream will be treated in ETP and then will be evaporated in in-house MEE.
- ✓ Bio coal or coal is proposed as fuel for boiler and thermo pack. Two stage scrubbers proposed as APCM for process gas emission stack.
- ✓ 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: 500 KL), main pump, diesel pump and jockey pump and OHC of 20 sq. meter.
- 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:
 - ✓ Revised EMP with mentioning adequate capital cost and recurring cost for each segment like water, air, Hazardous waste, fire and safety etc.
- **After detailed discussion, Committee unanimously decided to consider the proposal in the upcoming SEAC meeting only after satisfactory submission of the following:**
 1. Submission of “No objection Certificate” of Kadi-Viramgam road passing through premises from competent authority for establishment of Bulk Drug & Bulk Drug Intermediates Manufacturing Unit with its recommendation.
 2. Submission of revised siting criteria with mentioning details of distance of state highway/national highway, residential habitat, ECZ of Thor bird sanctuary, water body, school from proposed project.
 3. Revised EMP with mentioning adequate capital cost and recurring cost for each segment like water, air, Hazardous waste, fire and safety etc.
- PP submitted reply of above query generated on SEAC VC meeting dated 18.10.2021, through e-mail.
- This proposal is reconsidered in SEAC meeting dated **16.02.2022**. PP along with their technical expert/consultant, M/s. ECOgreen ENVIRO SERVICES remains present in the meeting and made presentation before Committee.
- During meeting, Committee noted that PP presented “**No objection Certificate**” for road passing through premises, from competent authority for establishment of Bulk Drug & Bulk Drug Intermediates Manufacturing Unit with its recommendation under name of M/S. ARVEE SPECIALITY CHEMICALS PVT. LTD. And submitted notarized undertaking stating that unit will start construction activities by keeping more than 55 meter distance from the centre line of road passing nearby our plant/premises as mentioned in NOC Obtained from competent authority.
- Technical expert of PP presented revised siting criteria with mentioning distance of highway/national

highway, residential habitat, ECZ of Thor bird sanctuary, water body, school from proposed project. PP also presented revised EMP with mentioning adequate capital cost and recurring cost for each segment like water, air, Hazardous waste, fire and safety, OHC etc.

- PP submitted revised salient features of Water, Air and Hazardous waste management are submitted which are as follows,

Sr. no.	Particulars	Details																		
A-1	Total cost of Proposed Project (Rs. in Crores): <table border="1"> <tr> <td>Total Project</td> <td></td> </tr> <tr> <td>59.53 Cr.</td> <td></td> </tr> </table> Break-up of proposed project Cost: <table border="1"> <thead> <tr> <th>Details</th> <th>Project Cost (Rs. In Crores)</th> </tr> </thead> <tbody> <tr> <td>Land</td> <td>2.0</td> </tr> <tr> <td>Building</td> <td>17.0</td> </tr> <tr> <td>Machinery</td> <td>30.0</td> </tr> <tr> <td>Env. & Safety</td> <td>9.145</td> </tr> <tr> <td>Miscellaneous</td> <td>1.38</td> </tr> <tr> <td>Total</td> <td>59.525~59.53</td> </tr> </tbody> </table>	Total Project		59.53 Cr.		Details	Project Cost (Rs. In Crores)	Land	2.0	Building	17.0	Machinery	30.0	Env. & Safety	9.145	Miscellaneous	1.38	Total	59.525~59.53	
Total Project																				
59.53 Cr.																				
Details	Project Cost (Rs. In Crores)																			
Land	2.0																			
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Machinery	30.0																			
Env. & Safety	9.145																			
Miscellaneous	1.38																			
Total	59.525~59.53																			
A-2	Details of Environmental Management Plan (EMP)	As below:																		
-																				
Sr. No	Unit	Detail	Capital Cost (Rs. In Crore)	Operating Cost (Rs. In Crore/ Month)	Maintenance Cost (Rs. In Crore/ Month)	Total Recurring Cost (Rs. In Crore/ Month)														
1	Waste Water	ETP: 125 KLD Stripper: 100 KLD MEE: 125 KLD STP: 20 KLD	6.11	1.23	0.12	1.35														
2	Air	MCS: 3 Nos Bag filter: 3 Nos. Alkali Scrubber: 6 Nos. Stack: 8 Nos.	1.07	0.025	0.009	0.034														
3	Hazardous Management	Membership & Disposal + Incineration + Transportation	0.01	0.22	--	0.22														
4	Fire & Safety	Fire Hydrant & Fire Safety, PPE's & Fire	1.86	0.0275	0.0075	0.035														

		proximity suit-4 Nos., Fire Extinguishers, Foam trolley & Trailer driven pump, DCS system & Electrical flame proof fittings				
5	Green Belt Development	2600 Trees	0.08	0.005	0.001	0.006
6	Occupational Health	OHS Training & Mis., OHC & Medical Check Up	0.05	0.005	0.005	0.01
7	Noise Control	Acoustic enclosure & Silencer & Vibration pads & Noise PPEs	0.045	0.007	0.001	0.008
8	CER Funds	2.2 % of project cost	1.30	0.0020	0.0005	0.0025
Total			10.525 ~10.53			1.665~1.67

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:

- ✓ Roof top solar system at@ Vekara village.

B	Land / Plot ownership details: Lease deed agreement between First Party Lessee- M/s.Arvee Speciality Chemicals Pvt. Ltd. And second party Lessor: Mrs. Khushbu Shalin Patel for survey no. 272/001, 272/002 and 273 admeasuring land area 39151.0 sq.mt. Land of all three-survey no. (272/001, 272/002 and 273) NA (Non-Agriculture: Multipurpose) Obtained.		
B-1	Plot area <table border="1" style="margin-left: 20px;"> <tr> <td>Total Plot area</td> </tr> <tr> <td>39151.0 Sq. m.</td> </tr> </table> -	Total Plot area	39151.0 Sq. m.
Total Plot area			
39151.0 Sq. m.			
B-2	Area adequacy		

S. N.	Description	Criteria /remark	Area req. (sq. mt.)	Area proposed (sq. mt.)	G.F. (sq. mt.)	F.F. (sq. mt.)	Percentage of Ground Coverage (%)
1	Plant machinery & (API plant)	20.0 MT/day & plant cap.	1800	2000	1000	1000	2.6
2	Plant machinery & (API's intermediates plant)		1800	2000	1000	1000	2.6
3	OHC	16 sq. m. Required	16	30	30	--	0.1
4	F.G.	250 MT for 2 week inventory	300	500	500		1.3
5	R.M.	1150 MT for 2 week inventory.	1200	1476	1476	--	3.8
6	Tank farm (Non PESO)	174 KL (50KLx3 nos.) (16KLx 1 nos.) (8KLx1 nos.)	350	500	500	--	1.3
7	Tank farm (PESO)	350 KL (50KLx7 nos.)	525	650	650		1.7
8	Carbon disulfide	20 KL (10KLx2 nos.)	50	100	100	--	0.3
9	Drum storage area (flammable chemical solvents)	114 KL (570nos.x200 lit.)	285	500	500	--	1.3
10	Drum storage area (toxic, corrosive & oxidizer chemicals)	50 KL (250nos.x200 lit.)	125	250	250	--	0.6
11	Chlorine gas storage area	4.5 m3 tonner (900kg x5 nos.)	100	150	150	--	0.4
12	Hydrogen gas storage area	0.240 m3 hydrogen bank (2.2 kg x50 nos. X 2 nos)	100	150	150	--	0.4
13	Boiler & utilities	3.0 tph boiler (2 nos.), TFH (4 lac kcal/hr.), cooling tower (500 tr - 2 nos.)	350	400	400	--	1.0
14	Coal storage area	200 MT	200	250	250	--	0.6
15	Fly ash storage area	20 MT	25	30	30	--	0.1
16	Admin + lab	--	500	1000	500	500	1.3
17	Haz. Waste storage area	1950 MT for 90 Day Inventory	2000	2000	2000	--	5.1
18	ETP +Stripper+MEE+ STP	ETP & MEE - 125 KLD, Stripper-100	500	600	600	--	1.5

		KLD, STP-20 KLD											
19	Road area	6.0 mt wide road	9813	9813	9813	--	25.1						
20	Pathway area		900	900	900	--	2.3						
21	Security cabin - 1		10	10	10	--	0.03						
22	Security cabin - 2		10	10	10	--	0.03						
23	Open Area for Future Expansion		5382	5382	5382	--	13.7						
24	Greenbelt	33.0 % of Plot Area	12950	12950	12950	--	33.1						
TOTAL			39291	41651	39151	2500	100						
<p>➤ Remark: Hence, adequate area is available for proposed new Facility as per area adequacy.</p> <p>Comments:</p> <p>SEAC has examined it w.r.t.to total monthly production, maximum products, manufactured per month, the total raw material required, weekly storage requirement of each raw material, their mode of storage, their compatibility (flammability, corrosive, toxic), area needed by each raw material, one week storage of finished goods. Area adequacy, from overall safety perspective, has been provided in proposal and is satisfactory.</p>													
B-3	<p>Green belt area</p> <table border="1"> <thead> <tr> <th></th> <th>Total (Sq. meter)</th> </tr> </thead> <tbody> <tr> <td>Area in Sq. meter</td> <td>12950 (inside plant premises)</td> </tr> <tr> <td>% of total area</td> <td>33</td> </tr> </tbody> </table> <p>Comments:</p> <p>The condition shall be given that -</p> <p>The PP shall develop green belt (12950 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.</p>								Total (Sq. meter)	Area in Sq. meter	12950 (inside plant premises)	% of total area	33
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C	Employment generation												

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	-																						
D	WATER																						
D-1	Source of Water Supply ➤ Borewell supply ➤ CGWA application Number: 21-4/7246/GJ/IND/2021, Date: 27/03/2021																						
	<u>Comments:</u> Prior permission from concerned authority shall be obtained for withdrawal of water.																						
D-2	Water consumption (KLD)																						
	-																						
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	<p><u>Comments:</u></p> <p>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.</p>															
D-4	Break-up of waste water disposal & facility (For Domestic)															
<p>11.0 KLD Domestic Waste Water will be treated in STP & treated wastewater will be reused in gardening purpose within premises.</p> <p><u>Comments:</u></p> <p>Domestic wastewater generation shall not exceed 11 KL/day for proposed project and it shall be treated in STP. It shall not be disposed off through soak pit/ septic tank.</p>																
D-5	Break-up of waste water disposal & facility (For Industrial)															
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Sr. no.	Quantity KLD	Facility														
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3	22.8	Will be sent to rule-9 end users.														
Total	140.5															

Dilute Stream (27.70 + 22.80 KLD)

- 27.70 KLD industrial effluent generated from utilities, washing and process section shall be treated into the ETP -2 [Primary + Secondary Treatment] and then treated water shall be evaporated in in-house MEE.
- 22.80 KLD, exhausted scrubbing media shall be sold to end users having Rule-9 permission and shall be recycled back within premises as per Hazardous waste Rules'2016.
- Total 92 KLD, MEE condensate shall be reused back within premises.

2. Treated waste water shall be fed to MEE only after ensure, no adverse impact on Human Health and Environment.

E	AIR
E-1	Power (Electricity) requirement: 1800 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 (3.0 TPH)	31	Bio-Coal OR Coal	13.0 MT/Day OR 9.0 MT/Day	PM SO ₂ NO _x	MCS + Bag filter + Alkali scrubber + Adequate stack height
2	Boiler (3.0 TPH)	31	Bio-Coal OR Coal	13.0 MT/Day OR 9.0 MT/Day	PM SO ₂ NO _x	MCS + Bag filter + Alkali scrubber + Adequate stack height
3	TFH (4 Lac Kcal/hr)	25	Bio-Coal OR Coal	3.0 MT/Day OR 2.0 MT/day	PM SO ₂ NO _x	MCS + Bag filter + Adequate stack height
4	D. G. set (500 KVA)	11	Diesel	80 lit/hr	PM 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 (mfg.: Thiophenecarboxylic acid) and 2-Bromothiophene (2- Chlorination and Bromination)	HCl, HBr	22.0	Two stage Alkali Scrubber		
2	Reaction Vessel (mfg.: Thiophenecarboxylic acid) (2- Sulphonation)	SO ₂	22.0	Two stage Alkali Scrubber		
3	Reaction Vessel (Mfg.: Telmisartan) (Nitration)	NOX	22.0	Two stage Alkali Scrubber		
4	Reaction Vessel (From Mfg. 3-Methyl thiophene)	H ₂ S	22.0	Two stage Alkali scrubber		
E-4		Fugitive emission details with its mitigation measures.				
<ul style="list-style-type: none"> ➤ Green belt will be developed which will help to reduce fugitive emission. ➤ All pumps, Compressors and Agitator must be mechanically sealed. ➤ All process pumps must be provided trays to collect probable leakage. ➤ More weightage on selection of MOC of piping must be given to avoid leakage/spillage. ➤ Proper system must be provided for decontamination and effective cleaning of drums. ➤ Face mask must be provided to all workers to avoid odor nuisance. ➤ Developing appropriate green belt. Vehicular speed will be limited to reduce airborne fugitive dust. 						
Comments for E2, E3 & E4:						
<p>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.</p> <p>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.</p>						
F		Hazardous waste				
F-1		Hazardous waste management matrix				
-						
Sr.	Type/Name of	Specific Source	Catego	Quantity	Management of HW	

no.	Hazardous waste	of generation (Name of the Activity, Product etc.)	ry and (MT/Annum)	(MT/Annum)	
1	Empty Barrels/ Containers/Liners contaminated with Hazardous Chemicals /Wastes	Storage & handling of Raw Materials	33.1/ SCH-I	20000.0 Nos.	Collection, Storage, Transportation, and disposal by send it to authorized Decontamination facility/recyclers or reuse or send back to supplier.
2	Used/ Spent Oil	Equipment & Machineries	5.1/ SCH-I	0.7	Collection, Storage and Disposal by Reuse in plant & Machinery as lubricant or sell it to authorized Re-Refiners/recyclers.
3	ETP Sludge	In house ETP	35.3/ SCH-I	840.0	Collection, storage, transportation (Through GPS mounted vehicle) and Disposal to authorized TSDF.
4	MEE salt	MEE	35.3/ SCH-I	293.0	
5	Inorganic waste	Mfg. process of 2- Thiophenecarboxylic acid	28.1/ SCH-I	3916.0	Collection, Storage, Transportation & send to pre/co-processing units (cement industries) OR disposal at nearest CHWIF site.
6	Distillation Residue	Mfg. process of Zidovudine	28.1/ SCH-I	1843.0	
7	Organic waste	Mfg. process of 2- Thiophenecarboxylic acid	28.1/ SCH-I	3340.0	
8	Spent carbon	Mfg. process	28.3/ SCH-I	288.0	
9	Spent catalyst	Mfg. process	28.2/ SCH-I	19.0	
10	Aluminum Chloride (20%)	Mfg. process	28.1/ SCH-I	408.0	Collection, Storage, Transportation Sell to End Users having permission under Rule-9.
11	Hydrogen Bromide (20%)	Mfg. process	28.1/ SCH-I	336.0	Collection, Storage, Transportation Sell to End Users having permission under Rule-9.
12	Spent Solvent	Mfg. process of Zidovudine	28.6/ SCH-I	68428.0	Collection, Storage, Handling recovered & recycled by Solvent Distillation Plant within premises OR Sell to End Users having permission under Rule-9
		Solvent Stripper	28.6/ SCH-I	360.0	Collection, Storage, & send to pre/co processing units (cement industries) OR send to CHWIF.

13	NaBr Solution (25-30%)	Scrubbing Mgf. Process 2- Bromothiophene	28.1/ SCH-I	4672.0	Collection, Storage, Transportation & Sell to end users having permission Rule-9
14	Sodium Sulphite Solution (20-22%)	Scrubbing Mgf. Process Thiophenecarbo xylic acid	28.1/ SCH-I	2336.0	
15	NaHS (sodium hydrosulfide) solution (20-25%)	Scrubbing Mgf. Process 3-Methyl thiophene	28.1/ SCH-I	4672.0	
16	NaNO ₂ (sodium nitrate) solution (20-22%)	Scrubbing Mgf. Process Telmisartan	28.1/ SCH-I	3905.5	Collection, Storage & Treatment in ETP within facility
17	NaCl (25-30%) solution	Scrubbing Mgf. Process 2- Thiophenecarbo xylic acid	28.1/ SCH-I	730.0	Collection, Storage & Treatment in ETP within facility
18	Off Specification Product	Process	28.4/ SCH-1	1.0	Collection, Storage, Transportation & send to pre/co-processing units (cement industries) OR disposal at nearest CHWIF site.

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

3. Fly Ash generation will be 1050.0 MTPA
4. STP sludge generation will be 25.0 MTPA

Comments:

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

STP sludge shall be 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.

S.N.	Name of	Qty.	Recovery	Loss In	Loss in	Dist. Residue	% Recovery
------	---------	------	----------	---------	---------	---------------	------------

	Solvent	Used (MT/MT)	(MT/MT)	air	water		
1	Toluene	7.94	7.62	0.0397	0.0794	0.20	96
2	Acetone	2.78	2.69	0.0139	0.0278	0.04	97
3	DMF	4.72	4.48	0.0236	0.0472	0.17	95
4	MDC	3	2.89	0.015	0.03	0.06	96
5	THF	5.69	5.40	0.02845	0.0569	0.20	95
6	Methanol	6	5.76	0.03	0.06	0.15	96
7	Xylene	1.24	1.18	0.0062	0.0124	0.04	95
8	Butanol	3.51	3.34	0.01755	0.0351	0.12	95
9	EA	5.84	5.58	0.0292	0.0584	0.17	96
10	Acetic acid	2.1	2.00	0.0105	0.021	0.07	95
11	IPA	8	7.68	0.04	0.08	0.20	96
12	Acetonitrile	2.27	2.14	0.01135	0.0227	0.10	94
13	ODCB	0.51	0.48	0.00255	0.0051	0.02	94
G-2 LDAR proposed:							
The Following methodology to be adopted during LDAR study:							
<ul style="list-style-type: none"> Identify the Chemical streams that must be monitored. Types of components (pumps, valves, connectors, etc.) to be monitored Frequency of monitoring. Actions to be taken if a leak is detected. Length of time in which an attempt to repair the leak must be performed. Actions that must be taken if a leak cannot be repaired within guidelines. Record-keeping and reporting requirements. 							
Following frequency of monitoring of leaks and schedule for repair of leaks shall be followed:							
S.N	Component	Frequency of monitoring	Repair schedule				
1.	Valves / Flanges	Quarterly (semi-annual after two consecutive period with < 2% leaks and annual after 5 periods with < 2% leaks)	Repair will be started within 5 working days and shall be completed within 15 working days after detection of leak.				
2.	Pump seal	Quarterly					
3.	Compressor seals	Quarterly					
4.	Pressure relief devices	Quarterly					
5.	Pressure relief devices (after venting)	Within 24 hrs.					
6.	Process drains	Annually	Repair will be started within 5 working days and shall be completed within 15 working days after detection of leak.				
7.	Components that are difficult to monitor	Annually					
8.	Pump seals with visible liquid dripping	Weekly	Immediately				
9.	Any component with visible leaks	Weekly	Immediately				
10.	Any component after repair / replacement	Within a week	-				
LDAR for specific solvents:							

Sr . No.	Solvent Name	Type of Storage	Mode of Transfer	Charging	Sources of Leakage	Mitigation Measure For find out leakages	Mitigation Measure (If leakages will be occur)	Action taken for prevention of leakages
1	Methanol	Tank	By Pump & Fix Pipe line	Direct Vessel	<ul style="list-style-type: none"> Leak from Valve (failure of the valve packing & O-ring) Leak from pump (Occur at seal) Leak from tank Leak from Connectors Leak from open ended lines 	<ul style="list-style-type: none"> For using Gas Detector by PID Sensor technology. 	<ul style="list-style-type: none"> If valve will be leak stop pumping system and replace with new valve. When pump seal will be leak immediately stop solvent transfer and immediately repair or replace with new seal. 	<ul style="list-style-type: none"> Check Thickness of tank Using fix pipeline for solvent transfer Minimum use of Connectors & Joins Provided sufficient Space (Solvent Unloading area) for Solvent Tanker
G-3		VOC emission sources and its mitigation measures						
Measures for achieving maximum solvent recovery and minimize VOC generation:								
<ul style="list-style-type: none"> ➤ All the solvents shall be directly distilled from product mixes and; if required shall be purified in packed column with the help of reflux. ➤ The solvent distillation system shall be designed so as to achieve minimum 95.0 % recovery of solvent. ➤ All the pumps shall be mechanical seal type to avoid any leakage of solvent. ➤ All necessary firefighting systems shall be provided with alarm system. Flame proof wiring and flame proof electrical accessories shall be provided to avoid any mishap. ➤ All the distillation column vents are also connected to cooling water/ chilled brine condensers for maximum possible recovery of the solvents. ➤ All the vents will be connected to a common carbon Absorber for removing traces of solvent from vent gases. ➤ Residue generated from the distillation will be incinerated in-house or sent to BEIL 								

incinerator site.

- Two condenser will install with cooling water and chilled brine to recover the solvent.
- Primary Condenser HE-01: Cooling Tower water or Chilled water at 10 OC -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 VOC Trap Condenser HE-02: Chilled Brine at -05 OC will be used to trap any traces of Solvent which is slipped from Secondary condenser.

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

Sr. no	Name of Chemical	Capacity of Tank	Number of Tanks	Hazardous Characteristics of Chemical
PESO				
1	Methanol (U/g)	50 KL (MS)	1	Highly flammable
2	Methylene Dichloride (U/g)	50 KL (MS)	1	Highly flammable
3	Ethyl acetate (U/G)	50 KL (MS)	1	Highly flammable
4	IPA (U/G)	50 KL (MS)	1	Highly flammable
5	DMF (U/g)	50 KL (MS)	1	Flammable
6	Toluene (U/g)	50 KL (MS)	1	Highly flammable
7	Tetrahydrofuran (U/g)	50 KL (MS)	1	Highly flammable
8	Carbon Disulfide	10 KL (MS) Under Water	2 (One spare tank)	Highly flammable
TOTAL			9 Nos.	
NON-PESO				
1	Sulfuric Acid 98%	50 KL (MSRL)	1	Highly Toxic
2	Nitric acid 70%	16 KL (SS316 L) (MSRL)	1	Highly toxic, corrosive & oxidizer
3	Oleum 23%	8 KL (MSRL)	2 (1 Nos. stand by)	Highly Toxic
4	Caustic lye 48%	50 KL (MSRL)	1	Highly Toxic
5	HCl (30%)	50 KL (MSRL)	1	Highly Toxic
TOTAL			6 Nos.	

Storage of Hazardous chemicals in Tanks

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.
- Provided with external anti-corrosive coating or cathodic protection to prevent corrosion ;
- 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;
- 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;
- 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.

Safety Measures for Acid / Alkali Storage tank area:

- 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.

Safety Measures for carbon disulfide Storage tank area:

- Underground tank of cap: 10 KL shall be kept half submerged under water and shall be covered by shed from top.
- Area will be marked for —Authorized Entries, —POISON, —DANGER etc.
- Sprinklers will be installed under the shed on top of tank.
- Structures in which CS₂ is stored is non-combustible and either open type or well ventilated at floor level.
- Relevant Fire Extinguishers and fire fighting facilities will be installed nearby.
- Buildings for the storage of CS₂ is isolated from other operations and buildings.
- CS₂ vapour is 2.63 times heavy as air, therefore, special down draft or lateral type ventilation has to provide for room where CS₂ is stored or used. Although the threshold limit value for CS₂ is accepted as 10 ppm, the concentration of CS₂ vapour in the work room should be maintained below 10 ppm. Care is taken to ensure that the same air is not recirculated in the room and the vapour is drawn away from the operators' faces. The ventilators of CS₂ storage rooms should be fitted with two layers of the fine wire mesh of non-corroding metal.
- All CS₂ tanks, pipelines, etc. is connected by copper or aluminium strips and is earthed to prevent fire due to static electricity.
- Only flameproof motors are installed in the areas where CS₂ is stored or used. Thermal cutouts, switches, relays, transformers, etc, are not installed in these area

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.
- Handling of materials from Drum will be done only through Mechanical Transfer System.

Safety details of Hazardous Chemicals:

Type of Hazardous Chemicals	Safety measures
FLAMMABLE	✓ Storage will be cool, well ventilated away from sources of ignition or heat.

&EXPLOSIVE	<ul style="list-style-type: none"> ✓ Prevent accumulation of static charge. Protect material from direct sunlight. ✓ Store in original container. Keep containers tightly closed and upright when not in use. ✓ Proper label and identification board /stickers 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. ✓ Ground container and transfer equipment to eliminate static electric sparks. ✓ Smoking and other spark, flame generating item will be banned near storage area. FLP type light fittings will be provided. ✓ Handling of materials from Drum will be done only through Mechanical Transfer System only. ✓ Training will be provided to employees for safe storage, handling and transpiration. ✓ When using, do not eat, smoke or drink. ✓ Fire Hydrant with monitor, fire proximity suits, automatic sprinkler system, Safety shower & eye wash unit will be installed nearby area. ✓ Provision of Respiratory protective equipment (airline respirator & SCBA) & personal protective equipment will be available. ✓ For spills involving small volumes of dilute solution of Xylene/Formaldehyde/Methanol, the following cleaning procedure can be used ✓ Wear appropriate personal protective equipment (PPE) ✓ Remove any ignition source from the spill area; ✓ Clean the spill area with a mixture of water and soap ✓ Dry the spill area with paper towels ➤ Onsite emergency plan prepared and mock drill will be carried out. Safety sign board displaying Do's and Don'ts in local language.
CORROSIVE& CHEMICALS	<ul style="list-style-type: none"> ✓ Preventing or minimizing contact between corrosive substances and skin, mucous membranes and eyes. ✓ Corrosive substances will 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 will be protected by suitable coatings, impervious to and unaffected by corrosives. ✓ All containers or receptacles will be clearly labelled to indicate their contents and will bear the danger symbol for corrosives. ✓ Adequate ventilation and exhaust arrangement whether general or local, will be provided whenever corrosive toxic gases or dust are present. ✓ Personal protective devices will be used. ✓ First aid treatment facilities will be provided and all concerned will 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 will be provided.
TOXIC CHEMICALS	<ul style="list-style-type: none"> ✓ Storage will be cool, well ventilated away from sources of ignition or heat. Prevent accumulation of static charge. Protect material from direct sunlight. ✓ Store in original container. Keep containers tightly closed and upright when not in use. ✓ Proper label and identification board /stickers 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. ✓ Ground container and transfer equipment to eliminate static electric sparks. ✓ Handling of materials from Drum will be done only through Mechanical

	<ul style="list-style-type: none"> ✓ Transfer System only. Unloading procedure will be prepared and implemented. ✓ Training will be provided to employees for safe storage, handling and transpiration. ✓ Safety shower & eye wash unit will be installed nearby area. ✓ Required PPEs like full body protection PVC apron, Hand gloves, gumboot, Respiratory protective equipment (airline respirator & SCBA) etc. will be provided to operator ✓ For spills involving small volumes, the following cleaning procedure can be used ✓ wear appropriate personal protective equipment (PPE) ✓ clean the spill area with a mixture of water and soap ✓ Neutralizing agent will be kept ready for tackle any emergency spillage ✓ Onsite emergency plan prepared and mock drill will be carried out. Safety sign board displaying Do's and Don'ts in local language.
REACTIVE CHEMICALS	<ul style="list-style-type: none"> ✓ Store minimum quantities. ✓ Segregate chemicals, e.g. from water, air, incompatible chemicals, sources of heat, ignition sources. ✓ Spillage control; bund, spray, blanket, containment. Drain to collection pit. ✓ Decontamination and first-aid provisions, e.g. neutralize/destroy, fire-fighting • 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. ✓ Will 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). ✓ Will ensure adequate access for both normal and emergency purposes with alternative routes
<p>➤ Applicability of PESO: Yes. Unit will obtain PESO License for storage of chemicals.</p> <p>Comments:</p> <p>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.</p>	
H-2	Types of hazardous Processes involved and its safety measures:
Type of Process	Safety measures including Automation
Hydrogenation Process (Through Hydrogen gas)	<ul style="list-style-type: none"> ✓ Provision of Safety Valve & Rupture Disk on reactor. ✓ DCS (Distributed Control System) 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.

	<ul style="list-style-type: none"> ✓ Instrument & Plant Air System. ✓ Nitrogen blanketing in Hydrogenation reactor. ✓ Emergency dumping vessel will be provided during unforeseen circumstances. ✓ Safety valve and Rupture disc provided on reactor. ✓ Cooling, Chilling and alternate power arrangement have been made on reactor. ✓ Process area and Hydrogen cylinder bank shall be far away as per standards practice. ✓ PRV station with shut off valve, safety valve provision will be made for hydrogenation reaction safety. ✓ Standard Operating procedure shall be followed during operation of Hydrogen Gas charging in to reactor and after completion of reaction Nitrogen purging will be done. ✓ Flame arrestor will be provided on vent line of reactor and it will be extended above the roof level. ✓ Safe Catalyst charging method will be adopted. ✓ SOP will be displayed and operators will be trained for the same. ✓ Static earthing and electric earthing (Double) will be provided. ✓ Jumpers for static earthing on pipeline flanges of flammable chemical will be provided. ✓ Hydrogen gas detector will be installed for early detection of gas leak. 	
<p>Bromination (Through Bromine)</p>	<ul style="list-style-type: none"> ✓ 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. 	
<p>Chlorination (Through Chlorine Gas)</p>	<ul style="list-style-type: none"> ✓ Chlorine Emergency Kit will be procured and kept ready at process site. ✓ DCS (Distributed Control System) base process controls and operation of plant will be installed. ✓ Chlorine Hood with blower will be provided with scrubbing arrangement. ✓ SCBA sets will be kept ready at site. 	

	<ul style="list-style-type: none"> ✓ 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. <p>Evacuate the area in down wind direction</p> <ul style="list-style-type: none"> ✓ 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. ✓ Scenario base On Site emergency Plan will be prepared. 	
<p>Sulphonation & Chlorination (Through Thionyl chloride)</p>	<ul style="list-style-type: none"> ✓ To avoid runaway reaction, TC charging will be done gradually & slowly. ✓ Provision of Safety valve & rapture disc on reactor ✓ Provision of auto dumping vessel. ✓ 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 	

	<p>followed with plastic sheet to minimize spreading or contact with rain.</p> <p>✓ Required PPEs like full body protection PVC apron, Hand gloves, gumboot, Respiratory mask etc. will be provided to operator.</p>
Nitration (Through Nitric Acid)	<ul style="list-style-type: none"> ➤ SOP will be displayed for safe charging of Nitric acid for nitration process. ➤ Required PPEs like full body protection PVC apron, Hand gloves, gumboot, Respiratory mask etc. will be provided to operator at time of nitric acid charging. ➤ Make sure the absorber unit (two stage Alkali scrubber) will be working and capable of handling vented NO₂ fumes. ➤ Neutralizing agent will be kept ready for tackle any emergency spillage. ➤ Safety Shower and eye wash will be provided near process area. ➤ Total close process will be adopted (from storage 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 ➤ Rotameter ➤ DCS ➤ Level alarms ➤ TIC of jacket as well as the reactor ➤ Emergency control measures: ➤ Flushing water (chilled water / ice quenching) to control the runaway reaction. ➤ Provision of Drainage 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).

H-3 Details of Fire Load Calculation

Total Plot Area:	39151.0
Area utilized for plant activity:	2000.0 (G+1)
Area utilized for Hazardous Chemicals Storage:	2300.0
Number of Floors:	G+1
Water requirement for firefighting in KLD:	128.66 KLD
Water storage tank provided for firefighting in KLD:	250 KLD (2 nos.) = 500 KLD
Details of Hydrant Pumps:	<ol style="list-style-type: none"> 1. Electrical pump (1 Nos.) Cap.: 273.0 M³/hr, Pr.:6.5 kg 2. Jokey Pump (1 Nos.) Cap.: 65.0 M³/hr, Pr.:7.0 kg 3. Diesel Pump (1 Nos.) Cap.: 273.0 M³/hr, Pr.:7.0 kg
Nearest Fire Station :	Kadi Fire Station @ 18.32 km Approx. 35-40 min For Travel
Applicability of Off Site Emergency Plan:	Yes

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 500 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):												
-													
<table border="1"> <tr> <td>Number of permanent Employee:</td> <td>200</td> </tr> <tr> <td>Number of Contractual person/Labour:</td> <td>100</td> </tr> <tr> <td>Area provided for OHC:</td> <td>30.0</td> </tr> <tr> <td>Number of First Aid Boxes:</td> <td>13.0</td> </tr> <tr> <td>Nearest General Hospital:</td> <td>Rhythm Medical & heart hospital, Kadi</td> </tr> <tr> <td>Name of Antidotes to be store in plant:</td> <td>Sodium Hydro-Carbonate (4% Conc.), Milk, Lime Juice, Milk of Megnesia, 10 mg diazepam injection, Airline respirator, butter milk, Pontocane (0.5% solution) or Benoxinate (Novesine) 0.4 %, magnesium sulphate.</td> </tr> </table>		Number of permanent Employee:	200	Number of Contractual person/Labour:	100	Area provided for OHC:	30.0	Number of First Aid Boxes:	13.0	Nearest General Hospital:	Rhythm Medical & heart hospital, Kadi	Name of Antidotes to be store in plant:	Sodium Hydro-Carbonate (4% Conc.), Milk, Lime Juice, Milk of Megnesia, 10 mg diazepam injection, Airline respirator, butter milk, Pontocane (0.5% solution) or Benoxinate (Novesine) 0.4 %, magnesium sulphate.
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-													
<u>Comments</u>													
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.													
<ul style="list-style-type: none"> DELIBERATION AND RECOMMENDATION: "On the basis of information provided to SEAC on project, its location, technical, physical and environmental infrastructure, products, quantity to be manufactured, its raw material, storage, waste disposal, water treatment, safety measures, green belt development planning, regulatory compliance assured of related statutory provisions, necessary documents of requisite permissions provided from concerned departments and overall environmental management planning for the project, along with financial resources committed for operation and maintenance, and on the basis of presentation made before SEAC, modification suggested by SEAC and incorporated by project proponent, SEAC finds the project as per the requirement and unanimously recommends the same to SEIAA for environmental clearance." 													
Conditions with which Environment Clearance is recommended:													
<u>Construction Phase</u>													
a) "Wind – breaker of appropriate height i.e. 1/3rd of the building height and maximum up to 10 meters shall be provided. Individual building within the project site shall also be provided with barricades.													
b) "No uncovered vehicles carrying construction material and waste shall be permitted."													
c) "No loose soil or sand or construction & demolition waste or any other construction material that cause													

dust shall be left uncovered. Uniform piling and proper storage of sand to avoid fugitive emissions shall be ensured.”

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

SPECIFIC CONDITIONS:

1. PP shall comply conditions of any subsequent amendment or expansion or change in product mix, after the 31st December 2021, 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 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. (a) R & D products shall be of similar chemistry in line with the EIA Notification vide S.O. 1223 (E) dated 27/03/2020 and the pollution load shall remain the same as committed. (b) Project proponent shall not take continuous/commercial production of the R & D materials. Necessary approvals shall be obtained from the concern authorities prior to commercial production of R & D materials. (c) Unit shall submit relevant details of R & D products like raw materials, its safety measures to the regulatory authority well before R & D activity. (d) Unit shall submit relevant details of R & D products like different wastes generated (Quantity & Quality) and its management to the regulatory authority within a month of R & D activity.
5. Unit shall install CEMS [Continuous Emission Monitoring System] in line to CPCB directions to all SPCB vide letter no. B-29016/04/06PCI-1/5401 dated 05/02/2014 for effluent discharge and air emission as per pollutants discharge/emission from respective project and an arrangement shall also be done for reflecting the online monitoring results on the company's server, which can be assessable by the GPCB/CPCB on real time basis. [For Small/Large/Medium (Red Category) & Whichever (Air emission & Effluent discharge) is applicable].
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 measures shall be taken to avoid soil and ground water contamination within premises.
9. Unit shall not manufacture more than two or three products from proposed product list, at a given point of time as per area adequacy submitted by PP.
10. Project proponent (PP) shall not commissioning of proposed project till CGWA permission shall be obtained for ground water source within premises for proposed project from competent authority.
11. Unit shall start construction activities by keeping more than 55 meter distance from the centre line of road passing nearby our plant/premises as mentioned in NOC Obtained from competent authority.
12. Unit shall strictly following "No objection Certificate" of Sardar Sarovar Narmada Nigam Limited for establishment of Bulk Drug & Bulk Drug Intermediates Manufacturing Unit with respect to compliance of Narmada canal at @300 meter distance from proposed project.

13. 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 Store Bromine Bottle in cool dry separate area, out of direct sunlight.
- m) Unit shall provide safety valve & rupture disc to the Hydrogenation vessel.
- n) Unit shall provide safety valve and rupture disc, as well as auto dump or auto quench/, suppress system for nitration vessel safety.
- o) Unit shall provide a spare tank with emergency transfer system and bund/ dyke wall to Oleum

storage tank.

- p) Unit shall provide bund/ dyke wall to the CS2 storage tank and it shall be kept under water
- q) (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.

WATER

- 14. Total water requirement for the project shall not exceed 300.50 KLD. Unit shall reuse 204 KLD of treated industrial effluent and boiler condensate within premises. Hence, fresh water requirement shall not exceed 96.50 KLD and it shall be met through bore well supply only. Prior permission from concerned authority shall be obtained for withdrawal of water.
- 15. The industrial effluent generation from the project shall not exceed 140.50 KLD.
- 16. Industrial effluent shall be segregated into two streams (1) Concentrated (2) Dilute stream shall be treated as below.

Concentrated Stream (90 KLD)

- 90 KLD, Concentrated stream generated from process shall be treated in ETP-1 followed by solvent stripper and then treated effluent shall be evaporated in in-house MEE.

Dilute Stream (27.70 + 22.80 KLD)

- 27.70 KLD industrial effluent generated from utilities, washing and process section shall be treated into the ETP -2 [Primary + Secondary Treatment] and then treated water shall be evaporated in in-house MEE.
- 22.80 KLD, exhausted scrubbing media shall be sold to end users having Rule-9 permission and shall be recycled back within premises as per Hazardous waste Rules'2016.
- Total 92 KLD, MEE condensate shall be reused back within premises.

- 17. Treated waste water shall be fed to MEE only after ensure, no adverse impact on Human Health and Environment.
- 18. Domestic wastewater generation shall not exceed 11 KL/day for proposed project and it shall be treated in STP. It shall not be disposed off through soak pit/ septic tank.
- 19. Unit shall provide ETP and MEE with adequate capacity.
- 20. Unit shall provide buffer storage for treated effluent storage in case of any emergency like shut down of in-house MEE.
- 21. The unit shall provide metering facility at the inlet and outlet of ETP, MEE and maintain records for the

same.

22. Proper logbooks of ETP, MEE; reuse/ recycle of treated/ untreated effluent; chemical consumption in effluent treatment; quantity & quality of treated effluent fed to MEE; power consumption etc. shall be maintained and shall be furnished to the GPCB from time to time.

AIR:

23. Unit shall not exceed fuel consumption for Boiler, HAG and D G Set as per the point no. E-2 as mentioned above.

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

25. Unit shall provide adequate APCM with process gas generation sources as the point no. **E-3** as mentioned above.

26. The fugitive emission in the workzoneenvironment shall be monitored. The emission shall conform to the standards prescribed by the concerned authorities fromtime to time (e.g. Directors of IndustrialSafety& Health). Following indicativeguidelines shall also be followed to reducethe fugitive emission.

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

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

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

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

29. Solvent management shall be carried out as follows:

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

maximum solvent recovery.

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

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

HAZARDOUS / SOLID WASTES:

31. All the hazardous/ solid waste management shall be taken care as per the point no. F-1 as mentioned above.
32. Authorized end-users shall have permissions from the concerned authorities under the Rule 9 of the Hazardous and Other Wastes (Management and Transboundary Movement) Rules 2016.
33. Unit shall explore the possibilities for environment friendly methods like co-processing of hazardous waste for disposal of Incinerable & land fillable wastes before sending to CHWIF & TSDF sites respectively.
34. The project proponent has to obtain membership of TSDF site & CHWIF before obtaining CTO of GPCB.
35. The unit shall submit the list of authorized end users of hazardous wastes along with MoU signed with them at least two months in advance prior to the commencement of production. In the absence of potential buyers of these items, the unit shall restrict the production of the respective items.

GREENBELT AREA

36. The PP shall develop green belt (12950 sq. Meter within premises 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.

OTHERS:

37. The project proponent shall carry out the entire activities [Provide Installation of total 400.0 KW, Roof Top Solar System (1.0 KW / household) for 371.0 household at Vekra village] proposed under CER shall be part of the Environment Management Plan (EMP) as per the MoEF&CC's OM no. F. No. 22-65/2017-IA.III dated 30.09.2020. This shall be monitored and the monitoring report shall be submitted to the regional office of MoEF&CC as a part of half-yearly compliance report and to the District Collector. The monitoring report shall be posted on the website of the project proponent.
38. All the environmental protection measures and safeguards proposed in the Form-1 & PFR submitted by

the project proponent and commitments made in their application shall be strictly adhered to in letter and spirit.

COMPLIANCE OF ENVIRONMENT CLEARANCE/REPORTING/ADMINISTRATION/APPEAL:

39. Project proponent shall inform to all the concerned authorities including Municipal Corporation and District Collector and shall also give wide publicity through advertisement in minimum two local newspapers within seven days, about the Environment Clearance order accorded.
40. Project proponent shall appoint a key person in the organization who shall be responsible for compliance of above condition fully on behalf of the proponent. It shall not mean that appointing a key person shall exempt the project proponent from the responsibility of compliance. Any change in key person shall immediately be informed to SEIAA and all concerned authorities.
41. Designated key person shall submit six monthly compliance report to SEIAA/SEAC, MOEF&CC, GPCB and Nodal Department of the Government.
42. The Nodal Department or any authority or officer authorized by MOEF&CC/SEIAA can inspect the site of the project and all the facilities, for verification of compliances of environment clearance conditions.
43. In case of violation reported upon, the project proponent shall be responsible for all the legal actions as per Environment Protection Act, 1986 including SEIAA may cancel, withdraw or keep in abeyance, the Environment Clearance accorded.
44. Any person including the project proponent affected by this Environment Clearance order may file appeal to Honorable National Green Tribunal West Zone branch, Pune, preferably within a period of thirty days from the date of issue of Environment Clearance as prescribe under section 16 of National Green Tribunal Act 2010.
45. All complains and public grievance or representations may be addressed to SEIAA/SEAC in the email addresses (a) msseiaagj@gmail.com& (b) seacgujarat@gmail.com

11.	SIA/GJ/IND2/206802/2021	M/s. Mangal Murti Bio chem Pvt. Ltd Survey no- 311/2,Block no-261, Vill- Nana Borasara, Ta- Mangrol, Dist - Surat	EC-Reconsideration
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Category of the unit: 5(f)

Project status: New

- Project proponent (PP) has submitted online application vide no. SIA/GJ/IND2/206774/2021 on dated 30/03/2021 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 proposed for manufacturing of synthetic organic chemicals [API and Its Intermediates] as below,

Sr. No.	Name of the Products	API & Intermediate	CAS No.	Production Quantity (MT/Month)		
				Existing	Proposed	Total
1	Liquid Bromine	--	7726-95-6	50	0	50
2	NPK Fertilizer	--	66455-26-3	3000	-3000	0
3	Magnesium Sulphate		10034-99-8	462	0	462
4	Ammonium Sulphate		7783-20-2	52	0	52
5	Calcium Nitrate		35054-52-5	20	0	20
6	Tri Sodium Phosphate		7601-54-9	50	0	50
7	Ethion	--	563-12-2	633	0	633
8	Permethrin		586-78-7			
9	Cypermethrin		34911-51-8			
10	Meta Phenoxy Benzaldehyde (MPBD)		3915-51-0			
11	Meta Phenoxy Benzyl Alcohol (MPBA)		13826-35-2	451	0	451
12	Streneted Phenol	--	61788-44-1			
13	Meta Bromo Anisole		2398-37-0			
14	Para Bromo fluoro Benzene		460-00-4			
15	Meta Bromo Nitro Benzene	--	585-79-5			
16	N-Butyl Bromide		109-65-9			
17	Tetra Butyl Ammonium Bromide	--	1643-19-2			
18	N-Propyl Bromide		106-94-5			
19	1-Bromo 3 Chlorine Propane		109-70-6			
20	ISO-Butyl Bromide	--	78-77-3			
21	4-Amino, 1,2,4 Trizole		100-11-8			
22	Para Nitro Benzyl Bromide		110-53-2			
23	N-Pentyl Bromine		10035-10-6			
24	Hydro Bromic Acid in Water (48%)	--	106-93-4			
25	1,2-di bromo ethane		79-96-4			
26	Ethyl Bromide		603-35-0			
27	Tri Phenyl Phosphine		--			
28	Ethyl tri phenyl Phosnium Bromide		1530-32-1			
29	Mono Bromo Acetic Acid		2398-37-0			
30	N-Bromo Succinimide	--	79-08-3			
31	Diethyl, Dipropyl Malonate		128-08-5			
32	Methyl Tri Phenyl Phosnium Bromide		6065-63-0			
33	Tri ethyl benzyl ammonium chloride		1779-49-3			
34	1H-1,2,4 Trizole		56-37-1			

35	1,3 Dichloro Acetone		288-88-0			
36	Bromo Benzene		534-07-6			
37	Meta Chloro Propeophinone	N-3	34841-35-5			
38	Calcium 2-hydroxy-1,2,3-propane-tricarboxylate	API	813-94-5			
39	Magnesium 2-hydroxypropane-1,2,3-tricarboxylate	API	3344-18-1			
40	Trimethyl (2-(phosphonoxy)ethyl)ammonium chloride, calcium salt	API	4826-71-5	0	50	50
41	2-Acetyl 6-Methoxy Naphthalene	N-2	3900-45-6			
42	Methyl 3-Acetyl Chloronate	N-2	623-70-1			
43	2-Methoxy Naphthalene	N-2	93-04-9			
44	4-Methoxy,2-Nitro Aniline	N-1	96-96-8			
45	Indane -1-3-dione	N-1	606-23-5			
46	5-Methoxy 2- Mercapto Benzalimazole	N-1	37052-78-1			
47	Para Benzo Quinone	N-1	106-51-4			
48	Trimethylsilyl bromide	N-2	2857-97-8			
49	1- {4-Methoxy Phenyl} Piperazine	N-4	38212-30-5			
50	Cis Bromo Benzoate	N-3	61397-56-6			
51	Chloro methyl Naphthalene	N-4	86-52-2			
52	1,4-Bis(bromomethyl) benzene	N-2	623-24-5			
53	5-Bromovaleryl chloride	N-4	4509-90-4			
54	Bromo OTBN	N-3	114772-54-2			
55	Cyclo propyl methyl bromide	N-1	7051-34-5			
56	2-Fluoro-4-Iodo Aniline	N-2	29632-74-4			
57	1,4-dibromobutane	N-3	110-52-1	0	50	50
58	2-propyl pentanoic acid	N-1	99-66-1			
59	3-Chloromethyl Benzoic Acid	N-3	31719-77-4			
60	4-Chloromethyl Benzoic Acid	N-2	1642-81-5			
61	5-aminosalicylic acid	N-1	89-57-6			
62	{2-[2,6 Dichloro Phenyl] Amino} Phenyl} Acetate	N-1	15307-79-6			
63	Para Anisic Alcohol	N-4	105 – 13 – 5			
64	3 Amino Acetophenone	N-4	99-03-6			
65	1-[2-(2-Hydroxy Ethoxy) Ethyl] Piperazine	N-1	13349-82-1			
66	3-(Dimethylamino)	N-1	879-72-1			

	propiophenone hydrochloride					
67	4-hydroxy phenyl piperazine	N-1	56621-48-8			
68	N-Formylpiperidine	N-3	2591-86-8			
69	4-Sulfonamidephenyl hydrazine hydrochloride	N-1	27918-19-0			
70	2-(4-Cyanophenylamino) acetic acid	N-4	42288-26-6			
71	1,1-Cyclohexanediactic acid	N-3	99189-60-3			
72	1-Phenyl Piperazine	N-1	92-54-6			
73	1-Methyl-3-Phenyl Piperazine	N-1	5271-27-2			
74	3-Amino-1-Adamantol	N-2	702-82-9			
75	Para hydroxyl phenyl acetonitrile	N-1	14191-95-8			
76	5-Amino-1,3-Benzodioxole	N-2	1544-85-0			
77	5-Nitro-1,3-Benzodioxole	N-3	2620-44-2			
78	Ethyl isonipecotate	N-3	1126-09-6			
79	2-(2-Methoxyphenoxy) ethylamine	N-1	1836-62-0			
80	4-Hydroxycarbazole	N-2	52602-39-8			
81	α -Chlorotoluene Benzyl chloride	N-2	98-88-4			
82	2-chloro-o-Chlorobenzoyl chloride	N-2	609-65-4			
83	4-chloro-o-Chlorobenzoyl chloride	N-1	122-01-0			
84	4-(Chloromethyl)benzoyl chloride	N-2	876-08-4			
85	Dichlorovos 76% EC		62-73-7			
86	Monocrotophos 36% SL		6923-22-4			
87	Hexaconazole 5% E.C	--	79983-71-4	357.5	-357.5	0
88	Acephate 75% S.P.		30560-19-1			
89	Glyphosate 41% SL		1071-83-6			
90	Mencozeb 75% WP		8018-01-7			
	EXISTING: BULK REPACKING					
91	Acetamipride 20% SP		160430-64-8			
92	Ammonium Salt of Glyphosate 71% SG		114370-14-8			
93	Atrazine 50% WP	--	1912-24-9	195	-195	0.0
94	Carbendazim 50% WP		10605-21-7			
95	Carbendizim 12% + Mencozeb 63% WP		10605-21-7 + 8018-01-7			
96	Carbofuran 3% CG		1563-66-2			

97	Cartop Hydrochlorid 50% GR		15263-52-2			
98	Cartop Hydrochloride 50% SP		15263-52-2			
99	Chloropyriphos 20% EC		2921-88-2			
100	Chloropyriphos 50% EC		2921-88-2			
101	Cypermethrine 25% EC		52315-07-8			
102	Ethion 50% EC		821-48-7			
103	Ethion 40% + Cypermethrine 5% EC		821-48-7 + 52315-07-8			
104	Fenvalrate 20% EC		51630-58-1			
105	Hexaconazole 5% SC		79983-71-4			
106	Imidachlopid 17.8% SL		138261-41-3			
107	Imidachlopid 70% WS		138261-41-3			
108	Imidachlopid 70% WG		138261-41-3			
109	Indoxacarb 14.5% SC		144171-61-9			
110	Lamdacylothrin 2.5% EC		91465-08-6			
111	Lamdacylothrin 5% EC		91465-08-6			
112	Malathion 50% EC		121-75-5			
113	Mencozeb 64% + Metalaxyl 8% WP		8018-01-7 + 57837-19-1			
114	Metalaxyl 35% WS		57837-19-1			
115	Paraquate Dichloride 24% SL		1910-42-5			
116	Pendimethrine 30% EC		40487-42-1			
117	Phorate 10% CG		298-02-2			
118	Pretilachlore 50% EC		51218-49-6			
119	Profenophos 50% EC		41198-08-7			
120	Profenophos 40% + Cypermethrine 4% EC		41198-08-7 + 52315-07-8			
121	Qunolphos 25% EC		13593-03-8			
122	Sulphur 80% WDG		7704-34-9			
123	Thiomethoxam 25% WG		153719-23-4			
124	Trizophos 40% EC		24017-47-8			
125	Trycyclozole 75% WP		41814-78-2			
	Grand Total (Existing+ Proposed (Group A+ Group B)			5270.5	(Existing: -3552.5 MT/Month) & (Proposed (Group A + Group B): 100 MT/Month)	1818.0
	R & D			--	0.1 MT/Month	0.1 MT /Month

Brief Note of Product Profile:

1. No of Manufacturing Plants: proposed: 2 nos.
2. Brief Note regarding number of Products to be manufactured considering plant capacity: 2 products will be manufactured at a time from proposed expansion scenario.

ENDUSE OF PRODUCTS

S. N	Name of product	CAS No.	Type/ Category of Product (API/ Intermediate)	Stage of Intermediate 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	Meta ChloroPropeophinone	34841-35-5	Intermediate	n-3	Rimona bant	168273-06-1	Anorectic
2	Calcium 2-hydroxy-1,2,3-propane-tricarboxylate	813-94-5	API	--	--	--	To treat conditions caused by low calcium levels
3	Magnesium 2-hydroxypropane-1,2,3-tricarboxylate	3344-18-1	API	--	--	--	Relief of constipation
4	Trimethyl (2-(phosphonoxy)ethyl)ammonium chloride, calcium salt	4826-71-5	API	--	--	--	To treat hepatobiliary dysfunction
5	2-Acetyl 6-Methoxy Naphthalene	3900-45-6	Intermediate	n-2	Itraconazole	84625-61-6	Anti-Fungal
6	Methyl 3-Acetyl Chloronate	623-70-1	Intermediate	n-2	Buspirone	36505-84-7	Anti-anxiety
7	2-Methoxy Naphthalene	93-04-9	Intermediate	n-2	Chlorzoxazone	95-25-0	To treat muscle spasm
8	4-Methoxy,2-Nitro Aniline	96-96-8	Intermediate	n-1	Itraconazole	84625-61-6	Anti-Fungal
9	Indane-1-3-dione	606-23-5	Intermediate	n-1	Diclofenac Sodium	15307-79-6	Anti Inflammatory
10	5-Methoxy 2-MercaptoBenzimidazole	37052-78-1	Intermediate	n-1	Pantoprazole	102625-70-7	Totreat stomach and esophagus problems
11	Para Benzo Quinone	106-51-4	Intermediate	n-1	Idebenone	58186-27-9	Treatment of Alzheimer's disease
12	Trimethylsilyl	2857-97-8	Intermediate	n-2	Adefovir	142340	Chronic viral infection of

	bromide					-99-6	liver
13	1- {4-Methoxy Phenyl} Piperazine	38212-30-5	Intermediate	n-4	Itraconazole	84625-61-6	Anti-fungal
14	Cis Bromo Benzoate	61397-56-6	Intermediate	n-3	Ketoconazole	65277-42-1	Anti-fungal
15	Chloro methyl Naphthalene	86-52-2	Intermediate	n-4	Terbinafine Hydrochloride	91161-71-6	Anti-fungal
16	1,4-Bis (bromo methyl) benzene	623-24-5	Intermediate	n-2	Plerixafor	155148-31-5	Peripheral blood stem cell mobilization
17	5-Bromovaleryl chloride	4509-90-4	Intermediate	n-4	Apixaban	503612-47-3	Anti-coagulant
18	Bromo OTBN	114772-54-2	Intermediate	n-3	Losartan	114798-26-4	High Blood pressure
19	Cyclo propyl methyl bromide	7051-34-5	Intermediate	n-1	Betaxolol	63659-18-7	Glaucoma
20	2-Fluoro-4-Iodo Aniline	29632-74-4	Intermediate	n-2	Trametinib	871700-17-3	Anti-cancer
21	1,4-dibromobutane	110-52-1	Intermediate	n-3	Butorphanol	42408-82-2	To treat moderate to severe pain
22	2-propyl pentanoic acid	99-66-1	Intermediate	n-1	Divalproex Sodium	76584-70-8	Anticonvulsant
23	3-Chloromethyl Benzoic Acid	31719-77-4	Intermediate	n-3	Ketoprofen	22071-15-4	Anti-Inflammatory
24	4-Chloromethyl Benzoic Acid	1642-81-5	Intermediate	n-2	Tranexamic Acid	1197-18-8	Anti-Fibrinolytics
25	5-aminosalicylic acid	89-57-6	Intermediate	n-1	Mesalamine	89-57-6	Anti-Inflammatory
26	{ 2-[2,6 Dichloro Phenyl] Amino} Phenyl} Acetate	15307-79-6	Intermediate	n-1	Diclofenac Sodium	15307-79-6	Anti-Inflammatory
27	Para Anisic Alcohol	105-13-5	Intermediate	n-4	Cephalosporin	61-24-5	Anti-biotic
28	3 Amino Acetophenone	99-03-6	Intermediate	n-4	Phenylephrine	59-42-7	Common cold, flu, allergies
29	1-[2-(2-Hydroxy Ethoxy) Ethyl] Piperazine	13349-82-1	Intermediate	n-1	Quetiapine	111974-69-7	Anti-depressant
30	3-(Dimethylamino) propiophenone hydrochloride	879-72-1	Intermediate	n-1	Ambroxol HCl	23828-92-4	Used for the treatment of respiratory diseases
31	4-hydroxy phenyl piperazine	56621-48-8	Intermediate	n-1	Ketoconazole	65277-42-1	Anti-fungal
32	N-Formyl piperidine	2591-86-8	Intermediate	n-3	Etoricoxib	202409-33-4	Anti-Inflammatory
33	4-Sulfonamide	27918-19-0	Intermediate	n-1	Celecoxib	169590	Anti-Inflammatory

	phenylhydrazine hydrochloride				b	-42-5	
34	2-(4-Cyanophenyl amino) acetic acid	42288-26-6	Intermediate	n-4	Dabigatran	211915-06-9	Anti-thrombotic
35	1,1-Cyclohexane diacetic acid	99189-60-3	Intermediate	n-3	Gabapentin	60142-96-3	Anti-convulsant
36	1-Phenyl Piperazine	92-54-6	Intermediate	n-1	Antrafenine	55300-29-3	Anti-inflammatory
37	1-Methyl-3-Phenyl Piperazine	5271-27-2	Intermediate	n-1	Mirtazapine	61337-67-5	Anti-depressant
38	3-Amino-1-Adamantol	702-82-9	Intermediate	n-2	Vildagliptin	274901-16-5	Anti-diabetic
39	Para hydroxyl phenyl acetonitrile	14191-95-8	Intermediate	n-1	Atenolol	29122-68-7	To treat high blood pressure
40	5-Amino-1,3-Benzodioxole	1544-85-0	Intermediate	n-2	3,4-Methylenedioxymethamphetamine	42542-10-9	Used in psychoactive drug
41	5-Nitro-1,3-Benzodioxole	2620-44-2	Intermediate	n-3	3,4-Methylenedioxymethamphetamine	42542-10-9	Used in psychoactive drug
42	Ethyl isonipecotate	1126-09-6	Intermediate	n-3	Terfenadine	50679-08-8	Anti-histamine
43	2-(2-Methoxyphenoxy) ethylamine	1836-62-0	Intermediate	n-1	Carvedilol	72956-09-3	Anti-hypertensive
44	4-Hydroxy carbazole	52602-39-8	Intermediate	n-2	Carvedilol	72956-09-3	Anti-hypertensive
45	α -Chlorotoluene Benzyl chloride	98-88-4	Intermediate	n-2	Azithromycin	83905-01-5	Anti-biotic
46	2-chloro-o-Chlorobenzoyl chloride	609-65-4	Intermediate	n-2	Clotiazepam	33671-46-4	Anxiolytic
47	4-chloro-o-Chlorobenzoyl chloride	122-01-0	Intermediate	n-1	Acemetacin	53164-05-9	Anti-inflammatory
48	4-(Chloromethyl)benzoyl chloride	876-08-4	Intermediate	n-2	Imatinib	152459-95-5	Anti-cancer

- 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.
- The proposal was considered in the meeting dated 03.08.2021.
- During SEAC VC meeting on dated 03.08.2021, Project Proponent and their technical expert remain absent. PP has submitted letter via Email dated 30.07.2021 stating that they would remain absent during meeting due to unavoidable circumstances and not availability of project proponent.
- Committee noted this letter and disappointed with such type project proponent (PP) and technical expert of PP approach, for not submitting concrete reason for remaining absent in meeting.
- **Hence, Committee decided to defer this proposal and consider this in one of the upcoming SEAC meeting.**
- Again the proposal was considered in the meeting dated **18.10.2021**.
- Salient features of project details and water, air and Hazardous waste management are submitted
- During the meeting dated 18.10.2021, the project was appraised based on the information furnished in Form – 1, Pre-Feasibility Report, Environment Management Plan and details submitted by e-mail.
- Technical expert of Project proponent (PP), ECOGREEN ENVIRO SERVICES remains present during video conference meeting.
- This is an existing pesticide and speciality chemicals unit and now proposed for manufacturing of API and its intermediate at village- Nana Borasara, Ta- Mangrol, Dist – Surat, located outside notified area. PP informed that unit is having valid EC and CTE for existing plant and still EC for pesticide plant is not converted into Consent to Operate of GPCB.PP having valid CCA for existing inorganic plant and self certified compliance report for CCA submitted by the unit.
- Looking to proposal of API plant in existing pesticide plant and speciality chemical plant, Committee asked feasibility in terms of pollution and quality base of proposal of API products in existing pesticide plant, PP could not able to clarify regarding feasibility and agree to discontinue of pesticide plant for proposal of API plant. Hence Committee insisted for submission of revised product profile and proposal with discontinue of existing pesticide products and subsequent changes in water, air, Hazardous waste, PFR, EMP and form-1 details.
- **After detailed discussion, it was decided to defer the proposal and consider the same in one of upcoming meeting only after submission of following document,**
 1. Submission of revised product profile and proposal with discontinue of existing pesticide products and subsequent changes in water, air, Hazardous waste, PFR, EMP and form-1 details.
- PP submitted reply of above query generated on SEAC VC meeting dated 18.10.2021, through e-mail.
- PP submitted revised salient featyres of water, air, and hazardous waste management and are as under,

Sr. no.	Particulars	Details
A-1	Total cost of Proposed Project	

(Rs. in Crores): **36.07 Cr.**

Existing	Proposed	Total
31.569 Crores	4.5 Crores	36.069 ~ 36.07 Crores

Break-up of proposed project Cost:

Details	Project Cost (Rs. In Crores)
Land	--
Building	1.20
Machinery	1.60
Env. & Safety	1.21
Miscellaneous	0.49
Total	4.5 Cr.

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

As below:

Sr. No	Unit	Detail	Capital Cost (Rs. In Crore)	Operating Cost (Rs. In Crore/ Month)	Maintenance Cost (Rs. In Crore/ Month)	Total Recurring Cost (Rs. In Crore/ Month)
1	Waste Water	ETP, MEE, RO	4.59	0.60	0.08	0.68
2	Air	MCS, Bag Filters, Stacks, Scrubbers	0.69	0.099	0.099	0.198
3	Hazardous Management	Membership Charges Disposal & Transportation Charges	0.01	0.05	--	0.05
4	Fire & Safety	Fire Hydrant & Fire Safety, PPES & Proximity Suit-2 Nos., DCS System, Fire Extinguishers & Foam Type Trolley	1.172	0.0122	0.0046	0.0168
5	Green Belt Development	2300 Trees	0.46	0.0054	0.002	0.0074
6	Occupational Health	OHS Training, Medical Checkup & Mis.	0.03	0.003	0.00525	0.00825
7	Noise Control	Acoustic enclosure & Silencer & Vibration pads	0.035	0.002	0.001	0.003

		&Noise PPEs				
8	CER Funds	1% of proposed project Cost	0.045	0.0004	0.0002	0.0006
Total			7.032			0.9640~0.97

Comments:

- 5) ...
6)

A-3 Details of CER -

PP shall carry out CER activities as below:

- ✓ **Solar Energy Utilization:** Unit will provide solar roof top at 2 nos school at @ Nana Borasara Village.

B Land / Plot ownership details:
Revised Survey No. 311/2, Block No: 261 Non-agricultural land has been taken by **M/s.Mangal murtiBio-Chem Pvt. Ltd.** from Mr. Daud Ahmad Kaji in June 2011.

B-1 Plot area

Existing	Proposed	Total
23427.0 Sq. m.	0.0 Sq. m.	23427.0Sq. m.

-

B-2**Area adequacy****Area Table (Total Existing + Proposed)**

SN	AREA	EXISTING Sq. m.	PROPOSE D Sq. m.	TOTAL PROPOSED Sq. m.	% Ground Floor
1	Plant	1863.45	200	2063.45	8.8
2	Plant	1654.8	200	1854.8	7.9
3	Boiler & Utilities	676.88	140	816.88	3.5
4	FG	931.72	50	981.72	4.2
5	RM	931.73	250	1181.73	5.0
6	ETP	457.72	30	487.72	2.1
7	Road	2351.64	1591.75	3943.39	16.83
8	Office Area + Lab	717.45	50	767.45	3.3
9	Parking	805	0	805	3.4
10	Greenbelt	9000	0	9000	38.4
11	Security Office	84	12	96	0.4
12	OHC	67.2	0	67.2	0.3
13	Haz. Waste Area	112.81	150	262.81	1.1
14	Tank Farm Non PESO	380.05	50	430.05	1.8
15	DG Set Area	150	10	160	0.7
16	Tank Farm PESO	148.8	50	198.8	0.8

17	Open Area for Future	3093.75	100	100	0.4
18	Flammable Drum	0	100	100	0.4
19	Non Flammable Drum	0	80	80	0.3
20	Chlorine Tonner Area	0	30.0	30.0	0.12
	Total	23427	3093.75	23427	100

Proposed Area Adequacy: (For Proposed API/Int Unit)

S. N.	Particular	Qty. in MT /KL	Area required (Sq. m.)	Area proposed (Sq. m.)	G.F.(Sq. m.)	F. F. (Sq. M.)
1	Plant Machinery & (API's plant)	3.33 MT/day Plant Capacity	300	400	200	200
2	plant machinery & (Intermediates Plant)		300	400	200	200
3	F. G.	25 MT for 1 week inventory	30	50	50	--
4	R.M	200 MT for 1 week inventory	220	250	250	--
5	Tank farm (PESO)	30 KL (10 KL X 3 Nos)	45	50	50	--
6	Tank farm (Non PESO)	35 KL (15 KL X 1 Nos+ 10 KL X 2)	40	50	50	--
7	Drum storage area (Flammable chemical)	29 MT (145 Nos.*200 Lit)	75	100	100	--
8	Drum storage area (Non-flammable)	18 MT (90 Nos.*200 Lit)	45	80	80	--
9	Boiler & Utilities	3.0 TPH Boiler (1 Nos.), TFH (8 Lac Kcal/hr.)	50	60	60	--
10	Fuel storage area	50 MT	50	60	60	--
11	Fly ash storage area	15 MT	18	20	20	--
12	Admin + Lab	-	40	50	50	--
13	Haz. waste storage area	200 MT for 90 Days Inventory	130	150	150	--

14	ETP Area	ETP- 43 KLD, RO-4 KLD	30	30	30	--
15	Chlorine Tonner	0.9 M ³ capacity	30	30	30	--
16	Road Area	6.0 MT Wide Road	1591.75	1591.75	1591.75	--
17	Open Area/Pathway	--	100	100	100	--
18	Security Cabin-1	--	6	6	6	--
19	Security Cabin-2	--	6	6	6	--
20	D. G. Set	250 KVA & 500 KVA Capacity	10	10	10	--
	Total		3116.75	3493.75	3093.75	400.0

Remark: Hence, Proposed Area is adequate as per area adequacy.

Comments:

3) ...

4)

B-3

Green belt area

	Existing	Proposed (Sq. meter)	Total (Sq. meter)
Area in Sq. meter	9000 (inside Plant Premises)	3000 (Outside @ Nana Borasara village)	12000 (inside plant premises + outside@ Nana Borasara village)
% of total area	38.4	12.8	51.2

For Outside greenbelt, unit will develop green belt own land at S.N. 268/K, Nana Borasara Village.

Outside Greenbelt area (Four corners) @ 3000.0 sq. m.	Latitude	Longitude
A	21°52'31.46"N,	72°99'29.06"E
B	21°52'31.57"N,	72°99'29.29"E
C	21°52'31.08"N,	72°99'29.45"E
D	21°52'30.95"N,	72°99'29.19"E

Comments:

3) ...

	4)																																												
C	Employment generation <table border="1" data-bbox="360 387 1061 539"> <thead> <tr> <th>Existing</th> <th>Proposed</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>95</td> <td>25</td> <td>120</td> </tr> </tbody> </table> <p>-</p>	Existing	Proposed	Total	95	25	120																																						
Existing	Proposed	Total																																											
95	25	120																																											
D	WATER																																												
D-1	Source of Water Supply <ul style="list-style-type: none"> ➤ GIDC water supply ➤ Ref No.: No/GIDC/DEE/PNL/1796, Date:01/09/2017 <p><u>Comments:</u></p> <p>5) ...</p> <p>6)</p>																																												
D-2	Water consumption (KLD) <p>-</p> <table border="1" data-bbox="466 1032 1343 1843"> <thead> <tr> <th>Category</th> <th>Existing KLD</th> <th>Proposed (Additional) KLD</th> <th>Total after Expansion KLD</th> </tr> </thead> <tbody> <tr> <td>(O) Domestic</td> <td>7.0</td> <td>0.0</td> <td>7.0</td> </tr> <tr> <td>(P) Gardening</td> <td>20.0</td> <td>0.0</td> <td>20.0</td> </tr> <tr> <td colspan="4">(Q) Industrial</td> </tr> <tr> <td>Process</td> <td>58.5</td> <td>-10*+31.12</td> <td>79.62</td> </tr> <tr> <td>Washing</td> <td>10.0</td> <td>3.0</td> <td>13.0</td> </tr> <tr> <td>Boiler</td> <td>180.5</td> <td>72.0</td> <td>252.5</td> </tr> <tr> <td>Cooling</td> <td>28.5</td> <td>5.5</td> <td>34.0</td> </tr> <tr> <td>Others</td> <td>15.2</td> <td>0.46</td> <td>15.66</td> </tr> <tr> <td>Industrial Total</td> <td>292.7</td> <td>102.08</td> <td>394.78</td> </tr> <tr> <td>Grand Total (A+B+C)</td> <td>319.7</td> <td>102.08</td> <td>421.78</td> </tr> </tbody> </table> <p>*10 KLD water consumption will be reduced as unit has proposed to remove existing Pesticide formulations and packing & Bulk Repacking products.</p> <p><u>Comments:</u></p> <p>3) ...</p> <p>4)</p>	Category	Existing KLD	Proposed (Additional) KLD	Total after Expansion KLD	(O) Domestic	7.0	0.0	7.0	(P) Gardening	20.0	0.0	20.0	(Q) Industrial				Process	58.5	-10*+31.12	79.62	Washing	10.0	3.0	13.0	Boiler	180.5	72.0	252.5	Cooling	28.5	5.5	34.0	Others	15.2	0.46	15.66	Industrial Total	292.7	102.08	394.78	Grand Total (A+B+C)	319.7	102.08	421.78
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D-3	Waste water generation (KLD)																																										
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D-4	Break-up of waste water disposal & facility (For Domestic after proposed expansion)																																										
	<p data-bbox="140 1357 1406 1431">6.5 KLD (Existing unit) Domestic Waste Water will be treated in STP & treated wastewater will be reused in gardening purpose within premises.</p> <p data-bbox="140 1507 306 1541"><u>Comments:</u></p> <p data-bbox="284 1585 360 1615">3) ...</p> <p data-bbox="284 1621 367 1650">4)</p>																																										
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2	4.0 (Proposed)	In-house RO + Reuse of RO permeate within premises
3	0.6 (Proposed)	Reused or sent to end users
4	7.5 (Existing)	Cyanide removal reactor + in-house MEE + ETP (Primary + secondary + Tertiary) + in-house RO+ Reuse of RO permeate within premises
5	34.4 (Existing)	Primary ETP + in-house MEE + ETP (Primary + secondary + Tertiary) + in-house RO + Reuse of RO permeate within premises
6	46 (Existing)	ETP (Primary + secondary + Tertiary) + in-house RO + Reuse of RO permeate within premises
Total	134.67	

- **Mode of Discharge (Existing)– Zero Liquid Discharge**
- **Mode of Discharge (Proposed)– CMEEof M/s. BEIL**
- CMEE Membership Certificate Obtained From M/s. BEIL Vide Letter No. BEIL/ANK/2021, Dated- 27/08/2021

Comments:

- 5) ...
- 6)

E AIR

E-1 Power (Electricity) requirement: 1000.0 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.	Steam Boiler (2 TPH)	33	Agro Waste	3 MT/day	PM SO ₂ NO _x	Mechanical Dust Collection
2.	Hot Air Generator (0.3 TPH)	11	Coal/ Agro Waste	800 Kg/day		Multicyclone Separator
3.	Closed Furnace	23	Agro waste	50 Kg/Day		Dust Collector
4.	D.G. Set (250 KVA) - emergency use only	11	Diesel	360 Litter/day		Adequate stack height
5.	Boiler (5 TPH)	33	Coal/ Agro	34 MT/day		Multi Cyclone Separator with Bag

			Waste			Filter & Water Scrubber
6.	D.G. Set (500 KVA) - emergency use only	11	Diesel	360 Liter/day		Adequate stack height
Proposed:						
1.	Steam Boiler (3 TPH)	33	Agro Waste	11.5 MT/day	PM SO ₂ NO _x	Multi Cyclone Separator + Bag Filter & Alkali Scrubber
2.	Thermic Fluid Heater (8 Lac Kcal/ hr.)	33	Agro Waste	6.0 MT/day		Multi Cyclone Separator + Bag Filter & Alkali Scrubber
3.	D.G. Set (250 KVA) -	11	Diesel	360 Liter/day		Adequate stack height
Total Proposed:						
1.	Steam Boiler (2 TPH) (Existing)	33	Agro Waste	3 MT/day	PM SO ₂ NO _x	Multi Cyclone Separator with Bag Filter & Alkali Scrubber
2.	D.G. Set (250 KVA) emergency use only (Existing)	11	Diesel	360 Liter/day		Adequate stack height
3.	Boiler (5 TPH) (Existing)	33	Coal/ Agro Waste	34 MT/day		Multi Cyclone Separator with Bag Filter & Water Scrubber
4.	D.G. Set (500 KVA) emergency use only (Existing)	11	Diesel	360 Liter/day		Adequate stack height
5.	Steam Boiler (3 TPH) (Proposed)	33	Agro Waste	11.5 MT/day	PM SO ₂ NO _x	Multi Cyclone Separator + Bag Filter & Alkali Scrubber
6.	Thermic Fluid Heater (8 Lac Kcal/ hr.) (Proposed)	33	Agro Waste	6.0 MT/day		Multi Cyclone Separator + Bag Filter & Alkali Scrubber
7.	D.G. Set (250 KVA) emergency use only (Proposed)	11	Diesel	360 Liter/day		Adequate stack height
-						
E-3		Process gas				
- Existing & Proposed						
Sr. no.	Specific Source of emission (Name of the Product & Process)	Type of emissions i.e. Air Pollutants (SO ₂ , HCl, Cl etc.)	Stack/Vent Height (meter)	Air Pollution Control Measures (APCM)		
1.	Process Vent-I (attached to Drier &	PM	23	Multicyclone Separator		

	Cooler)(Existing)			
2.	Process Vent-II (attached to Reaction Vessel)(Existing)	Cl ₂	18	Caustic Scrubber
3.	Process Vent-III (Meta Phenoxy Benzaldehyde (MPBD))(Existing)	HCl Cl ₂ HBr	18	Two Stage Water Scrubber followed by Alkali Water
4.	Process Vent-IV (Ethion)(Existing)	H ₂ S	18	Two Stage Caustic Water Scrubber
5.	Process Vent-V (Para Bromo fluoro Benzene, Para Nitro Benzyl Bromide)(Existing)	HBr HCl SO ₂	18	Two Stage Water Scrubber followed by Alkali Water
6.	Reaction Vessel (Chlorination) (4-Chloromethyl Benzoic Acid)(Proposed)	Cl ₂ HCl	18	Two Stage Water + Alkali Scrubber
7.	Reaction Vessel (Sulphonation) (o-Chlorobenzoyl chloride)(Proposed)	HCl SO ₂	18	Two Stage Water+ Alkali Scrubber
8.	Reaction Vessel (Bromination) (Cis Bromo Benzoate)(Proposed)	HBr Br ₂	18	Two Stage Water + Alkali Scrubber
9.	Reaction Vessel (Nitration) (2-Acetyl 6-Methoxy Naphthalene)(Proposed)	NO _x	18	Two Stage Alkali Scrubber
-				
E-4	Fugitive emission details with its mitigation measures.			
<ul style="list-style-type: none"> ➤ Minimum number of flanges, joints and valves in pipelines ➤ Selection / use of state-of-the art leak proof valves ➤ Provision of mechanical seals in pumps ➤ Proper preventive maintenance of roofs and seals for tanks ➤ Monitoring and preventive maintenance of valves, flanges, joints, etc. ➤ Fugitive emission over reactors, formulation areas, centrifuges, chemical loading, transfer area, shall be collected through hoods and ducts by induced draft and controlled by dust collector. ➤ For particulate / dust emissions from the coal handling system: Water will be sprinkled to control particulate / dust emission from coal storage area. ➤ Solid fuel will be received in closed trucks ➤ Green belt will be developed along the plant premises ➤ De-dusting system will be provided at solid product finishing area. ➤ All transfer points will be fully closed. <p>Overflow system with return line to storage tank from batch tank will be provided to prevent hazardous material overflow.</p>				
<p><u>Comments for E2, E3 & E4:</u></p> <p>3) ...</p> <p>4)</p>				

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	Used Oil	Plant & Machineries	5.1/Sch-I	0.6	0.5	1.1	Collection, Storage & sell to Registered Recycler.
2	Discarded Containers/Barrels/liners	Raw Material Storage & Handling	33.1/Sch-I	60	30	90	Collection, Storage, Transportation and sell to Register Re-processors after decontamination.
3	Date expired /off specification pesticides	Expired product	29.3/Sch-I	0.008	0.0	0.008	Collection, Storage & re-used back in to process or disposed to CHWIF site.
4	ETP sludge	ETP	35.3/Sch-I	240	306	546	Collection, Storage, Transportation and sent to co-processing or common TSDF site.
5	Process Waste	Process Group: B (2-(2-Methoxyphenoxy) ethylamine)	28.1/Sch-I	6	294	300	
6	Distillation Residue	Distillation	36.1/Sch-I	90	60	150	Collection, Storage & send to co-processing in cement industries or to CHWIF site.
7	Spent Solvent	Process Group: B- (2-(2-Methoxyphenoxy) ethylamine)	28.6/Sch-I	0	9837	9837	Collection, Storage, in-house distillation & re-use within premises or Sell to End Users having permission under Rule-9
8	MEE Salts	MEE	B-10/Sch-II	798	0	798	Collection, Storage & send to common TSDF site.
9	AlCl ₃ Solution	Process Group: A (2-Acetyl 6-Methoxy Naphthalene)	28.1/Sch-I	7236	690	7926	Collection, Storage & re-use within premises or sell to end-user under Rule-9 permission.

10	KCl Powder	Process	28.1/ Sch-I	1584	0	1584	
11	NaBr Solution (30%)	Scrubber	A-20/Sc h-II	1776	236	2012	
12	Ortho Dichloro Benzene (ODCB)	Process	B-15/Sc h-II	42	0	42	
13	10% HBr in Spent Sulphuric	Process	B-15/Sc h-II	1800	0	1800	
14	Dilute Sulphuric Acid (70%)	Process Group: B (1,1-Cyclohexanediacetic acid)	29.6/ Sch-I	1320	408	1728	
15	Spent Acetic Acid	Process	28.1/ Sch-I	66	0	66	
16	Sodium Dichromate	Process	28.1/ Sch-I	300	0	300	
17	Calcium Diphosphate	Process	28.1/ Sch-I	55.2	0	55.2	
18	Spent Trichloro Carbanilide	Process	B-10/Sc h-II	36	0	36	
19	Poly Aluminium Chloride	Process	28.1/ Sch-I/	55.44	0	55.44	
20	Spent Ethyl Acetate	Process	29.6/ Sch-I	17.64	0	17.64	
21	Scrubbing Solution [HCl Solution (30%)]	Scrubber	B-15/Sc h-II	3636	220	3856	
22	Scrubbing Solution [Hydrogen Bromide (30-40%)]	Scrubber	28.1/ Sch-I	0	220	220	
23	Scrubbing Solution [Sodium Bisulphite (20-25%)]	Scrubber	28.1/ Sch-I	0	220	220	
24	Scrubbing Solution [Sodium Nitrite (20-25%)]	Scrubber	28.1/ Sch-I	0	152	152	
25	Inorganic Waste	Process Group: B (2-(2-	28.1/ Sch-I	0	390	390	Collection, Storage & send to common TSDF site.

		Methoxyphenoxy ethylamine)						
26	Spent Catalyst	Process Group: B (5-amino salicylic acid)	28.2/Sch-I	0	6	6	Collection, Storage, Transportation & send to regenerator.	
27	Spent Carbon	Process Group: A (2-Acetyl 6-MethoxyNaphthalene)	28.3/Sch-I	0	4.2	4.2	Collection, Storage, Transportation & send to co-processing in cement industries or to CHWIF site.	
28	Off Specification Products	Process	28.4/Sch-I	0	10	10		
29	Spent Liq. Ammonia (20-22%)	Process Group: B(1-Methyl-3-Phenyl Piperazine)	28.1/Sch-I	0	486	486	Collection, Storage & re-use within premises or sell to end-user under Rule-9 permission.	
30	Process organic Waste	Process Group: B (N-Formylpiperidine)	28.1/Sch-I	0	52	52	Collection, Storage, Transportation & send to pre/co-processing units (cement industries) OR disposal at nearest CHWIF site (M/s. BEIL). Through GPS Mounted Vehicles.	
<p><u>Comments:</u></p> <p>3) ...</p> <p>4)</p>								
F-2	Non- Hazardous waste management matrix							
<p>5. Fly Ash generation will be 300.0 MTPA</p> <p>6. STP sludge generation will be 19.0 MTPA</p> <p><u>Comments:</u></p> <p>6) ...</p> <p>7)</p>								
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 the Product	Name of Solvent	Solvent Quantity	Solvent Recovered	Solvent Loss	Percentage Recovered	

		used	in (Kg)	quantity (Kg)	quantity (Kg)	(%)
1.	Meta Chloro Propeophinone	EDC	1.91	1.84	0.07	96
2.	Calcium Citrate	Methanol	2.05	2	0.05	97
3.	Calcium Phosphate Collin Chloride	EDC	4.80	4.62	0.18	96
		Methanol	2.40	2.34	0.06	97
4.	2-Acetyl 6- Methoxy Naphthalene	Methanol	0.38	0.37	0.01	97
5.	Methyl 3-Acetyl Chloronate	Methanol	1.00	0.96	0.04	96
6.	2-Methoxy Naphthalene	Methanol	0.70	0.68	0.02	97
7.	Para Benzo Quinone	IPA	2.10	2.02	0.08	96
8.	1- {4-Methoxy Phenyl} Piperazine	Toluene	0.60	0.58	0.02	96
9.	Cis Bromo Benzoate	Toluene	4.17	4.02	0.15	96
		Methanol	2.00	1.92	0.08	96
10.	1, 4-Bis (bromo methyl) benzene	Ethyl Acetate	1.12	1.09	0.03	97
		Acetone	9.40	9.03	0.37	96
		Heptane	18.75	1.84	0.03	98
		Chloroform	2.00	1.92	0.08	96
11.	Bromo OTBN	EDC	1.20	1.17	0.03	97
12.	2-Fluoro-4-Iodo Aniline	Hexane	5.00	4.82	0.18	96
13.	2-propyl pentanoic acid	IPA	0.08	0.077	0.003	96
14.	3-Chloromethyl benzoic acid	EDC	2.35	2.32	0.03	98
15.	4-Chloromethyl Benzoic Acid	EDC	2.35	2.32	0.03	98
16.	5-aminosalicylic acid	Methanol	2.14	2.07	0.07	96
17.	{ 2-[2,6 Dichloro Phenyl] Amino} Phenyl} Acetate	Toluene	3.64	3.5	0.14	96
		Methanol	0.89	0.86	0.03	96
18.	3 Amino Acetophenone	Methanol	3.00	2.89	0.11	96
19.	1-[2-(2-Hydroxy Ethoxy) Ethyl] Piperazine	Methanol	3.3	3.2	0.1	97
20.	3-(Dimethyl amino) propiofenone hydrochloride	Toluene	1.64	1.58	0.06	96
		Hexane	0.71	0.685	0.025	96
21.	4-hydroxy phenyl piperazine	IPA	4.83	4.67	0.16	96
		Acetone	0.33	0.32	0.01	97

22.	N-Formyl piperidine	Toluene	2.45	2.37	0.08	96
23.	4-Sulfonamide phenyl hydrazine hydrochloride	Toluene	2.72	2.62	0.1	96
		Ethyl acetate	3.29	3.17	0.12	96
		Methanol	3.29	3.17	0.12	96
24.	2-(4-Cyanophenyl amino)acetic acid	Acetone	2.55	2.46	0.09	96
		Ethanol	2.70	2.62	0.08	97
		Cyclohexane	2.70	2.62	0.08	97
25.	1,1-Cyclohexane diacetic acid	Methanol	5.55	5.39	0.16	97
		Toluene	2.39	2.32	0.07	97
		MDC	4.19	4.1	0.09	97
26.	1 – Phenyl Piperazine	Methanol	2.7	2.6	0.1	96
		Toluene	2.7	2.6	0.1	96
27.	1-Methyl-3-Phenyl Piperazine	Toluene	10	9.8	0.2	98
28.	3-Amino-1-Adamantol	MDC	5.58	5.37	0.21	96
		MTBE	0.52	0.5	0.02	96
29.	Para hydroxyl phenyl acetonitrile	MCB	5.83	5.75	0.08	98
30.	5-Amino 1,3 Benzodioxole	Methanol	6.25	6.01	0.24	96
31.	Ethyl isonipecotate	Ethanol	1.79	1.73	0.06	96
32.	2-(2-Methoxy phenoxy) ethylamine	DMF	7.15	6.91	0.24	96
		Acetone	4.15	4.01	0.14	96
		Toluene	5.85	5.66	0.19	96
33.	4-Hydroxy carbazole	Methanol	5.06	4.91	0.15	97

G-2 LDAR proposed:

The Following methodology to be adopted during LDAR study:

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

Following frequency of monitoring of leaks and schedule for repair of leaks shall be followed:

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

LDAR for specific solvents:

Sr. No.	Solvent Name	Type of Storage	Mode of Transfer	Charging	Sources of Leakage	Mitigation Measure For find out leakages	Mitigation Measure (If leakages will be occur)	Action taken for prevention of leakages
1	Methanol	Tank	By Pump & Fix Pipe line	Direct Vessel	<ul style="list-style-type: none"> Leak from Valve (failure of the valve packing & O-ring) Leak from pump (Occur at seal) Leak from tank Leak from Connectors Leak from open ended lines 	<ul style="list-style-type: none"> For using Gas Detector by PID Sensor technology. 	<ul style="list-style-type: none"> If valve will be leak stop pumping system and replace with new valve. When pump seal will be leak immediately stop solvent transfer and immediately repair or replace with new seal. 	<ul style="list-style-type: none"> Check Thickness of tank Using fix pipeline for solvent transfer Minimum use of Connectors & Joins Provided sufficient Space (Solvent Unloading area) for Solvent Tanker

G-3 VOC emission sources and its mitigation measures

Measures for achieving maximum solvent recovery and minimize VOC generation:

- All the solvents shall be directly distilled from product mixes and; if required shall be purified in packed column with the help of reflux.
- The solvent distillation system shall be designed so as to achieve minimum 95.0 % recovery of solvent.
- All the pumps shall be mechanical seal type to avoid any leakage of solvent.
- All necessary firefighting systems shall be provided with alarm system. Flame proof wiring and flame proof electrical accessories shall be provided to avoid any mishap.
- All the distillation column vents are also connected to cooling water/ chilled brine condensers for maximum possible recovery of the solvents.
- All the vents will be connected to a common carbon Absorber for removing traces of solvent from vent gases.
- Residue generated from the distillation will be incinerated in-house or sent to BEIL incinerator site.
- Two condenser will install with cooling water and chilled brine to recover the solvent.
- Primary Condenser HE-01: Cooling Tower water or Chilled water at 10 °C -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 VOC Trap Condenser HE-02: Chilled Brine at -05 °C will be used to trap any traces of Solvent which is slipped from Secondary condenser.

Comments:

- 3) ...
4)

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
PESO Tank				
1	Methanol	10 KL	1 Nos.	Highly Flammable Chemicals
2	Acetone	10 KL	1 Nos.	Highly Flammable Chemicals
3	IPA	10 KL	1 Nos.	Highly Flammable Chemicals
Total (PESO Tank)			3 nos.	
NON-PESO TANK				
4	Sodium Hydroxide	15 KL	1 Nos.	Highly Toxic
5	Nitric Acid	10 KL	1 Nos.	Highly Toxic
6	Sulphuric Acid	10 KL	1 Nos.	Highly Toxic
Total (Non PESO Tank)			3 Nos.	

Storage of Hazardous chemicals in Tanks

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.
- Provided with external anti-corrosive coating or cathodic protection to prevent corrosion ;
- 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;
- 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;
- 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
- Lightning 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.

Safety Measures for Acid / Alkali Storage tank area:

- 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.

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

Sr. no	Name of Chemical	Max. Storage (MT/KL)	Number of Drum & Bottles, Cylinder, Banks etc.	MOC/ Packing	Hazardous Characteristics of Chemical
1	MDC (Dichloromethane)	5	200 Lit. x 25 Nos.	HDPE Drum	Highly Toxic & Corrosive
2	DMF (N,N-Dimethylformamide)	1	200 Lit. x 5 Nos.	HDPE Drum	Flammable, & Toxic
3	Ethyl Acetate	3	200 Lit. x 15 Nos.	HDPE Drum	Highly Flammable
4	Ethanol	1	200 Lit. x 5 Nos.	HDPE Drum	Highly Flammable
5	Hexane	2	200 Lit. x 10 Nos.	HDPE Drum	Highly Flammable
6	Acetic Anhydride	1	200 Lit. x 5 Nos.	HDPE Drum	Flammable, Corrosive & Toxic
7	Heptane	0.2	200 Lit. x 1 Nos.	HDPE Drum	Highly Flammable
8	Cyclohexane	0.6	200 Lit. x 3 Nos.	HDPE Drum	Highly Flammable
9	Toluene	1	200 Lit. x 5 Nos.	HDPE Drum	Highly Flammable
10	EDC (Ethylene Dichloride)	8	200 Lit. x 40 Nos.	HDPE Drum	Highly Flammable, Corrosive & Toxic
11	Acetic Acid	2	200 Lit. x 10 Nos.	HDPE Drum	Highly Flammable, Corrosive
12	Benzyl Chloride	2	200 Lit. x 10 Nos.	HDPE Drum	Toxic, Corrosive
13	Iodine	3	200 Lit. x 15 Nos.	HDPE Drum	Corrosive & Toxic
14	Thionyl chloride	3	200 Lit. x 15 Nos.	HDPE Drum	Toxic, Corrosive
15	Aluminum Chloride	4	200 Lit x 20 Nos.	HDPE Drum	Toxic, Corrosive
16	Aniline	1	200 Lit x 5 Nos.	HDPE Drum	Highly Toxic
17	Hydrochloric Acid	2	200 Lit x 10 Nos.	HDPE Drum	Highly Toxic & Corrosive
18	Hydrogen Peroxide	2	200 Lit x 10 Nos.	HDPE Drum	Highly Toxic & Corrosive & Oxidizer

19	Liq. Ammonia	1	200 Lit. x 5 Nos.	HDPE Drum	Toxic, Corrosive
20	Chloroform	1	200 Lit. x 5 Nos.	HDPE Drum	Highly Toxic
21	Hydrogen gas	0.24 m ³	2.2 kg x 50 Nos. = 2 Nos. Bank	Hydrogen Bank (MS)	Highly Flammable
22	Nitrogen gas (Blanketing)	0.12 m ³	60 kg X2 = 120 Kg	Cylinder (MS)	Highly toxic, Corrosive
23	Chlorine gas	0.9 m ³	900 Kg X 1 Nos.	Tonner (CS)	Toxic, corrosive and oxidizer
24	Bromine	3.6	3 Lit x 12 = 1 Box 100 Box	Glass Bottle	Toxic, corrosive and oxidizer

DRUMS STORAGE & HANDLING SAFETY:

- 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.
- **Handling of materials from Drum will be done only through Mechanical Transfer System.**

Safety details of Hazardous Chemicals:

Type of Hazardous Chemicals	Safety measures
FLAMMABLE & EXPLOSIVE	<ul style="list-style-type: none"> ✓ Storage will be cool, well ventilated away from sources of ignition or heat. Prevent accumulation of static charge. Protect material from direct sunlight. ✓ Store in original container. Keep containers tightly closed and upright when not in use. ✓ Proper label and identification board /stickers 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. ✓ Ground container and transfer equipment to eliminate static electric sparks. ✓ Smoking and other spark, flame generating item will be banned near storage area. FLP type light fittings will be provided. ✓ Handling of materials from Drum will be done only through Mechanical Transfer System only. ✓ Training will be provided to employees for safe storage, handling and transpiration. ✓ When using, do not eat, smoke or drink. ✓ Fire Hydrant with monitor, fire proximity suits, automatic sprinkler system, Safety shower & eye wash unit will be installed nearby area.

	<ul style="list-style-type: none"> ✓ Provision of Respiratory protective equipment (airline respirator & SCBA) & personal protective equipment will be available. ✓ For spills involving small volumes of dilute solution of Xylene/Formaldehyde/Methanol, the following cleaning procedure can be used ✓ Wear appropriate personal protective equipment (PPE) ✓ Remove any ignition source from the spill area; ✓ Clean the spill area with a mixture of water and soap ✓ Dry the spill area with paper towels • Onsite emergency plan prepared and mock drill will be carried out. Safety sign board displaying Do's and Don'ts in local language. 	
CORROSIVE& CHEMICALS	<ul style="list-style-type: none"> ✓ Preventing or minimizing contact between corrosive substances and skin, mucous membranes and eyes. ✓ Corrosive substances will 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 will be protected by suitable coatings, impervious to and unaffected by corrosives. ✓ All containers or receptacles will be clearly labelled to indicate their contents and will bear the danger symbol for corrosives. ✓ Adequate ventilation and exhaust arrangement whether general or local, will be provided whenever corrosive toxic gases or dust are present. ✓ Personal protective devices will be used. ✓ First aid treatment facilities will be provided and all concerned will 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 will be provided. 	
TOXIC CHEMICALS	<ul style="list-style-type: none"> ✓ Storage will be cool, well ventilated away from sources of ignition or heat. Prevent accumulation of static charge. Protect material from direct sunlight. ✓ Store in original container. Keep containers tightly closed and upright when not in use. ✓ Proper label and identification board /stickers 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. ✓ Ground container and transfer equipment to eliminate static electric sparks. ✓ Handling of materials from Drum will be done only through Mechanical Transfer System only. Unloading procedure will be prepared and implemented. ✓ Training will be provided to employees for safe storage, handling and transpiration. ✓ Safety shower & eye wash unit will be installed nearby area. ✓ Required PPEs like full body protection PVC apron, Hand gloves, gumboot, Respiratory protective equipment (airline respirator & SCBA) etc. will be provided to operator ✓ For spills involving small volumes, the following cleaning procedure can be used ✓ wear appropriate personal protective equipment (PPE) ✓ clean the spill area with a mixture of water and soap ✓ Neutralizing agent will be kept ready for tackle any emergency spillage ✓ Onsite emergency plan prepared and mock drill will be carried out. Safety sign board displaying Do's and Don'ts in local language. 	

REACTIVE CHEMICALS	<ul style="list-style-type: none"> ✓ Store minimum quantities. ✓ Segregate chemicals, e.g. from water, air, incompatible chemicals, sources of heat, ignition sources. ✓ Spillage control; bund, spray, blanket, containment. Drain to collection pit. ✓ Decontamination and first-aid provisions, e.g. neutralize/destroy, fire-fighting <ul style="list-style-type: none"> • Contain/vent pressure generated to a safe area. ✓ Split-up stocks into manageable lots, e.g. with reference to fire loading/spillage control. ✓ Ensure appropriate levels of security, hazard warning notices, fences, patrols. Control access including vehicles. ✓ Appropriate gas/vapour/fume/pressure venting, e.g. flame arrestors, scrubbers, absorbers, stacks. ✓ Will 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). ✓ Will ensure adequate access for both normal and emergency purposes with alternative routes
<p>➤ Applicability of PESO: Yes. Unit will obtain PESO License for storage of chemicals.</p> <p><u>Comments:</u></p> <p>3) ...</p> <p>4)</p>	
H-2	Types of hazardous Processes involved and its safety measures:
Type of Process	Safety measures including Automation
Hydrogenation (Through hydrogen Gas)	<ul style="list-style-type: none"> ➤ Provision of Safety Valve & Rupture Disk on reactor. ➤ Integrated DCS (Distributed Control System) base process controls and operation of plant will be installed. ➤ All electrical equipment's shall be installed as per Hazardous Area Classification. ➤ Total enclosed process system. ➤ Instrument & Plant Air System. ➤ Nitrogen blanketing in Hydrogenation reactor. ➤ Emergency dumping vessel will be provided during unforeseen circumstances. ➤ Safety valve and Rupture disc provided on reactor. ➤ Cooling, Chilling and alternate power arrangement have been made on reactor. ➤ Process area and Hydrogen cylinder bank shall be far away as per standards practice. ➤ PRV station with shut off valve, safety valve provision will be made for hydrogenation reaction safety. ➤ Standard Operating procedure shall be followed during operation of Hydrogen Gas charging in to reactor and after completion of reaction Nitrogen purging will be done. ➤ Flame arrestor will be provided on vent line of reactor and it will be extended above the roof level. ➤ Safe Catalyst charging method will be adopted. ➤ SOP will be displayed and operators will be trained for the same. ➤ Static earthing and electric earthing (Double) will be provided. ➤ Jumpers for static earthing on pipeline flanges of flammable chemical

		<p>will be provided.</p> <ul style="list-style-type: none"> ➤ Hydrogen gas detector will be installed for early detection of gas leak.
	Bromination (Through Bromine)	<ul style="list-style-type: none"> ➤ All end nozzles in bromine charging hose will be blinded after use. ➤ Integrated DCS (Distributed Control System) base process controls and operation of plant will be installed. ➤ 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 (Through Chlorine gas)	<ul style="list-style-type: none"> ➤ Chlorine Emergency Kit will be procured and kept ready at process site. ➤ Integrated DCS (Distributed Control System) base process controls and operation of plant will be installed. ➤ 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. <p>Evacuate the area in down wind direction</p> <ul style="list-style-type: none"> ➤ 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

	<ul style="list-style-type: none"> ➤ 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. ➤ Scenario base On Site emergency Plan will be prepared.
<p>Sulphonation (Through Thionyl Chloride)</p>	<ul style="list-style-type: none"> ➤ Provisions of safety valve & rupture disk on reactor. ➤ Integrated DCS (Distributed Control System) base process controls and operation of plant will be installed. ➤ Provisions of auto dumping Vessel. ➤ Required PPEs like full body protection PVC apron, Hand gloves, gumboot, Respiratory mask etc. will be provided to operator. ➤ To avoid runaway reaction, 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.
<p>Nitration (Through Nitric Acid)</p>	<ul style="list-style-type: none"> ➤ SOP will be displayed for safe charging of Nitric acid for nitration process ➤ Required PPEs like full body protection PVC apron, Hand gloves, gumboot, Respiratory mask etc. will be provided to operator at time of nitric acid charging. ➤ Make sure the absorber unit (two stage Alkali scrubber) will be working and capable of handling vented NO₂ fumes. ➤ Neutralizing agent will be kept ready for tackle any emergency spillage. ➤ Safety Shower and eye wash will be provided near process area. ➤ Total close process will be adopted (from storage 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 ➤ Rotameter ➤ DCS ➤ Level alarms

- TIC of jacket as well as the reactor
- Emergency control measures:
- Flushing water (chilled water / ice quenching) to control the runaway reaction.
- Provision of Drainage 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).

H-3 Details of Fire Load Calculation

Total Plot Area:	23427.0
Area utilized for plant activity:	400.0 (G+2) (Proposed API & Intermediates Unit-2)
Area utilized for Hazardous Chemicals Storage:	280.0 (For Proposed mfg.)
Number of Floors:	G+2
Water requirement for firefighting in KLD:	18.18
Water storage tank provided for firefighting in KLD:	300.00
Details of Hydrant Pumps:	<p>Fire Hydrant line is available and diameter of main hydrant line is 15 cm. Fire water Pump will be available. We will have 01 No's of electrical fire water Pump located at pump house having capacity 650.0 litres/min and 01 No's of Diesel pump having capacity 550.0 litres/min. Apart from this we have 01 Nos Jockey Pumps of capacity 580.0 litres/min which maintains the Fire water Header Pressure at 8.0 kg/cm².</p> <p>Trailer Pump having capacity of 1000 Lit/Min @ 60 meter tank head will be provided.</p>
Nearest Fire Station :	Fire station Panoli – 5.19 kms
Applicability of Off Site Emergency Plan:	Yes

Comments:

3) ...

4)

H-4 Details of Fire NOC/Certificate:

Fire NOC Applied
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:	50
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Number of Contractual person/Labour:	70
Area provided for OHC:	67.2 (Existing Unit-1)
Number of First Aid Boxes:	11.0
Nearest General Hospital:	Welcare Hospital Within 2.09 kms.
Name of Antidotes to be store in plant:	Sodium Hydro-Carbonate (4% Conc.), Milk of Magnesia, Diazepam, Soframycin, Methylene Blue (1% Solution)

Comments

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- This proposal is reconsidered in SEAC meeting dated **16.02.2022**. PP along with their technical expert/consultant, M/s. ECOgreen ENVIRO SERVICES remains present in the meeting and made presentation before Committee.
- Deliberation of the Committee:
 - ✓ Uponasking regarding revised product profile and proposal with discontinue of existing pesticide products with respect to proposal of API products in existing technical pesticide plant as mentioned iquery generated on SEAC meeting dated 18.10.2021, Technical expert of PP submitted revised product profile with discontinue of NPK Fertilizer, Pesticides Formulation & Packing, Bulk Repacking From Product List in place of technical pesticide product.Hence Committee asked for clarification regarding it, Pp confessed that they have not discontinue pesticide products and shall provide separate plant in premises for API product and pesticide plant. Committee disagree with proposal submitted by technical expert of PP and informed for submission of revised product profile and proposal with discontinue of existing pesticide products and subsequent changes in water, air, Hazardous waste, PFR, EMP and form-1 details.
 - ✓ PP presented show cause notice issued by GPCB and its reply submitted at GPCB also presented by him.
 - ✓ Product profile with its end use discussed in depth.
 - ✓ Site Plan/ layout with fire plan & floor plans and provision of separate entry & exits, 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, greenbelt within premises etc. Looking to site plan, Committee insisted for revised layout plan and area adequacy after removal of pesticide plant with mentioning existing infrastructure with color coding and secure distance between existing plant from proposed API plant considering safety and health point of view, separate entry & exits, peripheral road, distillation area, OHC, tank farm, production areas, raw material & finished goods storage areas for

existing as well as proposed plant, ETP area, utility area, hazardous chemical storage area considering its type of hazard and safety pony of view and as per compatibility chart, fresh & spent solvent storage areas, hazardous waste storage area, greenbelt within premises.

- ✓ Source of water will be GIDC. Looking to proposal located outside notified area and GIDC, Committee asked for submission of clarification regarding source of water mentioned as GIDC for proposed project which located outside notified area.
- ✓ Domestic Waste water will be treated in ETP.
- ✓ Total effluent will be segregated and then high COD stream will be treated in ETP and then treated effluent will be sent to CMEE of M/s. CMEE. While low COD stream will be treated in ETP and RO plant for proposed API plant. Looking to CMEE of M/s. BEIL certificate mentioned effluent load in MT/year, Committee insisted for revised membership certificate of CMEE of M/s. BEIL in KL/Day as per its CCA and GPCB circular dated 08.01.2020.
- ✓ Separate ETP mentioned for existing infrastructure in water balance diagram.
- ✓ Agro waste and /or coalis 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, storage of Hazardous chemicals and its safety and area adequacy was discussed. Looking to fire and safety detail submission, Committee insisted for fire water tank of minimum 500 KL size and fire extinguisher like fire foam, PPE suits, number of jockey pump, fire extinguished etc. in appropriate quantity considering project details.
- ✓ CER fund allocation, EMP, Green belt area was discussed.
- Looking to risk assessment not submitted by technical expert of PP for Hazardous chemicals storage for proposed API production, Committee insisted for submission of detailed risk assessment report for storage and handling of various hazardous chemicals.

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

1. Submission of revised product profile and proposal with discontinue of existing pesticide products and subsequent changes in water, air, Hazardous waste, PFR, EMP and form-1 details in place of discontinue of NPK Fertilizer, Pesticides Formulation & Packing, Bulk Repacking from Product List.
2. Revised layout plan and area adequacy after removal of pesticide plant with mentioning existing infrastructure with color coding and secure distance between existing plant from proposed API plant considering safety and health point of view, separate entry & exits, peripheral road, distillation area, OHC, tank farm, production areas, raw material & finished goods storage areas

for existing as well as proposed plant, ETP area, utility area, hazardous chemical storage area considering its type of hazard and safety pony of viewe and as per compatibility chart, fresh & spent solvent storage areas, hazardous waste storage area, greenbelt within premises.

3. Submission of Risk assessment of hydrogen gas, chlorine gas, bromine gas, liq. Ammonia along with other hazardous chemical storage for proposed API products and its handling considering its storage and its handling and super imposition of dispersion model of hydrogen gas, chlorine gas, bromine gas, liq. Ammonia along with other hazardous chemical storage for proposed API products on proposed project area considering any leakage or blast of hydrogen gas, chlorine gas, bromine gas, liq. Ammonia along with other hazardous chemical storage for proposed API products storage tank or its handling and its impact on surrounding habitat with its remediation control measures along with details of population affected, considering prosed project located outside notified area.
4. Revised fire load calculation with mentioning fire water tank of minimum 500 KL sizeand fire extinguisher like fire foam, PPE suits, number of jockey pump, fire extinguished etc. in appropriate quantity considering project located outside notified area.
5. Revised membership certificate of CMEE of M/s. BEIL in KL/Day in place of MT/year, as per its CCA and GPCB circular dated 08.01.2020.
6. Submission of clarification regarding source of water mentioned as GIDC for proposed project but project located outside notified area.

12.	SIA/GJ/IND2/52418/2019	M/s. Asiatic Industries Plot No.1505, Phase-I, GIDC, Naroda, Ahmedabad	EC-Reconsideration
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Category of the unit: **5(f)**

Project status: **Expansion**

- Project proponent (PP) has submitted online application vide no. SIA/GJ/IND2/52418/2019 dated 18.08.2020 for obtaining Environmental Clearance.
- SEIAA issued TOR to PP vide letter dated 23/08/2019.
- Project proponent has submitted EIA Report prepared by M/s. B.S. Rana based on the TOR issued by SEIAA.
- This is an existing unit and now proposes for expansion as below,

Sr. No.	Product	CAS No.	Quantity MT/Month			End Use
			Existing	Proposed	After Proposed	
Existing:						
1.	Acid yellow -23	-	25	-	25	Dyeing Of Fabrics
2.	Acid Black 1/210/234	1820-82-5/ 99576-15-5/ 157577-99-6				

3.	Navy Blue RX / Reactive Blue-19 RGB	12236-86-1, /93951-21-4				
4.	Reactive Red RB 105	-				
5.	Reactive Golden Yellow HR	-				
6.	Reactive Yellow 145/Red 195	93050-80-7/ 93050-79-4				
7.	Acid Blue-193/194/25	12392-64- 2/6408-13- 5/6408-78-2				
Proposed:						
Acid Dyes						
1.	Acid Black 1 (10BX)	1820-82-5	-	200	200	Dyeing Of Fabrics
2.	Acid Black 194	61931-02-0				
3.	Acid Black 210	99576-15-5				
4.	Acid Black 234	157577-99-6				
5.	Acid Blue 113	3351-05-1				
6.	Acid Blue 158	6370-08-7				
7.	Acid Blue 193	12392-64-2				
8.	Acid Blue 324	88264-80-6				
9.	Acid Blue 25	6408-78-2				
10.	Acid Brown 14	5850-16-8				
11.	Acid Brown 161	61724-13-8				
12.	Acid Brown 165	61724-14-9				
13.	Acid Brown 188	12219-57-7				
14.	Acid Brown 191	61724-16-1				
15.	Acid Brown 235	1269-90-8				
16.	Acid Brown 282	12219-65-7				
17.	Acid Brown 311	12234-86-5				
18.	Acid Brown 314	12219-81-7				
19.	Acid Brown 348	72827-72-6				
20.	Acid Brown 349	72827-73-7				
21.	Acid Brown 354	71799-43-4				
22.	Acid Brown 355	60181-77-3				
23.	Acid Brown 365	63641-88-3				
24.	Acid Brown 414	172287-09-7				
25.	Acid Brown 425	119509-49-8				
26.	Acid Brown 432	119509-50-1				
27.	Acid Brown 434	126851-40-9				
28.	Acid Brown 58	12269-87-3				
29.	Acid Brown 75	8011-86-7				
30.	Acid Brown 83	13011-68-2				
31.	Acid Brown 97	108347-99-5				
32.	Acid Brown 98	12269-88-4				
33.	Acid Green 104	61814-51-5				
34.	Acid Green 111	58419-36-6				
35.	Acid Green 20	5850-39-5				
36.	Acid Green 68	61901-32-4				
37.	Acid Green 73	12219-93-1				
38.	Acid Orange 116	12220-10-9				
39.	Acid Orange 142	61901-39-1				
40.	Acid Orange 156	68555-86-2				
41.	Acid Orange 164	55613-78-0				

42.	Acid Orange 7	633-96-5				
43.	Acid Orange 74	10127-27-2				
44.	Acid Orange 86	12220-07-4				
45.	Acid Red 1	3734-67-6				
46.	Acid Red 119	70210-06-9				
47.	Acid Red 131	12234-99-0				
48.	Acid Red 151	6406-56-0				
49.	Acid Red 357	61951-36-8				
50.	Acid red 362	61814-58-2				
51.	Acid Red 37	302912-22-7				
52.	Acid Red 88	1658-56-6				
53.	Acid Red 97	10169-02-5				
54.	Acid Violet 17	4129-84-4				
55.	Acid Violet 54	11097-74-8				
56.	Acid Violet 90	6408-29-3				
57.	Acid Yellow 23	1934-21-0				
58.	Acid Yellow 110	12220-74-5				
59.	Acid Yellow 114	61901-51-7				
60.	Acid Yellow 151	12715-61-6				
61.	Acid Yellow 194	61814-52-6				
62.	Acid Yellow 241	83249-52-9				
63.	Acid Yellow 42	6375-55-9				
64.	Acid Yellow 99	10343-58-5				
Direct dyes						
65.	Direct Black 155	68460-07-1				Dyeing Of Cotton Fabrics
66.	Direct Black 168	12220-20-1				
67.	Direct Orange 39	1325-54-8				
68.	Direct Red 23	3441-14-3				
69.	Direct Red 239	89157-03-9				
70.	Direct Red 80	2610-10-8				
71.	Direct Red 81	2610-11-9				
72.	Direct Yellow 11	1325-37-7				
Mordent dyes						
73.	Mordent Blue 18	6844-73-1				Dyeing Of Fabrics
74.	Mordent Blue 9	3624-68-8				
75.	Mordent Violet 2	6408-82-8				
76.	Mordent Yellow 10	6054-99-5				
77.	Mordent Yellow 16	8003-87-0				
Solvent dyes						
78.	Solvent Black 27	12237-22-8				Dyeing Of Waxes, Lubricants,plastics
79.	Solvent Black 45	94765-62-5				
80.	Solvent Blue 35	17354-14-2				
81.	Solvent Orange 45	13011-62-6				
82.	Solvent Red 221					
83.	Solvent Red 24	85-83-6				
Reactive Dyes						
84.	Reactive Blue RX	-				Dyeing Of Fabrics
85.	Reactive Red 105	-				
86.	Reactive Red 198	145017-98-7				
87.	Reactive Red 195	93050-79-4				
88.	Reactive Blue 19	2580-78-1				
89.	Reactive Blue 250	93951-21-4				

90.	Reactive Yellow 145	93050-80-7				
91.	Reactive Yellow 84	61951-85-7				
92.	Reactive Black 5	12225-25-1				
93.	Reactive Black WNN	-----				
TOTAL			25	200	225	

- 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 03.11.2020.
- Salient features of the project including Water, Air and Hazardous waste management are submitted.
- During the SEAC VC meeting dated **03.11.2020**, Project Proponent (PP), their technical expert and EIA consultant 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 November 2018 to January 2019. Ambient Air Quality monitoring was carried out for PM₁₀, PM_{2.5}, SO₂, NO_x, VOCs, and CO 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.
- During SEAC meeting on 14/08/2020, Committee noted that the proposal is for expansion. Upon asking about the EIA Coordinator, PP as well as EIA consultant could not replied satisfactorily. Committee also observed that there are no details in the EIA report regarding EIA Coordinator and area experts in the EIA report.
- **After detailed discussion, Committee decided to defer the project and consider the same only after satisfactory submission of EIA report with duly signed by EIA coordinator and area experts for preparation of EIA report for proposed project.**
- PP submitted the reply of the said points along with other supporting documents.
- This proposal is reconsidered in SEAC meeting dated **12.04.2021**. PP along with their technical expert/consultant from M/s B S Rana remains present in the meeting and made presentation before committee.
- PP presented revised salient features of the project including Water, Air and Hazardous waste management are submitted.

- During meeting dated: 12.04.2021, PP submitted details of EIA co-ordinator and specific area experts.
- Committee noted that EC of M/s Asiatic Color Chem Industries Pvt Ltd (Plot No: 1503-1505) was converted into CTE and CCA and later on demerged in the name of M/s Asiatic Color Chem Industries Pvt Ltd (Plot No: 1503 & 1504) and M/s Asiatic Industries (Plot No: 1505).
- Self-certified compliance report of existing CCA is submitted. There is no litigation pending before any court of Law and no public complaints against the Project. PP has also stated that there is no legal action taken by GPCB in last 3 years.
- PP presented revised Site Plan/ layout which are not visible. Committee noted that the consultant approach is very casual which is not acceptable. Committee also noted that the EIA consultant is common for this instant project and for the project namely M/s. Kinjal Chemicals, Unit- 4 (Today's agenda item no. 2).
- **In view of the above, After deliberation, SEAC unanimously decided to defer again the proposal and consider the same in one of the upcoming meeting of SEAC after submission revised details along with certified compliance report.**
- PP submitted their reply for the query raised by SEAC during SEAC meeting dated 12.04.2021 through email.
- The proposal was reconsidered in the SEAC video conference meeting dated 17.06.2021.
- Project proponent (PP) and their Technical Expert from M/s. B.S.Rana remains present during video conference meeting.
- Committee noted that technical expert of PP presented layout plan for expansion project which is showing 50 sq. meter area for green belt within premises and also not submitted GIDC authority letter regarding greenbelt area outside premises.Hence Committee asked clarification regarding proposal of expansion project and greenbelt area allocated only 50 sq. meter within premises. Also Committee marked that adequate peripheral and internal road, approach to storage area and inadequate greenbelt area mentioned in layout plan for which previously query generated in SEAC meeting dated 12.04.2021
- **After presentation made by technical expert of PP, Committee felt that even though many times informed technical expert of PP regarding adequate presentation and document submission, technical expert of PP comes in meeting without preparation for proposed project**
- **Hence After detailed discussion, Committee unanimously decided to defer the project and consider the project in one of upcoming meeting after submission of following documents:**
 1. Revised layout plan with mentioning adequate size peripheral road and internal road , revised green belt area, approach to storage area of Hazardous chemicals and revised area adequacy considering it.
 2. Technical clarification regarding proposal of expansion project in respect of less green belt area mentioned for proposed project considering environment point of view.
 3. GIDC letter regarding greenbelt development area allocated to PP with mentioning longitude and

latitude of proposed greenbelt area allocated to PP, number of trees to be planted and maintenance of green belt development assurance in it.

- PP submitted above query reply online in Parivesh portal for above point.
- Again this case was reconsidered in SEAC VC meeting dated **25.10.2021**. During meeting technical expert of PP, M/s. B.S.Rana and PP remains present and made presentation for above project.
- PP presented revised salient features of water, air and Hazardous waste management as follows,

Sr. no	Particulars	Details																																							
A	<p>Total cost of Proposed Project (Rs. in Crores): Break-up of proposed project Cost:</p> <table border="1"> <thead> <tr> <th>S No.</th> <th>Purpose</th> <th>Total (In Lacs)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Building</td> <td>25</td> </tr> <tr> <td>2</td> <td>Plant and Machinery</td> <td>55</td> </tr> <tr> <td>3</td> <td>land</td> <td>46</td> </tr> <tr> <td>4</td> <td>Environment Management System:</td> <td>24</td> </tr> <tr> <td>a)</td> <td>Occupational Health & Safety including Safety Equipment (PPE, fire extinguishers, Ventilation, etc.)</td> <td>1.6</td> </tr> <tr> <td>b)</td> <td>Effluent treatment Plant/STP</td> <td>6</td> </tr> <tr> <td>c)</td> <td>Noise control</td> <td>0.6</td> </tr> <tr> <td>d)</td> <td>Green belt development</td> <td>1.9</td> </tr> <tr> <td>e)</td> <td>Rain water harvesting</td> <td>1.6</td> </tr> <tr> <td>f)</td> <td>Air emission</td> <td>10.6</td> </tr> <tr> <td>g)</td> <td>Solid & Hazardous Waste Management</td> <td>1.7</td> </tr> <tr> <td></td> <td>Total</td> <td>150</td> </tr> </tbody> </table>	S No.	Purpose	Total (In Lacs)	1	Building	25	2	Plant and Machinery	55	3	land	46	4	Environment Management System:	24	a)	Occupational Health & Safety including Safety Equipment (PPE, fire extinguishers, Ventilation, etc.)	1.6	b)	Effluent treatment Plant/STP	6	c)	Noise control	0.6	d)	Green belt development	1.9	e)	Rain water harvesting	1.6	f)	Air emission	10.6	g)	Solid & Hazardous Waste Management	1.7		Total	150	<p>Existing: 1.0 Crores Proposed: 0.5 Crores</p> <p>Total: 1.5 Crores</p>
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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	5.5	1.8	0.4	2.2
2	Air	Dust Control Management	8.4	2.0	0.7	2.7

3	Hazardous Management	Separate room Membership and Handling & Disposal	1.7	0.6	0.2	0.8																											
4	Fire & Safety	Fire System Pump, Real, Pipe, PPEs and other	11	-	-	-																											
		Fire Water Tank 100 KL	3	1	0.5	1.5																											
		Fire Extinguisher Rs 2000 x 30 Nos.	0.6	0.5	0.5	1																											
		Cost of Process Control System	7	1	0.5	1.5																											
5	AWH Monitoring	Stack Monitoring/ Waste water Analysis / Soil Test/ Noise	3	0.5	0.5	2.0																											
6.	Green Belt Development	Samples, Fertilizers	3	-	-	-																											
7.	Occupational Health	OHC, First aid box, Bed, PPEs and General Equipment	12	4	1	5																											
8.	CER Activity	1 % of Project Cost Rs 150 Lacs	1.5	1	1	2																											
	Total		56.7	12.4	5.3	17.7																											
Details of CER as per OM dated 01/05/2018					As below:																												
<table border="1"> <thead> <tr> <th rowspan="2">S. No</th> <th rowspan="2">Planned activities under CER as per specific needs Muthiya, Bilasiya, Medra</th> <th colspan="3">Budget (INR)</th> <th rowspan="2">Total</th> </tr> <tr> <th>1st year (20-21)</th> <th>2nd year (21-22)</th> <th>3rd year (22-23)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>RO Plant at Grampanchayat Office and School Bilasiya/Muthiya</td> <td>18,000</td> <td>7,000</td> <td>-</td> <td>25,000</td> </tr> <tr> <td>2</td> <td>Up-gradation of Primary health Centre Building Of Village Medra</td> <td>125,000</td> <td>-</td> <td>-</td> <td>125,000</td> </tr> <tr> <td colspan="2">TOTAL</td> <td>143,000</td> <td>7,000</td> <td>-</td> <td>150,000</td> </tr> </tbody> </table>							S. No	Planned activities under CER as per specific needs Muthiya, Bilasiya, Medra	Budget (INR)			Total	1 st year (20-21)	2 nd year (21-22)	3 rd year (22-23)	1	RO Plant at Grampanchayat Office and School Bilasiya/Muthiya	18,000	7,000	-	25,000	2	Up-gradation of Primary health Centre Building Of Village Medra	125,000	-	-	125,000	TOTAL		143,000	7,000	-	150,000
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TOTAL		143,000	7,000	-	150,000																												
B	Total Plot area (sq. meter)	Existing: 1431 Sq. m. Proposed:- Total: 1431Sq. m.																															
	Whether plot is owned by Proponent Or on rent?	Plot is owned by Proponent																															

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

- The dyes manufacturing unit process are spray drying time cycles are reduced to manufacture dyes in today's. Secondly we are expanding our unit vertically. In dyes unit all process vessels are set on first floor and second floor. Also inventory of storage is less as all raw materials and finished products are no need to storage more than three days. Looking to the area and vessel capacity existing and proposed is adequate for us.
- The details machinery list is enclosed in Chapter No. 2.0, Section No. 2.8.2, Table No. 2.11 of EIA

Green belt area
(sq. meter)

Existing: 50 Sq.m
Proposed: 0 Sq.
m.Total: 50 Sq. m

(3.5 % of total area)

C Employment generation

Existing: 10
Proposed: 5
Total: 15

D Water

i Source of Water Supply
(GIDC Bore well, Surface water, Tanker supply etc...)

GIDC Naroda
Ahmedabad

Status of permission from the concern authority.

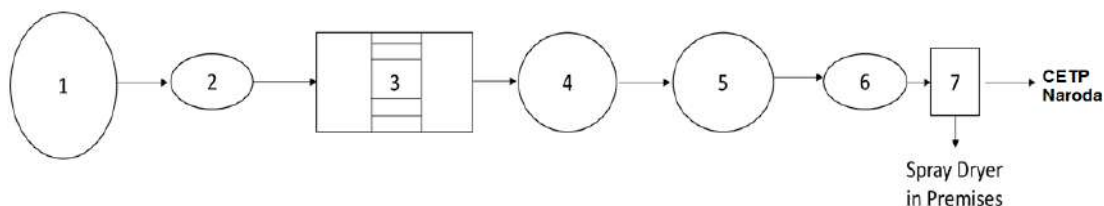
-

ii **Water consumption (KLD)**

	Existing KLD	Proposed (Additional) KLD	Total after Expansion KLD	Remarks
(A) Domestic	1	1	2	2 KLD fresh
(B) Gardening	-	0.5	0.5	-
(C) Industrial				
Process	17.5	94	111.5	91.5 KLD fresh + 20 KLD recycled
Washing	2	5	7	7 KLD fresh
Boiler	2	10	12	12 KLD fresh
Cooling	1	3	4	4 KLD fresh
Others	0	0	0	-
Industrial Total	22.5	112	134.5	114.5 fresh + 20 KLD recycled

	Grand Total	23.5	113.5	137	117 fresh + 20 KLD recycled																		
	(A+B+C)																						
	Brief Note on worst case scenario for water consumption:																						
	<ol style="list-style-type: none"> Total water requirement for the project: 137 KLD Quantity to be recycled: 20 KLD Total fresh water requirement: 117 KLD 																						
	-																						
	<table border="1"> <thead> <tr> <th>Summary of water requirement</th> <th>Existing KLD</th> <th>Proposed (Additional) KLD</th> <th>Total after Expansion KLD</th> <th>Remarks</th> </tr> </thead> <tbody> <tr> <td>Total water requirement for the project (A)</td> <td>23.5</td> <td>113.5</td> <td>137</td> <td rowspan="3">Treated effluent is evaporated by means of Distillation unit and condensate will be recycled.</td> </tr> <tr> <td>Quantity to be recycled (B)</td> <td>0.0</td> <td>20</td> <td>20</td> </tr> <tr> <td>Total fresh water requirement (C)</td> <td>23.5</td> <td>93.5</td> <td>117</td> </tr> </tbody> </table>					Summary of water requirement	Existing KLD	Proposed (Additional) KLD	Total after Expansion KLD	Remarks	Total water requirement for the project (A)	23.5	113.5	137	Treated effluent is evaporated by means of Distillation unit and condensate will be recycled.	Quantity to be recycled (B)	0.0	20	20	Total fresh water requirement (C)	23.5	93.5	117
Summary of water requirement	Existing KLD	Proposed (Additional) KLD	Total after Expansion KLD	Remarks																			
Total water requirement for the project (A)	23.5	113.5	137	Treated effluent is evaporated by means of Distillation unit and condensate will be recycled.																			
Quantity to be recycled (B)	0.0	20	20																				
Total fresh water requirement (C)	23.5	93.5	117																				
	<p>Total water requirement = Fresh water + Recycled water Proposed after expansion 137 KLD = 117 KLD + C 20 KLD</p>																						
	<p>In case of no reuse/recycle of waste water, Give brief note on justification as why no reuse/recycle.</p> <p>➤ Not applicable as recycled of treated effluent is proposed.</p>																						
iii	Waste water generation (KLD)																						
	Category	Existing KLD	Proposed (Additional) KLD	Total after Expansion KLD	Remarks																		
	(A) Domestic	0.8	0.8	1.6	Fresh 1.6 KLD																		
	(B) Industrial																						
	Process	7.0	24	31	Fresh 11 KLD+ Recycled 20 KLD																		

		Washing	2	5	7	Fresh 7 KLD																								
		Boiler	0.5	2	2.5	Fresh 2.5 KLD																								
		Cooling	0.5	1	1.5	Fresh 1.5 KLD																								
		Others	0	0	0	-																								
		Total Industrial waste water	10	32	42	Fresh 22 KLD+ Recycled 20 KLD																								
<p>Brief Note on worst case scenario for waste water generation(Qualitative and Quantitative):</p> <p>the ETP plant and treated effluent will be sent to the common spray drying facility or evaporated in premises. The nature of different batch cycle is as follows:</p> <table border="1"> <thead> <tr> <th>Source</th> <th>pH</th> <th>TDS (mg/L)</th> <th>COD (mg/L)</th> </tr> </thead> <tbody> <tr> <td>Process</td> <td>7.0</td> <td>18000</td> <td>4000</td> </tr> <tr> <td>Boiler</td> <td>9.5</td> <td>3500</td> <td>8</td> </tr> <tr> <td>Washing</td> <td>8.0</td> <td>2200</td> <td>210</td> </tr> <tr> <td>Cooling</td> <td>9.0</td> <td>1500</td> <td>25</td> </tr> <tr> <td>Composite</td> <td>7.5</td> <td>13200</td> <td>2800</td> </tr> </tbody> </table>							Source	pH	TDS (mg/L)	COD (mg/L)	Process	7.0	18000	4000	Boiler	9.5	3500	8	Washing	8.0	2200	210	Cooling	9.0	1500	25	Composite	7.5	13200	2800
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Cooling	9.0	1500	25																											
Composite	7.5	13200	2800																											
<p>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).</p> <p>Not Applicable.</p>																														
iv	<p>Treatment facility within premises with capacity [In-house ETP (Primary, Secondary, Tertiary), MEE, Stripper, Spray Dryer, STP etc. ➤ ETP Capacity: 42 KLD</p>																													
	<p>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.</p> <p>Total water consumption in manufacturing process will be 111.5 KLD. In Cooling Tower, Washing and Boiler make up 23KLD will be used. From process, boiler, condensate water and washing will be generated as effluent @ 42 KL/day. The effluent will be treated in the ETP plant and treated effluent will be sent to the common spray drying facility or evaporated in premises. The nature of different batch cycle is as follows:</p>																													



The condensate composite samples results are as below.

Source of waste water for reuse with quantity inKLD	Application area with quantity in KLD		Remarks regarding feasibility to reuse i.e. w/w characteristics (COD, BOD, TDS etc.)	
			Parameter	Concentration
RO Permeate after primary treatment 30 KLD	Manufacturing Process	13 KLD	pH	7.2
	Cooling Tower	2 KLD	TDS(mg/L)	600
	Washing	5 KLD	COD(mg/L)	450
			BOD(mg/L)	72
			O & G(mg/L)	00
			TSS(mg/L)	12

RO Rejected

Source of waste water for Spray Drying in Premises with quantity inKLD	Remarks regarding feasibility to reuse i.e. w/w characteristics (COD, BOD, TDS etc.)	
	Parameter	Concentration
RO Rejected after primary treatment 12 KLD	pH	7.0
	TDS(mg/L)	31500
	COD(mg/L)	5875
	BOD(mg/L)	600
	O & G(mg/L)	00
	TSS(mg/L)	24

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.



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



v Mode of Disposal & Final meeting point **(Existing and Proposed)**

Domestic:

Soak pit

Industrial:

20 KLD R.O. permeates will be Recycled. 1 KLD R.O. permeates will be discharged to CETP, NEPL. 12 KLD R.O. rejected will be spray dried in premises.

vi In case of Common facility (CF) like CETP, Common Spray dryer, Common MEE, CHWIF etc.

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

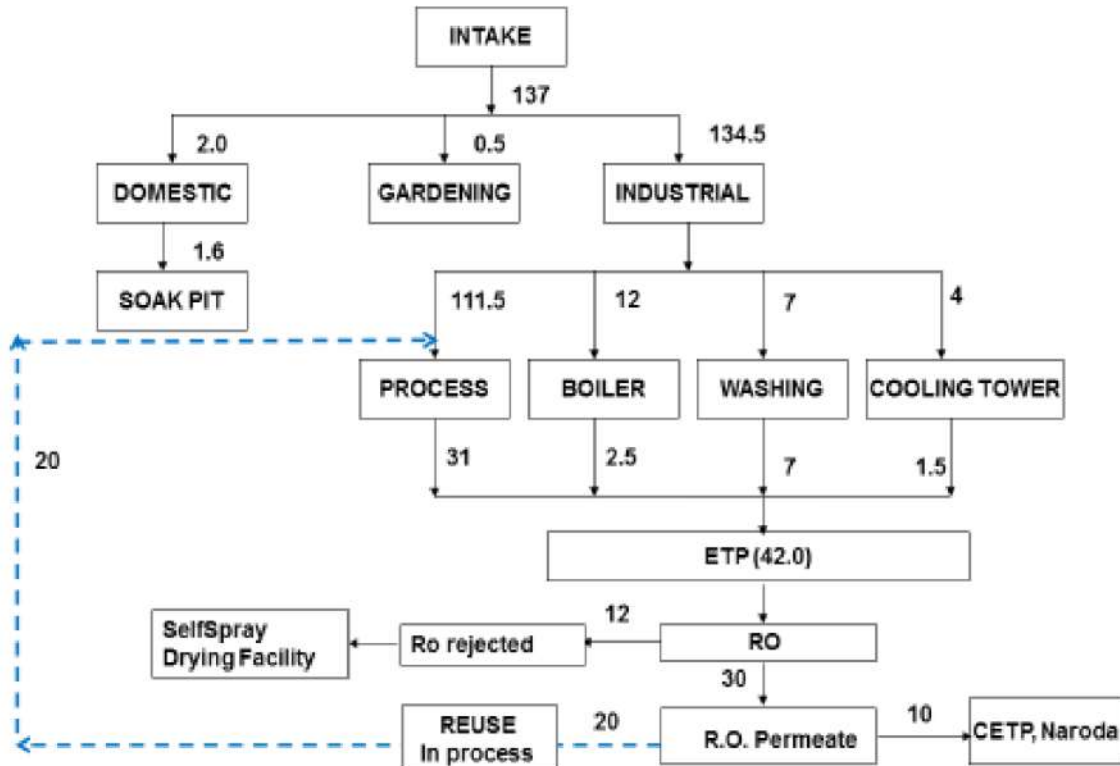
CETP- NEPL

Membership of Common facility (CF)

(For waste water treatment)

Membership certificate of CETP, NEPL is Enclosed in EIA report.

vii **Simplified water balance diagram with reuse / recycle of waste water (Existing and Proposed)**



Note: All figures are in KLD

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

Total reuse 20 KLD

Source of waste water for reuse with quantity in KLD	Application area with quantity in KLD	Remarks regarding feasibility to reuse i.e. w/w characteristics (COD, BOD, TDS etc.)
RO Permeate after	Manufacturin 13	Parameter Concentration

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				TSS (mg/L)	12																													
E	Air																																	
i	<p>Brief Note on fuel based heat energy requirement and worst case scenario thereof:</p> <p>➤The fuel is mainly used for generating hot air for spray drying process and process. Total 800 MT/Month steam generation is required. i.e. 32 MT/day. Total capacity considering the 20 hrs. operating hrs for steam generation is 40 MT/day which is satisfied the demand.</p>																																	
	Flue gas emission details																																	
	No. of Boilers/TFH/Furnaces/DG sets etc. with capacities viz. TPH, Kcal/hr, MT/hr, KVA etc.																																	
	Existing & Proposed																																	
	-																																	
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ii	Process gas i.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 emission	Stack/Vent Height (meter)	Air Pollution Control Measures (APCM)
1	Spray Dryer (900 Lit / hr.)	Particulate Matter	15	Two stage water scrubber + Dipping tank + Enclosure room
	Spray Dryer (600 Lit / hr.)	Particulate Matter	15	Two stage water scrubber + Dipping tank + Enclosure room
2	Reaction Vessel(Nos-12)	Particulate Matter	11	Two stage water scrubber + Dipping tank + Enclosure room

Note:

Details of gaseous raw materials used in proposed project

Estimation of process gas emission (Product wise and Total)

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

There is only PM is generated as process emission. Two stage water scrubber + Dipping tank + Enclosure room are proposed to the APCM

above and its sound management in HW matrix.

iii **Fugitive emission** details with its mitigation measures.

➤ Proposed project is of manufacturing of S. O. Dyes & Intermediates. Followings measures will take for existing & proposed project.

- 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
- 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.



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

Existing & Proposed

i

Sr. No.	Waste	Category as HWM Rules 2016	Source	Quantity (MT/Annum)			Management Facility
				Existing	Proposed	After Proposed	
1.	ETP Sludge	35.3	ETP	2.25	52.75	55	Collection / Storage / Transportation / sent to TSDF site for secured land filling
2.	Dust from Air floatation System	26.2	Spray drying of waste water	0.002	0.038	0.040	Collection / Storage / Reusing for blending and mixing of SO dyes
3	Process	26.1	Filtration of Coupler Dyes materials	4.2	45.8	50	Collection / Storage / Transportation / sent to TSDF site for secured land filling
4.	Spent Oil	5.1	Machinery	0.000049	0.009951	0.010	Collection, storage, Reuse within premises or sold to authorized recycler.
5.	Discarded Container	33.3	Raw Materials Handling	18	42	60	Collection, storage, Reuse within premises or sold to actual user.

-

ii	Membership details of TSDf, CHWIF etc. (For HW management)	Membership certificates are enclosed in EIA report Annexure 13
iii	Details of Non-Hazardous waste & its disposal(MSW and others)	Fly Ash will be sold to the bricks manufacturer. Paper and Plastic will be sold to the authorized recycler.
G	Solvent management , VOC emissions etc.	
i	Types of solvents, Details of Solvent recovery, % recovery, reuse of recovered Solvents etc. (Details in Table Format)	
	➤No use of solvent	
ii	<p>Brief Note on LDAR proposed:</p> <p>➤To prevent losses of these solvents in atmosphere, following infrastructure shall be used in addition to LDAR program</p> <ul style="list-style-type: none"> • 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 <ul style="list-style-type: none"> • Flanges will be sealed so less loss will be there. 	
iii	VOC emission sources and its mitigation measures	
	<p>➤• Periodic monitoring of work area will be carried out to check the fugitive emission.</p> <ul style="list-style-type: none"> •There is no use of solvent. 	
H	SAFETY details	

Details regarding storage of Hazardous chemicals (For tank storages only)		
Storage details	Name of major Hazardous chemicals	Remarks
Storage tanks (If any)	All raw materials will be stored in carboys and drums.	Safety Precaution will be done as per the norms.
Safety details of Hazardous chemicals (To be stored in storage tanks) Applicability of PESO : Not Applicable		
ii	Process safety details : (If applicable) 1. Hydrogenationprocess 2. Nitrationprocess 3. Chlorinationprocess 4. ExothermicReaction Proposed manufacturing process is not involved above process.	

- Committee noted that technical expert of PP presented that as the existing unit have no peripheral road but having internal road for movement of tempo for raw materials and finished goods transportation. Also at present there is 3.5 %of greenbelt in premises i.e still showing 50 sq. meter within premises and for additional green belt, unit had approach to the Muthiya village. Looking to layout plan and PP argued that peripheral road of adequate size constraint in plant area, Committee insisted for submission of proposal of greenbelt within premises as per CPCB guidelines in maximum extent and area adequacy of proposed expansion project with existing and proposed plant machinery inventory, raw material and finished goods storage for existing and proposed plant with its type of hazard and compatibility chart.
- Looking to Muthiya village letter regarding greenbelt development not showing longitude and latitude of proposed greenbelt area allocated to PP and number of trees to be planted, Committee insisted for GIDC authority letter regarding greenbelt development area allocated to PP with mentioning longitude and latitude of proposed greenbelt area allocated to PP, number of trees to be planted and maintenance of green belt development assurance in it.
- Upon asking regarding existing plant EC certified compliance report (CCR) status, PP informed that existing plant is demerged and EC order is in name of M/s.Asiatic Colour Chem Industries Ltd. Also they have obtained CCA of GPCB for existing plant after demerging of unit in name of M/s. Asiatic industries. Hence Committee insisted for submission of chronology of unit previously in name of M/s. Asiatic Colour

Chem Industries Ltd and after demerger of unit, along with mentioning details of production, total area bifurcation, water, air, Hazardous waste details of M/s. Asiatic Colour Chem Industries Ltd and M/s. Asiatic industries for existing and proposed project in tabular form.

- Committee noted the following:
 - ✓ Product profile with specific End-use of product.
 - ✓ Total effluent will be treated in ETP and RO plant. Then as per existing plant CCA, 10 KLD ,treated effluent will be sent to CETP of Naroda for further treatment and disposal while 20 KLD RO permeate shall be reused back in process and 13.60 KLD RO reject will be evaporated in in-house spray dryer
 - ✓ Membership of CETP certificate in name of old unit.
 - ✓ Natural gas is proposed as fuel in boiler. Two stage scrubbing system is proposed for control of process gas emission.
 - ✓ Scrubbing liquor will be reused or treated in ETP.
 - ✓ 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), 22 Nos of fire extinguishers (Cap: 9 Litres) and 3 Nos of foam trolley.
- 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.
- Looking to EMP showing 12000/- RS for fire and safety capital cost and 20,000 Rs. for recurring cost of it, Committee disagree with it and asked clarification regarding mentioning wrong information of fire and safety cost, considering existing plant and proposed plant fire water pipeline network and fire water tank, fire pump and fire extinguisher cost, safety related cost and asked for submission of revised EMP with mentioning adequate cost of each section in EMP.
- Committee asked the following details upon which PP could not reply satisfactorily:
 - ✓ GIDC water supply letter in name of unit in place of previous name of unit.
 - ✓ Compliance of CPCB Direction under section 18(1) (B) to CETP for proposed expansion project of unit with quality and quantity wise for existing as well as proposed expansion plant.
 - ✓ Revalidated CETP permission letter in name of unit in place of previous name of unit.
- **After detailed discussion, Committee unanimously decided to consider the proposal in one of the upcoming SEAC meeting only after satisfactory submission of the following:**
 1. Revised proposal of greenbelt within premises as per CPCB guidelines in maximum extent and area adequacy of proposed expansion project with existing and proposed plant machinery inventory, raw material and finished goods storage for existing and proposed plant with its type of hazard and compatibility chart along with revised layout plan with mentioning it.

2. GIDC authority letter regarding greenbelt development area allocated to PP with mentioning longitude and latitude of proposed greenbelt area allocated to PP, number of trees to be planted and maintenance of green belt development assurance in it.
 3. Submission of chronology of unit previously in name of M/s. Asiatic Colour Chem Industries Ltd and after demerger of unit, along with mentioning details of production, total area bifurcation, water, air, Hazardous waste details of M/s. Asiatic Colour Chem Industries Ltd and M/s. Asiatic industries for existing and proposed project in tabular form.
 4. Revalidated Membership certificate of CETP in name of proposed unit with mentioning various capacities as per GPCB circular dated: 08.01.2020.
 5. GIDC water supply letter in name of unit in place of previous name of unit.
 6. Compliance of CPCB Direction under section 18(1) (B) to CETP for proposed expansion project of unit with quality and quantity wise for existing as well as proposed expansion plant.
 7. Clarification regarding mentioning wrong information of fire and safety cost, considering existing plant and proposed plant fire water pipeline network and fire water tank, fire pump and fire extinguisher cost, safety related cost and asked for submission of revised EMP with mentioning adequate cost of each section in EMP.
- PP submitted above query reply online in Parivesh portal for above point.
 - Again this case was reconsidered in SEAC VC meeting dated **16.02.2022**. During meeting technical expert of PP, M/s. B.S.Rana and PP remains present and made presentation for above project.
 - Committee noted that technical expert of PP submitted simple deed between land owner and project proponent regarding green belt development in private land owner land in place of asked for submission of proposal of greenbelt within premises as per CPCB guidelines in maximum extent. Hence Committee insisted for submission of greenbelt within premises with maximum extent and additional greenbelt with in GIDC in place of private land owner land and greenbelt development assurance letter from competent authority.
 - Looking to layout plan for proposed expansion project seems vague, Committee insisted for revised layout plan with mentioning proposed expansion project establishment in existing layout plan and infrastructure with mentioning time bound action plan regarding installation of proposed expansion project infrastructure in existing infrastructure in notarized undertaking form.
 - Technical expert of PP presented chronology of proposed project, CETP membership certificate , area adequacy, compliance of CPCB direction under section 18(1)(B) to CETP for proposed expansion project, GIDC water supply letter etc. Looking to presentation made by technical expert of PP which seems vague and not appropriate as asked by committee members on dated 25.10.2021, Committee insisted for submission of appropriate details as asked by Committee members.

After detailed discussion, Committee unanimously decided to consider the proposal in one of the upcoming SEAC meeting only after satisfactory submission of the appropriate document and

information as follows.

1. Submission of greenbelt within premises with maximum extent and additional greenbelt with in GIDC in place of private land owner land and greenbelt development assurance letter from competent authority.
2. Submission of notarized undertaking with mentioning chronology of unit previously in name of M/s. Asiatic Colour Chem Industries Ltd and after demerger of unit, along with mentioning details of production, total area bifurcation, water, air, Hazardous waste details of M/s. Asiatic Colour Chem Industries Ltd and M/s. Asiatic industries for existing and proposed project in tabular form along with starting date of plant located at proposed project site to at present situation of plant regarding EC, CTE and CCA for unit located at proposed project site.
3. Revised layout plan with mentioning proposed expansion project establishment in existing layout plan and infrastructure with mentioning time bound action plan regarding installation of proposed expansion project infrastructure in existing infrastructure in notarized undertaking form
4. Revalidated Membership certificate of CETP in name of proposed unit with mentioning various capacities as per GPCB circular dated: 08.01.2020 for proposed project in place of year 2017.
5. Submission of area adequacy in place of simply land breakup for existing as well as proposed expansion plant machinery, raw material and finished good storage considering its type of hazard.
6. Explanatory note regarding adoption of auto control system for proposed project, fire hydrant network and fire extinguisher details and revised EMP considering its cost.

13.	SIA/GJ/IND2/53952/2008	M/s. Asiatic Colour Chem Industries Ltd. Plot No. 1503-04, 306A, Phase-I, GIDC, Naroda, Ahmedabad	EC-Reconsideration
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Category of the unit: **5(f)**

Project status: **Expansion**

- Project proponent (PP) has submitted online application vide no. SIA/GJ/IND2/51105/2019 dated 07.07.2020 for obtaining Environmental Clearance.
- SEIAA issued TOR to PP vide letter dated 29/11/2019.
- Project proponent has submitted EIA Report prepared by M/s. B S Rana based on the TOR issued by SEIAA.
- This is an existing unit and now proposes for expansion as below.

Sr. No.	Product	CAS No.	Quantity MT/Month			End use of product
			Existing	Propose d	After Propose d	
Acid Dyes						

1	Acid Black 210	99576-15-5	375	500	875	Textile & Leather Industries
2	Acid Black 234	157577-99-6				
3	Acid Black 194	61931-02-0				
4	Acid Black 173	61967-86-0				
5	Acid Black 107	12218-96-1				
6	Acid Black 84	6408-22-6				
7	Acid Black 71	127830-14-2				
8	Acid Black 52	5610-64-0				
9	Acid Black 1	1820-82-5				
10	Acid Green 111	58419-36-6				
11	Acid Green 104	61814-51-5				
12	Acid Green 73	12219-93-1				
13	Acid Green 68	61901-32-4				
14	Acid Green 20	5850-39-5				
15	Acid Green 1	19381-50-1				
16	Acid Violet 91	13221-09-5				
17	Acid Blue 119	1324-80-7				
18	Acid Blue 92	3861-73-2				
19	Acid Brown 425	119509-49-8				
20	Acid Brown 432	119509-50-1				
21	Acid Brown 452	---				
22	Acid Brown 440	93376-15-9				
23	Acid Brown 431	---				
24	Acid Brown 417	---				
25	Acid Brown 414	172287-09-7				
26	Acid Brown 357	61814-63-9				
27	Acid Brown 355	60181-77-3				
28	Acid Brown 354	71799-43-4				
29	Acid Brown 349	72827-73-7				
30	Acid Brown 348	72827-72-6				
31	Acid Brown 322	61931-11-1				
32	Acid Brown 289	12219-72-6				
33	Acid Brown 282	12219-65-7				
34	Acid Brown 235	1269-90-8				
35	Acid Brown 214	37372-87-5				
36	Acid Brown 194	61931-08-6				
37	Acid Brown 188	12219-57-7				
38	Acid Brown 161	61724-13-8				
39	Acid Brown 147	12211-50-6				
40	Acid Brown 106	61724-11-6				
41	Acid Brown 105	8003-78-9				
42	Acid Brown 98	12269-88-4				
43	Acid Brown 85	77031-30-2				
44	Acid Brown 83	13011-68-2				
45	Acid Brown 78	---				
46	Acid Brown 75	8011-86-7				

47	Acid Brown 70	---				
48	Acid Brown 58	12269-87-3				
49	Acid Brown 14	5850-16-8				
50	Acid Brown 1	6373-76-8				
51	Acid Red 414	172287-09-7				
52	Acid Red 362	61814-58-2				
53	Acid Red 357	61951-36-8				
54	Acid Red 315	12220-47-2				
55	Acid Red 186	52677-44-8				
56	Acid Red 151	6406-56-0				
57	Acid Red 119	70210-06-9				
58	Acid Red 97	10169-02-5				
59	Acid Red 88	1658-56-6				
60	Acid Red 44	2766-77-0				
61	Acid Red 18	2611-82-7				
62	Acid Orange 144	61814-64-0				
63	Acid Orange 142	61901-39-1				
64	Acid Orange 61	6408-33-9				
65	Acid Orange 60	30112-70-0				
66	Acid Orange 56	6470-20-8				
67	Acid Orange 8	5850-86-2				
68	Acid Orange 7	633-96-5				
69	Acid Orange 3	6373-74-6				
70	Acid Yellow 220	71603-79-7				
71	Acid Yellow 204	61814-53-7				
72	Acid Yellow 194	61814-52-6				
73	Acid Yellow 166	12220-86-9				
74	Acid Yellow 151	12715-61-6				
75	Acid Yellow 96	61901-50-6				
76	Acid Yellow 99	10343-58-5				
77	Acid Yellow 59	5601-29-6				
78	Acid Yellow 49	12239-15-5				
79	Acid Yellow 23	1934-21-0				
80	Acid Yellow 17	6359-98-4				
Reactive Dyes						
1	Reactive Black 5	12225-25-1				
2	Reactive Black WNN	-----				
3	Reactive Black TNN	---				
4	Reactive Blue 250	93951-21-4				
5	Reactive Blue 171	77907-32-5				
6	Reactive Yellow 145	93050-80-7				
7	Reactive Yellow 160	129898-77-7				
8	Reactive Orange 122	79809-27-1				
Direct Dyes						
1	Direct Black 19	6428-31-5				
2	Direct Black 80	8003-69-8				

3	Direct Black 22	6473-13-8 1				
4	Direct Blue 80	12222-00-3				
5	Direct Blue 71	4399-55-7				
6	Direct Red 239	89157-03-9				
		Blending of S O Dyes	275	-	275	Textile Industries
TOTAL			S.O. Dyes 375 MT/M & Blending of S O Dyes 275 MT/ M	S. O. Dyes 500 MT/ Month	S. O. Dyes 875 MT/M & Blending of S O Dyes 275 MT/M	

- 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 30.09.2020.
- Salient features of the project including Water, Air and Hazardous waste management are submitted.
- During the SEAC Video conference meeting dated 30.09.2020, Project Proponent (PP) and their technical expert and EIA consultant from Green Circle Inc 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-19 to May-2019. Ambient Air Quality monitoring was carried out for PM₁₀, PM_{2.5}, SO₂, NO_x, NH₃, Pb, O₃, C₆H₆, As, Ni, Benzene, CO and VOCs at Eight locations, including the project site. Values conform to the prescribed standards for Ambient Air Quality. 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.
- This is a Greenfield project proposed for manufacturing of synthetic organic chemicals at Saykha GIDC. Total plot area is 5000 Sq. m. Product profile with its end-use is discussed in depth.
- Committee deliberated on water balance, air matrix process gas emission, hazardous waste matrix, greenbelt development, Site Plan/ layout, fire evacuation plan, fire load calculation, storage & loading/unloading of hazardous chemicals & its safety measures, baseline data and compliance of ToR.

- Upon asking regarding risk assessment contours mentioning the details of population affected in case of accident and details of automatic control system, PP could not reply satisfactorily.
- **After deliberation, SEAC unanimously decided to defer the proposal and consider the same in one of the upcoming meeting of SEAC after submission of following details:**
 1. Submit the details of automatic control system for critical processes.
 2. Submit the revised EMP including the cost of automatic control system & OHC in Occupational Health & Safety components.
 3. Submit the consolidated risk assessment of hazardous chemicals with risk contours and details of population to be affected in case of accident considering the worst case scenario.
- PP submitted the reply of the said points along with other supporting documents vide email dated: 11.01.2021.
- This proposal is reconsidered in SEAC meeting dated **01.02.2021**. PP along with their technical expert/consultant from M/s B S Rana remains present in the meeting and made presentation before committee.
- PP presented revised salient features of the project including Water, Air and Hazardous waste management are submitted.
- During the SEAC Video conference meeting dated 01.02.2021, Project Proponent (PP) and their technical expert and EIA consultant from M/s B S Rana 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.
- This is an existing unit involved in manufacturing of synthetic organic chemicals (various dyes) and blending of SO dyes and proposed for expansion of synthetic organic chemicals (various dyes) at GIDC-Naroda. Total plot area is 6478.28 Sq. m. Product profile with its end-use is discussed in depth.
- 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 November-18 to January-19. Ambient Air Quality monitoring was carried out for PM₁₀, PM_{2.5}, SO₂, NO_x, VOCs and HC 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 Cloud 18".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.

- Committee noted that unit has applied for expansion of synthetic organic chemicals (various dyes) and addition of Plot No: 306/A, GIDC Naroda but the connectivity between the existing plots and proposed plots is not clearly specified as between existing and proposed plots their sister concern unit is under operation.
- Committee deliberated on Site Plan/ layout, Product profile, water balance & waste water management, Flue gas and process gas emission & Air Pollution Control System, Hazardous waste matrix, EMP, CER, Green belt, TOR compliances etc.
- Committee noted the following:
 - Industrial wastewater will be treated in Primary treatment followed by RO. RO permeate will be reused within premises and RO reject will be sent to Common spray dryer- NEPL.
 - Domestic wastewater will be disposed through septic tank/ soak pit.
 - Coal or PNG is proposed as fuel for Boiler & HAG.
 - Cyclone followed by two stage scrubbing system is proposed for process emission control with spray dryer.
 - Exhausted scrubbing media will be treated in ETP.
 - 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.
 - Committee asked (1) Notarized undertaking regarding no production of products which attracts permission of Narcotics Control Bureau, (2) Detailed Site Plan/ layout of existing & proposed plots and sister concern units clearly mentioning connectivity between the plots, (3) Ownership of existing, proposed and sister concern plots, (4) Agreement of the land to be used by the unit of the adjacent plot (sister concern unit), (5) Copy of EC of sister Concern unit M/s Asiatic Industries, (6) water balance mentioning treatment of domestic effluent, (7) Membership of common spray dryer mentioning the booked capacity, consented capacity, allotted capacity and spare capacity, (8) Copy of Fire NOC of existing unit.
- **After deliberation, SEAC unanimously decided to consider the proposal in one of the upcoming meeting of SEAC after submission of following details:**
 1. Notarized undertaking regarding no production of products which attracts permission of Narcotics Control Bureau,
 2. Detailed Site Plan/ layout of existing & proposed plots and sister concern units clearly mentioning connectivity between the unit, proposed plot & sister concern unit plot.
 3. Ownership documents of existing, proposed and sister concern plots.
 4. Agreement of the land to be used by the unit of the adjacent plot (sister concern unit).
 5. Copy of Environment Clearance of sister Concern unit M/s Asiatic Industries.

6. Revised water balance mentioning treatment of domestic effluent.
 7. Revised Membership of common spray dryer mentioning the booked capacity, consented capacity, allotted capacity and spare capacity
 8. Copy of Fire NOC of existing unit.
- PP submitted the reply of the said points along with supporting documents.
 - **This project was considered in meeting dated: 12.04.2021.**
 - Project Proponent (PP) submitted the project details and presentation vide email dated: 10.04.2021 to remain present during the meeting. During meeting dated: 12.04.2021, their technical expert informed that due to unavoidable circumstances, PP will remain absent.
 - PP submitted their reply for the query raised by SEAC during SEAC meeting dated 12.04.2021 through email.
 - The proposal was reconsidered in the SEAC video conference meeting dated **17.06.2021**.
 - Project proponent (PP) and their Technical Expert from M/s. B.S.Rana remains present during video conference meeting.
 - Committee noted that technical expert of PP submitted undertaking regarding no products manufactured which attracts Narcotics department permission. Looking to Site Plan/ layout of existing & proposed plots and sister concern units clearly mentioning connectivity between the unit, proposed plot & sister concern unit plot, PP has not submitted engineering dimensional layout plan with proper mentioning about connectivity between this unit and its sister concern unit. Also layout plan for expansion project which is showing only 50 sq. meter area for green belt within premises and not submitted GIDC authority letter regarding greenbelt area outside premises. Also PP has not submitted Membership of common spray dryer mentioning the booked capacity, consented capacity, allotted capacity and spare capacity.
 - **Looking to inadequate information and not submitting documents like membership certificate for effluent disposal by technical expert of PP, Committee felt that even though many times informed technical expert of PP regarding adequate presentation and document submission, technical expert of PP comes in meeting without preparation for proposed project**
 - **Hence After detailed discussion, Committee unanimously decided once again to defer the project and consider the project in one of upcoming meeting after submission of following documents:**
 1. Detailed Site Plan/ layout of existing & proposed plots and sister concern units clearly mentioning connectivity between the unit, proposed plot & sister concern unit plot.
 2. Ownership documents of existing, proposed and sister concern plots.
 3. Agreement of the land to be used by the unit of the adjacent plot (sister concern unit).
 4. Copy of Environment Clearance of sister Concern unit M/s Asiatic Industries.
 5. Revised water balance mentioning treatment of domestic effluent.
 6. Revised Membership of common spray dryer mentioning the booked capacity, consented

capacity, allotted capacity and spare capacity

7. Copy of Fire NOC of existing unit.
8. GIDC letter regarding greenbelt development area allocated to PP with mentioning longitude and latitude of proposed greenbelt area allocated to PP, number of trees to be planted and maintenance of green belt development assurance in it.

- PP submitted above query reply online in Parivesh portal for above point.
- Again this case was reconsidered in SEAC VC meeting dated **25.10.2021**. During meeting technical expert of PP, M/s. B.S.Rana and PP remains present and made presentation for above project.
- Committee noted that PP presented detailed Site Plan/ layout of existing & proposed plots and sister concern units clearly mentioning connectivity between the unit, proposed plot & sister concern unit plot. Looking to layout plan showing greenbelt within premises only 0.8 % i.e.50 sq. meter within premises even though plot size of unit is 6478 sq. meter, Committee insisted for revised proposal of greenbelt within premises as per CPCB guidelines in maximum extent and area adequacy of proposed expansion project with existing and proposed plant machinery inventory, raw material and finished goods storage for existing and proposed plant with its type of hazard and compatibility chart along with revised layout plan with mentioning it.
- Looking to GIDC letter regarding greenbelt development not showing longitude and latitude of proposed greenbelt area allocated to PP and number of trees to be planted, Committee insisted for GIDC authority letter regarding greenbelt development area allocated to PP with mentioning longitude and latitude of proposed greenbelt area allocated to PP, number of trees to be planted and maintenance of green belt development assurance in it.
- Upon asking regarding existing plant EC certified compliance report (CCR) status, PP informed that existing plant is demerged and EC order is in name of M/s.Asiatic Colour Chem Industries Ltd. Looking to existing plant EC certified compliance report (CCR) obtained from MoEF & CC, RO, Bhopal showing some of conditions are partly complied and being complied, Committee insisted for submission of time bound action plan for compliance of conditions which are partly complied and being compiled by the unit. Also they have obtained CCA of GPCB for existing plant after demerging of unit. Hence Committee insisted for submission of chronology of unit previously in name of M/s. Asiatic Colour Chem Industries Ltd and after demerger of unit, along with mentioning details of production, total area bifurcation, water, air, Hazardous waste details of M/s. Asiatic Colour Chem Industries Ltd and M/s. Asiatic industries for existing and proposed project, in tabular form.
- Committee noted the following:
 - ✓ Ownership documents of existing, proposed and sister concern plots.
 - ✓ Agreement of the land to be used by the unit of the adjacent plot (sister concern unit).
 - ✓ Regarding asking for EC order of sister concern unit namely M/s/ Asiatic industries, PP said that at the time of earlier EC both companies are merged. And hence the EC was issued on merged unit.

The demerge of CC&A granted by GPCB. And hence M/s Asiatic Industries has no Environmental Clearance.

- ✓ Applied for Fire NOC of existing unit.
- ✓ Product profile with specific End-use of product.
- ✓ Stream wise segregation of effluent will be carried out.
- ✓ Concentrated stream from process will be treated in Solvent Stripper and further treated with dilute stream.
- ✓ Total effluent will be treated in ETP and RO plant. Then as per existing plant CCA, treated effluent will be sent to CETP of Naroda for further treatment and disposal while RO permeate shall be reused back in process and KLD RO reject will be evaporated in in-house spray dryer and also sending to spray dryer.
- ✓ Membership of CETP and common spray dryer.
- ✓ Coal and Natural gas is proposed as fuel in boiler. Two stage scrubbing system is proposed for control of process gas emission.
- ✓ Scrubbing liquor will be reused or treated in ETP.
- ✓ 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: 200 KL), 32 Nos of foam type extinguishers (Cap: 9 Litres) and 2 Nos of foam trolley (Cap: 50 Litres).
- 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 asked the following details upon which PP could not reply satisfactorily:
 - ✓ Compliance of CPCB Direction under section 18(1) (B) to CETP for proposed expansion project of unit with quality and quantity wise for existing as well as proposed expansion plant.
 - ✓ Revised EMP with mentioning adequate cost of each section in it along with existing and proposed fire hydrant network and safety cost.
- **After detailed discussion, Committee unanimously decided to consider the proposal in one of the upcoming SEAC meeting only after satisfactory submission of the following:**
 1. Revised proposal of greenbelt within premises as per CPCB guidelines in maximum extent and area adequacy of proposed expansion project with existing and proposed plant machinery inventory, raw material and finished goods storage for existing and proposed plant with its type of hazard and compatibility chart along with revised layout plan with mentioning it.
 2. GIDC authority letter regarding greenbelt development area allocated to PP with mentioning longitude and latitude of proposed greenbelt area allocated to PP, number of trees to be planted and

maintenance of green belt development assurance in it.

3. Submission of chronology of unit previously in name of M/s. Asiatic Colour Chem Industries Ltd and after demerger of unit, along with mentioning details of production, total area bifurcation, water, air, Hazardous waste details of M/s. Asiatic Colour Chem Industries Ltd and M/s. Asiatic industries for existing and proposed project, in tabular form.
 4. Revised EMP with mentioning adequate cost of each section in it along with existing and proposed fire hydrant network and safety cost.
 5. Time bound action plan for compliance of conditions which are partly complied and being compiled by the unit as mentioned in existing plant EC certified compliance report (CCR) obtained from MoEF & CC, RO, Bhopal.
 6. Compliance of CPCB Direction under section 18(1) (B) to CETP for proposed expansion project of unit with quality and quantity wise for existing as well as proposed expansion plant and revised water balance diagram.
- PP submitted above query reply online in Parivesh portal for above point.
 - Again this case was reconsidered in SEAC VC meeting dated **16.02.2022**. During meeting technical expert of PP, M/s. B.S.Rana and PP remains present and made presentation for above project.
 - Committee noted that technical expert of PP submitted proposal of total 33 % greenbelt out side premises and no greenbelt within premises will be developed. Hence Committee insisted for revised proposal of greenbelt within premises as per CPCB guidelines in maximum extent and area adequacy of proposed expansion project with existing and proposed plant machinery inventory, raw material and finished goods storage for existing and proposed plant with its type of hazard and compatibility chart along with revised layout plan with mentioning it.
 - Technical expert of PP presented chronology of proposed project, area adequacy, compliance of CPCB direction under section 18(1)(B) to CETP for proposed expansion project, Time bound action plan for compliance of conditions which are partly complied and being compiled by the unit as mentioned in existing plant EC certified compliance report (CCR) obtained from MoEF & CC, RO, Bhopal. Looking to presentation made by technical expert of PP which seems vague and not appropriate as asked by committee members on dated 25.10.2021, Committee insisted for submission of appropriate details as asked by Committee members.

After detailed discussion, Committee unanimously decided to consider the proposal in one of the upcoming SEAC meeting only after satisfactory submission of the appropriate document and information as follows,

1. Revised proposal of greenbelt within premises as per CPCB guidelines in maximum extent in place of proposal of total 33% greenbelt outside premises and area adequacy of proposed expansion project with existing and proposed plant machinery inventory, raw material and

finished goods storage for existing and proposed plant with its type of hazard and compatibility chart along with revised layout plan with mentioning it.

2. Submission of notarized undertaking with mentioning chronology of unit previously in name of M/s. Asiatic Colour Chem Industries Ltd and after demerger of unit, along with mentioning details of production, total area bifurcation, water, air, Hazardous waste details of M/s. Asiatic Colour Chem Industries Ltd and M/s. Asiatic industries for existing and proposed project in tabular form along with starting date of plant located at proposed project site to at present situation of plant regarding EC, CTE and CCA for unit located at proposed project site.
3. Revised layout plan with mentioning proposed expansion project establishment in existing layout plan and infrastructure with mentioning time bound action plan regarding installation of proposed expansion project infrastructure in existing infrastructure in notarized undertaking form
4. Explanatory note regarding adoption of auto control system for proposed project, fire hydrant network and fire extinguisher details and revised EMP considering its cost.

14.	SIA/GJ/IND2/58036/2019	M/s. Dhimahi Industries Plot No. 273/1/1, Phase-II, GIDC Vatva, Ahmedabad-382445.	EC-Reconsideration
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Category of the unit: **5(f)**

Project status: **Expansion**

- Project proponent (PP) has submitted online application vide no. SIA/GJ/IND2/58036/2019 on dated 14.10.2021 for obtaining Environmental Clearance.
- SEIAA issued auto generated standard TOR to PP vide letter dated 09/06/2020.
- Project proponent has submitted EIA Report prepared by M/s. Excel Envirotech 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.	Quantity MT/Month			End-use of the products *
			Existing	Proposed	Total	
1	Blending and mixing of S.O. Dyes	--	20	0	20	Paints and dyes
2	Reactive Orange H2R/P2R/Orange 13	12225-85-3	0	20	20	
3	Reactive Red 195	93050-79-4				
4	Reactive Red 245	340977-00-6				
5	Reactive Black 39	68259-02-9				
6	Reactive Brown 11	12225-68-2				
7	Direct Red 254	101380-00-1				
8	Direct Black 168	85631-88-5				

9	Direct Yellow 86	50925-42-3				
10	Acid Red 18	2611-82-7				
11	Acid Yellow 23	1934-21-0				
12	Acid Yellow 79	12220-70-1				
13	Acid Black 194	61931-02-0				
14	Basic Blue 140	61724-62-7				
	Total		20	20	40	

- 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 06.12.2021.
- PP submitted salient features of water, air and Hazardous waste management are submitted.
- During the SEAC Video conference meeting dated 06.12.2021, Project Proponent (PP) and their technical expert and EIA consultant from M/s. Excel Envirotech 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 2019 to December 2019. Ambient Air Quality monitoring was carried out for PM₁₀, PM_{2.5}, SO₂, NO_x 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.
- 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.
- Committee noted the following:
- This is an expansion project proposed for manufacturing of synthetic organic chemicals at GIDC Vatva. Unit is having Valid CCA of the Board for existing plant. Product profile with its end-use is discussed in depth. Committee noted that PP has addressed there is no legal court case and public complaint and

legal action taken against unit by GPCB in last three years.

- Committee noted that PP has addressed area adequacy with layout plan for proposed project site. Upon asking regarding area adequacy for proposed expansion of production plant, PP informed that they will totally greenbelt outside premises which is not acceptable by Committee members. Committee insisted for submission of revised layout plan with mentioning colour coding for existing and proposed plant infrastructure , adequate size peripheral road, fire hydrant network with water sprinkler, maximum extent for Greenbelt within premises as per CPCB guidelines, Hazardous chemical storage area considering its hazard properties and revised area adequacy with land break up for proposed expansion project considering existing and proposed products plant inventory and raw material as well as finished good storage area.
- Water supply will be through GIDC water Supply.
- Domestic effluent is disposed off through soak pit via septic tank and after proposed expansion sent to STP and treated water shall be used for greenbelt development.
- Generated industrial effluent will be treated in ETP and then treated effluent will be partly evaporated in in-house spray dryer and partly sent to common spray dryer of GSECL, Vatva.
- Natural gas is proposed as fuel in boiler and HAG.
- There is no process emission from existing manufacturing processes and two stage scrubber proposed as APCM for proposed spray dryer. Committee insisted for revised APCM for spray dryer in addition to proposal of water scrubber as per prevailing standards for spray dryer.
- EMP and CER fund allocation was discussed.
- Hazardous waste matrix reviewed along with disposal management of each Hazardous waste.
- Committee deliberated on Process safety, Fire safety, LDAR and solvent recovery, Green belt, Risk assessment, baseline data etc. Looking to GIDC letter regarding greenbelt at common plot of GIDC and fire water tank of only 10 KL, Committee insisted for submission of revised Greenbelt letter from GIDC authority with mentioning area and its longitude and latitude, number of trees to be planted with assurance regarding greenbelt development and its maintenance by whom and fire water tank of minimum 100 KL.
- **After detailed discussion, Committee unanimously decided to consider the project in one of upcoming meeting after submission of following documents:**
- Revised layout plan with mentioning colour coding for existing and proposed plant infrastructure, adequate size peripheral road, fire hydrant network with water sprinkler, maximum extent for Greenbelt within premises as per CPCB guidelines, Hazardous chemical storage area considering its hazard properties and revised area adequacy with land break up for proposed expansion project considering existing and proposed products plant inventory and raw material as well as finished good storage area.
- Revised APCM for spray dryer in addition to proposal of water scrubber, as per prevailing standards for spray dryer.

4	Fire & Safety	Fire Extinguishres, Fire hydrant system and Fire alarm	0.18	0.004	0.003	0.007
5	AWH Monitoring	Out Source Monitoring	0	0.005	0	0.005
6	Green Belt Development	Green belt development in Common area of GIDC	0.015	0.002	0.002	0.004
7	Occupational Health	First aid kits and seating facilities	0.005	0.001	0.001	0.002
8	Plant Automation	PLC system in Reactor vessel	0.055	0.002	0.001	0.003
9	CER Funds	As per List	0.02	0.003	0.003	0.006
Total			0.565	0.23	0.112	0.342

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:

S/N	Type of activity	Budgetary cost (Lakh)	Location	Time Period
1	Plantation and provision of tree guard in Lambha and Vatva	1.6	Lambha & Vatva	1 st and 2 nd year
2	Solar panel distribution in Vinzol Village.	1	Vinzol	3 rd , 4 th and 5 th year
Total		2.6		

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

Existing	Proposed	Total
1025 Sq. m.	0.0 Sq. m.	1025 Sq. m.

B-2**Area adequacy**

AREA LAND BREAK UP TABLE (IN SQ. M)				
SR. NO.	DESCRIPTION	G.F.	Percentage %	F.F.
1	Office	27.57	2.7	0
2	Security Cabin	6	0.6	0

3	Laboratory	0.0	0.0	40.57
4	Raw Material Storage	43.98	4.3	43.98 (PROPOSED)
5	Process Area	376.45	36.4	376.45
6	Hazardous Waste Area	34.5	3.3	0
7	Instrument Room	0	0.0	9.76
10	OHC	9.76	0.9	0
11	Utility Area (Spray Dryer, Boiler, Etc.)	28.47	2.8	0
12	Toilet Area	4.32	0.4	0
13	Road & Open Area	453.23	43.8	0
14	Greenbelt Area	50.14	4.8	0
	Total Area	1034.42	100.0	426.78

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	0.0	50.14	50.14
% of total area	0.0	4.8%	4.8%

Unit will developed 410 Sq. m. (i.e. 40% of total Plot Area) in common area of GIDC. Unit obtained letter from GIDC.

Comments:

The condition shall be given that -

The PP shall develop green belt (50Sq. m within premises and 410 sq. meter outside premises in GIDC area 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		
		15	10	25		
-						
D	WATER					
D-1	Source of Water Supply					
	➤ GIDC water connection available					
	Comments:					
	1) Prior permission from concerned authority shall be obtained for withdrawal of water.					
D-2	Water consumption (KLD)					
-						
		WATER CONSUMPTION (KLD)				
	Source	Existing KLD	Proposed KLD	Total after Expansion KLD	Remarks	
	A. Domestic	1.20	1.00	2.20	(0.9 F + 1.3 R)	
	B. Gardening	0.00	0.5	0.5	Reused treated water from STP	
	C. Industrial					
	Processing	9.00	4.5	13.5	3.2 (F) + 10.3 (R)	
	Washing	1.50	1.00	2.50	Recycled water	
	Boiler	0.80	1.00	1.80	Fresh Water	
	Cooling	0.00	3.00	3.00	Recycled water	
	Scrubbing	0.00	1.2	1.2	Recycled water	
	Industrial total	11.3	10.7	22		
	Total (A+B+C)	12.5	12.2	24.7		
-						
	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)					
-						
	Sr. No.	Source	Waste Water Generation (KL/Day)			Remark
			Existing	Proposed	Total	
	1.	Domestic	1.0	0.8	1.8	Treated in STP and treated water will be reused in Flushing & Gardening.
	2.	Gardening	-	-	-	
	3.	Industrial				

	Process	8.0	9.2	17.2	To ETP followed by RO-1 and RO-2 and Ro Reject sent to common spray drying facility developed by M/s. GESCSL, Vatva or In house Spray Dryer.
	Boiler	0.2	0.2	0.4	
	Washing	0.8	1.0	1.8	
	Cooling	0.0	0.2	0.2	
	APCM	0.0	0.5	0.5	
	Total Industrial	9.0	11.1	20.1	-
	Total (Domestic+ Industrial)	10.0	11.9	21.9	-
-					
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)				
<p>1.8 KLD Domestic Waste Water will be Treated in STP and treated water will be reused in Flushing & Gardening within premises.</p> <p>Comments:</p> <p>Domestic wastewater generation shall not exceed 1.80 KL/day for proposed project and it shall be treated in STP. It shall not be disposed off through soak pit/ septic tank.</p>					
D-5	Break-up of waste water disposal & facility (For Industrial after proposed expansion)				
-					
	Sr. no.	Quantity KLD	Facility		
	1	3.1	Sent to common spray drying facility developed by M/s. GESCSL, Vatva or In house Spray Dryer.		
	Total	3.1			
Comments:					
1. Total industrial effluent shall be treated in ETP followed by RO Plant. 17 KLD, RO Permeate shall be reused within premises and 3.1 KLD, RO Reject shall be evaporated in in-house spray dryer or shall be sent to common spray dryer of M/s. GESCSL, Vatva, through GPS fitted tanker for evaporation.					
2. Treated waste water shall be sent to common spray dryer only after complying with the inlet norms of ETL prescribed by GPCB to ensure no adverse impact on Human Health and Environment.					

E						
AIR						
E-1						
Power (Electricity) requirement: 66 KW						
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)
Flue gas emission – Existing						
1	Steam boiler (To be discontinue)	11 m	White Coal	0.5 MT/day	PM	Cyclone Separator
					SO ₂	
					NO _x	
Flue gas emission – Proposed						
1	Steam Boiler (0.8TPH)	30 m	PNG	600 SCM/day	PM	Adequate stack height
2	Hot Air Generator (6.0 Lakh Kcal/hr)				SO ₂	Adequate stack height
					NO _x	
-						
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)		
Proposed:						
1	Spray Dryer	SPM<150 mg/m ³	25 m	Cyclone Separator with Bag Filter + Water Scrubber		
-						
E-4						
Fugitive emission details with its mitigation measures.						
<ul style="list-style-type: none"> ➤ Regular sprinkling of water, pacca road shall be constructed & green belt shall be provided within premises to prevent fugitive emissions due to vehicular movement. Regular maintenance of vehicles. ➤ General control measures like routine & regular inspection to identify leakage, preventive maintenance and operational maintenance, provision of leak detection and repair system (LDAR). ➤ Management to ensure proper handling of the spillages during transfer, charging operation and provision of a Dust Collection System for collection of the air borne material wherever applicable. ➤ Preventive maintenance of flange connections and glands of pumps. ➤ Management will also ensure proper usage of the Personnel Protective Equipment by the workers. ➤ Closed handling system shall be provided for chemicals. 						

- Relux condenser to be provided over the reactor.
- The acids shall be taken from storage tanks to reactor through closed pipeline. Storage tanks shall be vented through trap receiver and condenser operated on chilled water.
- Fugitive emissions in the work zone environment, product raw material storage area shall be monitored regularly

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	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 and evaporation residue	ETP	35.3	60 MT/Year	60 MT/Year	120 MT/Year	Collection, Storage, Transportation & disposal at TSDF.
2	Discarded Container	Storage	33.1	100 Nos/Month	150 Nos /Month	250 Nos./Month	Collection, Storage, Transportation & disposal by selling to authorized recycler
3	Used Oil	Machinery	5.1	60 lit/Year	15 Lit/Year	75 Lit/year	Collection, Storage, Transportation, disposal by selling to registered refiners or reused within

								premises
4	Bleed Liquor	Scrubber	35.1	Nil	156 MT/Year	156M T/Year		Collection, Storage, Transportation & reuse in manufacturing process

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

7. Fly Ash generation will be 24 MTPA
8. STP sludge generation will be 3.24 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 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.

No, there is no solvent usage within the premises hence not applicable

G-2 LDAR proposed:

Not Applicable

G-3 VOC emission sources and its mitigation measures

Measures for achieving maximum solvent recovery and minimize VOC generation:

- Mitigation Measures:
- Identification of potential areas, where possibility of flammable mixture/VOC are possible.
- Efforts to avoid hazardous mixtures, by inert gas purging and other methods.
- Declaring hazard zones & providing flame proof electrical fittings & equipment.
- Providing Explosion Vents in spaces with possibility of air-vapour mixtures.
- Smoke detectors or heat detectors to be provided in storage or process area.
- Providing adequate fire control devices.
- Providing arrangements to avoid static sparks.
- Take care of adverse weather conditions.
- Safe access to the top of the process and storage area car.
- Adequate personal protective equipment to be provided.
- Emergency shower and eye washer to be provided.
- Ensure that sufficient space is available in the storage area.
- Necessary training of personnel.
- Avoid mixing of chemicals. Take full precautions.
- Routine thorough check-up procedures.
- Proper identification on discharge lines.

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.

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	Not Applicable			

Storage of Hazardous chemicals in Tanks

- There is no hazardous chemical store in tanks

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

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

Safety details of Hazardous Chemicals:

Type of Hazardous Chemicals	Safety measures
FLAMMABLE & EXPLOSIVE	<ul style="list-style-type: none"> ➤ Barrel Must Be Labeled ➤ Heat/Spark, Flame, Wear PPE And Self Contain Breathing Apparatus ➤ Containers and equipment used for storage and processing of corrosive material will be corrosion resistant ➤ Avoid Leakages ,Barrel Tightly Closed, Ground/Bond Barrel And Receiving Equipment ➤ Use Non Sparking Tools And Equipment, ➤ Precaution Measure Against Static Discharge ➤ Explosion Proof Electrical Lighting ➤ Eye Washer And Safety Shower Should Be Provided. ➤ Use Water Spray, Dry Chemical ,Foam, Co2 Based Fire Extinguisher, Sand Bucket Must Be Provided
CORROSIVE& CHEMICALS	
TOXIC CHEMICALS	
REACTIVE CHEMICALS	
	Do Not Flush To Sewer

➤ **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
Exothermic Reaction	<ul style="list-style-type: none"> Exothermic reaction will be controlled by adequate dosing of reaction. Chemicals in a fixed time having adequate cooling water circulation in jacket of reaction vessels. Thus, any energy generated due to exothermic reaction will be controlled by external cooling circulation and therefore vessels will not be pressurized

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

Total Plot Area:	1025 Sq.m.
Area utilized for plant activity:	1025
Area utilized for Hazardous Chemicals Storage:	00
Number of Floors:	1
Water requirement for firefighting in KLD :	5.0 KLD
Water storage tank provided for firefighting in KLD:	100 KLD
Details of Hydrant Pumps:	3 Hydrant pumps (1 Main, 1 DG Pump & 1 Jockey pump)
Nearest Fire Station :	----
Applicability of Off Site Emergency Plan:	Yes, 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 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 :	10
	Number of Contractual person/Labour :	15
	Area provided for OHC:	15
	Number of First Aid Boxes :	2
	Nearest General Hospital :	Abhinav hospital vatva

Name of Antidotes to be store in plant :	Atropine, methylene blue, Leucovorin
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Comments

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

• **DELIBRATION AND RECOMMENDATION:**

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

Conditions with which Environment Clearance is recommended:

Construction Phase

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

SPECIFIC CONDITIONS:

- Unit shall install CEMS [**Continuous Emission Monitoring System**] in line to CPCB directions to all SPCB vide letter no. B-29016/04/06PCI-1/5401 dated 05/02/2014 for effluent discharge and air emission as per pollutants discharge/emission from respective project and an arrangement shall also be

done for reflecting the online monitoring results on the company's server, which can be assessable by the GPCB/CPCB on real time basis. **[For Small/Large/Medium (Red Category) & Whichever (Air emission & Effluent discharge) is applicable].**

2. 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. All measures shall be taken to avoid soil and ground water contamination within premises.
7. PP shall not have GIDC underground drainage connection within premises.

8. 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 labour within premises.
- h. Flame proof electrical fittings shall be provided in the plant premises, wherever applicable.
- i. Unit shall provide water sprinkler to the flammable material storage area.
- 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.

WATER

9. Total water requirement for the project shall not exceed 24.70 KLD. Unit shall recycle 18.30 KLD treated waste water recycled within plant. Hence, fresh water requirement shall not exceed 6.40 KLD and it shall be met through GIDC 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 22 KLD after expansion.
11. Total industrial effluent shall be treated in ETP followed by RO Plant. 17 KLD,RO Permeate shall be reused within premises and 3.1 KLD,RO Reject shall be evaporated in in-house spray dryer or shall be sent to common spray dryer of M/s. GESCSL, Vatva, through GPS fitted tanker for evaporation.
12. Treated waste water shall be sent to common spray dryer only after complying with the inlet norms of ETL prescribed by GPCB to ensure no adverse impact on Human Health and Environment.
13. Domestic wastewater generation shall not exceed 1.80 KL/Day after proposed expansion and it shall be treated in STP. It shall not be disposed off through soak pit/ septic tank.Unit shall provide buffer water storage tank of adequate capacity for storage of treated waste water during rainy days.
14. The unit shall provide metering facility at the inlet and outlet of ETP and maintain records for the same.
15. Proper logbooks of ETP; reuse/ recycle of treated/ untreated effluent; chemical consumption in effluent treatment; quantity & quality of treated effluent disposal to common spray dryer; power consumption etc. shall be maintained and shall be furnished to the GPCB from time to time.

AIR:

16. Unit shall not exceed fuel consumption for Boiler, HAG and D G Set as per the point no. E-2 as mentioned above.
17. Unit shall provide adequate APCM with flue gas generation sources to achieve the norms prescribed by GPCB.
18. Unit shall provide adequate APCM with process gas generation sources as the point no. E-3 as mentioned above.
19. PP shall use approved fuels only as fuel in boilers.
20. The fugitive emission in the workzoneenvironment shall be monitored. The emission shall conform to the standards prescribed by the concerned authorities fromtime to time (e.g. Directors of IndustrialSafety& Health). Following indicativeguidelines shall also be followed to reducethe fugitive emission.
 - ✓ Internal roads shall be either concreted or asphalted or paved properly to reducethefugitive emission during vehicular movement.
 - ✓ Air borne dust shall becontrolled with water sprinklers at suitable locations in the plant.
 - ✓ A green belt shall be developed all around the plant boundary and also along the roads to mitigate fugitive & transport dust emission.
21. Regular monitoring of Volatile Organic Compounds (VOCs) shall be carried out in the work zone area and ambient air.
22. Forcontrol of fugitive emission, VOCs, following steps shall be followed :
 - ✓ Closed handling and charging system shall be provided for chemicals.
 - ✓ Reflux condenser shall be provided over Reactors / Vessels.
 - ✓ Pumps shall be provided with mechanical seals toprevent leakages.

- ✓ Air borne dust at all transfers operations/ points shall be controlled either by spraying water or providing enclosures.

23. Regular monitoring of groundlevel concentration of PM10, PM2.5, SO2, NOx and VOCs shall be carried out in the impactzone and its records shall be maintained. Ambient air quality levels shall not exceed the standards stipulated by the GPCB. If at any stage these levels are found to exceed the prescribed limits, necessary additional control measures shall be taken immediately. The location of the stations and frequency of monitoring shall be decided in consultation with the GPCB.

HAZARDOUS / SOLID WASTES:

24. All the hazardous/ solid waste management shall be taken care as per the point no. F-1 as mentioned above.
25. Authorized end-users shall have permissions from the concerned authorities under the Rule 9 of the Hazardous and Other Wastes (Management and Transboundary Movement) Rules 2016.
26. Unit shall explore the possibilities for environment friendly methods like co-processing of hazardous waste for disposal of Incinerable & land fillable wastes before sending to CHWIF & TSDF sites respectively.
27. The project proponent has to obtain membership of TSDF site & CHWIF before obtaining CTO of GPCB.
28. The unit shall submit the list of authorized end users of hazardous wastes along with MoU signed with them at least two months in advance prior to the commencement of production. In the absence of potential buyers of these items, the unit shall restrict the production of the respective items.

GREENBELT AREA

29. The PP shall develop green belt within premises (5.10 Sq. m. within premises and 410 sq. meter outside premises in GIDC area i.e. 33.2 % 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.

OTHERS:

30. The project proponent shall carry out the activities (Plantation and provision of tree guard in Lambha and Vatva and Solar panel distribution in Vinzol Village) proposed under CER and it shall be part of the Environment Management Plan (EMP) as per the MoEF&CC's OM no. F. No. 22-65/2017-IA.III dated 30.09.2020. This shall be monitored and the monitoring report shall be submitted to the regional office of MoEF&CC as a part of half-yearly compliance report and to the District Collector. The monitoring report shall be posted on the website of the project proponent.
31. All the recommendations, mitigation measures, environmental protection measures and safeguards proposed in the EIA report of the project prepared by **M/s. Excel Envirotech** and submitted by the project proponent and commitments made during presentation before SEAC and proposed in the EIA report shall be strictly adhered to in letter and spirit.

COMPLIANCE OF ENVIRONMENT CLEARANCE/REPORTING/ADMINISTRATION/APPEAL:

32. Project proponent shall inform to all the concerned authorities including Municipal Corporation and District Collector and shall also give wide publicity through advertisement in minimum two local newspapers within seven days, about the Environment Clearance order accorded.
33. Project proponent shall appoint a key person in the organization who shall be responsible for compliance of above condition fully on behalf of the proponent. It will not mean that appointing a key person will exempt the project proponent from the responsibility of compliance. Any change in key person shall immediately be informed to SEIAA and all concerned authorities.
34. Designated key person shall submit six monthly compliance report to SEIAA/SEAC, MOEF&CC, GPCB and Nodal Department of the Government.
35. The Nodal Department or any authority or officer authorized by MOEF&CC/SEIAA can inspect the site of the project and all the facilities, for verification of compliances of environment clearance conditions.
36. In case of violation reported upon, the project proponent shall be responsible for all the legal actions as per Environment Protection Act, 1986 including SEIAA may cancel, withdraw or keep in abeyance, the Environment Clearance accorded.
37. Any person including the project proponent affected by this Environment Clearance order may file appeal to Honorable National Green Tribunal West Zone branch, Pune, preferably within a period of thirty days from the date of issue of Environment Clearance as prescribe under section 16 of National Green Tribunal Act 2010.
38. All complains and public grievance or representations may be addressed to SEIAA/SEAC in the email addresses (a) msseiaagj@gmail.com& (b) seacgujarat@gmail.com

15.	J/IND2/62308/2020	M/s. Maldeep Catalysts Pvt.Ltd Plot No. 2101, 2102, 2103, GIDC-Panoli ,Ta - Ankleshwar, Dist.: Bharuch, Gujarat	EC-Reconsideration
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Category of the unit: **5(f)**

Project status: **Expansion**

- Project proponent (PP) has submitted online application vide no. SIA/GJ/IND2/62308/2020 on dated 07/05/2021 for obtaining Environmental Clearance.
- MoEF &CC issued TOR to PP vide letter dated 24/07/2020.
- Project proponent has submitted EIA Report prepared by M/s. Envisafe Environment Consultants 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 Products	Capacity, TPM			End use
		E	P	T	
1	Lead Octoate (36%, 32%, 24%, 18%)	80	-80	Nil	Paint drying catalysts, PVC heat stabilizers, Liquid mix metals and Speciality Catalysts
2	Cobalt Octoate (12%, 1%, 10%, 9%, 6%, 3%, 2%)	50	-50	Nil	
3	Manganese Octoate (10%, 8%, 6%)	30	-30	Nil	
4	Zinc Octoate / Naphthenate (12%, 6%)	30	-30	Nil	
5	Barium Octoate (12.5%)	20	-20	Nil	
6	Copper Octoate / Naphthenate (10%, 8.5%, 6%)	10	-10	Nil	
7	Cadmium Octoate (14%)	50	-50	Nil	
8	Iso Borate	15	-15	Nil	
9	Calcium Octoate / Naphthenate (10%, 5%, 4%, 3%, 2%)	260	-260	Nil	
10	Zirconium Octoate (18%, 12%, 6%)	30	-30	Nil	
11	Cerium Octoate (10%, 8%, 6%)	10	-10	Nil	
12	Barium Octoate (14%)	50	-50	Nil	
13	Aluminium Octoate (3.6%)	35	-35	Nil	
1	Antimony Mercaptide (43.22%)	Nil	20	20	
2(a)	Barium Octoate (46.60%) &/OR	Nil	170	170	
2(b)	Barium Naphthenate (52.75%) &/OR				
2(c)	Barium Isononanoate (59.65%) &/OR				
2(d)	Barium Nonyl Phenolate (42.15%) &/OR				
2(e)	Barium Oleate (50.26%)				
3(a)	Cadmium Octoate (57.17%) &/OR	Nil	95	95	
3(b)	Cadmium Naphthenate (65.20%) &/OR				
3(c)	Cadmium Oleate (61.10%) &/OR				
3(d)	Cadmium Benzoate (32.10%)				
4(a)	Calcium Octoate (43.18%) &/OR	Nil	360	360	
4(b)	Calcium Naphthenate (50.6%) &/OR				
4(c)	Calcium Versatate (50.6%) &/OR				
4(d)	Calcium Acetate (20.92%) &/OR				
4(e)	Calcium Propionate (24.6%) &/OR				
4(f)	Calcium Isononanoate (95.32%)				
5(a)	Cerium Octoate (86.06%) &/OR	Nil	25	25	
5(b)	Cerium Naphthenate (98.7%)				
6(a)	Chromium Octoate (52.2%) &/OR	Nil	10	10	
6(b)	Chromium Naphthenate (61.3%) &/OR				
6(c)	Chromium Hexanoate (43%)				
7(a)	Cobalt Octoate (71.9%) &/OR	Nil	140	140	

7(b)	Cobalt Naphthenate (83.5%)	&/OR				
7(c)	Cobalt Neodecanoate (100%)	&/OR				
7(d)	Cobalt Octoate from Cobalt Nitrate (70.5%)	&/OR				
7(e)	Cobalt Octoate from Co-metal powder (72.8%)					
8(a)	Copper Octoate (56.92%)	&/OR	Nil	30	30	Paint drying catalysts, PVC heat stabilizers, Liquid mix metals and Speciality Catalysts
8(b)	Copper Naphthenate (66%)	&/OR				
8(c)	Copper Oleate (57%)					
9(a)	Iron Octoate (87.9%)	&/OR	Nil	10	10	
9(b)	Iron Naphthenate (89.14%)					
10(a)	Lead Octoate (88.8%)	&/OR	Nil	150	150	
10(b)	Lead Naphthenate (98.8%)	&/OR				
10(c)	Lead Acetate (58.53%)	&/OR				
10(d)	Lead Propionate (63.57%)	&/OR				
10(e)	Lead Versatate (98.9%)					
11(a)	Lithium Octoate (76%)	&/OR	Nil	10	10	
11(b)	Lithium Naphthenate (90.18%)					
12(a)	Manganese Octoate (63.72%)	&/OR	Nil	100	100	
12(b)	Manganese Naphthenate (76.12%)	&/OR				
12(c)	Manganese Octoate with MnSO ₄ (62.14%)					
13(a)	Nickel Octoate (58.98%)	&/OR	Nil	22	22	
13(b)	Nickel Naphthenate (68.5%)					
14(a)	Potassium Octoate (80%)	&/OR	Nil	55	55	
14(b)	Potassium Naphthenate (92.3%)					
15(a)	Strontium Octoate (46.1%)	&/OR	Nil	25	25	
15(b)	Strontium Naphthenate (53.1%)					
16(a)	Zinc Octoate (97.2%)	&/OR	Nil	165	165	
16(b)	Zinc Naphthenate (93.5%)	&/OR				
16(c)	Zinc Oleate (79.2%)	&/OR				
16(d)	Zinc Versatate (99.94%)	&/OR				
16(e)	Zinc Acetate (63.2%)	&/OR				
16(f)	Zinc Propionate (72.8%)					
17(a)	Zirconium Octoate (90.54%)	&/OR	Nil	120	120	
17(b)	Zirconium Naphthenate (99.6%)	&/OR				
17(c)	Zirconium Acetate (86.45%)					
18(a)	Dibutyltin Mercaptide (100%)	&/OR	Nil	20	20	
18(b)	Dibutyltin Dilurate (100%)	&/OR				
19	Combination of various products		Refer Annexure			
Total			670	857	1,527	

Annexure- Combination of various products

Combinations of Products

A. MCPL Range Combination

1.	MCPL 1 (Cobalt Octoate + Manganese Octoate + Lead Octoate)
2.	MCPL 2 (Cobalt Octoate + Calcium Octoate + Lead Octoate)
3.	MCPL 3 (Cobalt Octoate + Manganese Octoate + Zirconium Octoate)
4.	MCPL 8 (Cobalt Octoate + Barium Octoate)
5.	MCPL 11 (Cobalt Octoate + Calcium Octoate + Zinc Octoate)
6.	MCPL 16 C (Manganese Octoate + Lead Octoate)
7.	MCPL 18 (Cobalt Octoate + Manganese Octoate + Zinc Octoate)
8.	MCPL 19 (Cobalt Octoate + Manganese Octoate + Cerium Octoate)
9.	MCPL 21 (Cobalt Octoate + Calcium Octoate + Zirconium Octoate)
10.	MCPL 25 (Cobalt Octoate + Manganese Octoate + Barium Octoate)
11.	MCPL 32 (Cobalt Octoate + Potassium Octoate + Zirconium Octoate)
12.	MCPL 69 (Cobalt Octoate + Zirconium Octoate)
13.	MCPL 72 (Cobalt Octoate + Manganese Octoate + Potassium Octoate)
14.	MCPL B1 (Potassium Octoate + Manganese Octoate + Lead Octoate)
15.	MCPL B2 (Potassium Octoate + Manganese Octoate + Zirconium Octoate)
16.	MCPL B3 (Potassium Octoate + Calcium Octoate + Lead Octoate)
17.	MCPL B4 (Potassium Octoate + Calcium Octoate + Zirconium Octoate)
18.	MCPL D1 (Cobalt Octoate + Manganese Octoate)
19.	MCPL D2 (Cobalt Octoate + Calcium Octoate)
20.	MCPL 801 (Cobalt Octoate + Barium Octoate + Lead Octoate)
21.	MCPL 832 (Cobalt Octoate + Lead Octoate)
22.	MCPL 8100 (Copper Octoate + Copper Naphthanate)
23.	MCPL 9100 (Calcium Octoate + Calcium Naphthante)
24.	MCPL RC (Cobalt Octoate + Manganese Octoate + Cerium Octoate)
25.	MCPL ASA (Manganese Octoate + Zirconium Octoate)
26.	MCPL 33 WD (Cobalt Octoate + Zirconium Octoate + Barium Octoate)

B. Accelerator Range Combination (ACC & WD)

1.	Cobalt Octoate 12 % ACC (Cobalt Octoate + Potassium Octoate + Barium Octoate)
2.	Cobalt Octoate 9 % ACC (Cobalt Octoate + Potassium Octoate + Barium Octoate)
3.	Cobalt Octoate 6 % ACC (Cobalt Octoate + Potassium Octoate + Barium Octoate)
4.	Cobalt Octoate 3 % ACC (Cobalt Octoate + Potassium Octoate + Barium Octoate)
5.	Cobalt Octoate 2 % ACC (Cobalt Octoate + Potassium Octoate + Barium Octoate)
6.	ACC- 1 (Cobalt Octoate + Potassium Octoate + Copper Octoate)
7.	ACC- 2 (Cobalt Octoate + Potassium Octoate + Copper Octoate)
8.	ACC- 101 (Cobalt Octoate + Potassium Octoate + Copper Octoate)
9.	CO 5 % WD (Cobalt Octoate)
10.	MN 5% WD (Manganese Octoate)

11.	ZN 5 % WD (Zinc Octoate)
12.	ZR 12 % WD (Zirconium Octoate)
13.	CA 5 % WD (Calcium Octoate)

C. PATSTAB/MALSTAB Range Combination (STABILIZER)

1.	PATSTAB – 152 (Barium Phenolate + Cadmium Octoate + Zinc Octoate)
2.	PATSTAB – 152 R (Barium Phenolate + Barium Octoate + Cadmium Octoate + Zinc Octoate)
3.	PATSTAB – 155 (Barium Phenolate + Cadmium Octoate)
4.	PATSTAB – 207 (Barium Phenolate + Zinc Octoate)
5.	PATSTAB – 208 (Barium Octoate + Zinc Octoate)
6.	PATSTAB – 251 (Barium Oleate + Cadmium Octoate + Zinc Octoate)
7.	PATCOM – 3 (Potassium Octoate + Zinc Octoate)
8.	PATSTAB – 339 L (Barium Naphthante+ Zinc Naphthanate)
9.	PATSTAB – 351 SF (Barium Phenolate + Barium Oleate + Zinc Octoate)
10.	PATSTAB – 354 K (Barium Octoate + Potassium Octoate + Zinc Octoate)
11.	PATSTAB – 451 (Calcium Octoate + Zinc Octoate)
12.	PATSTAB – 452 (Calcium Octoate + Zinc Octoate)
13.	PATSTAB – 453 (Calcium Octoate + Zinc Octoate)
14.	PATSTAB – 552 (Barium Octoate + Lead Octoate)
15.	PATSTAB – 601 (Cadmium Octoate + Zinc Octoate)
16.	PATSTAB – 651 (Calcium Octoate + Zinc Octoate)
17.	PATSTAB – 707 (Potassium Octoate + Zinc Octoate)
18.	PATSTAB – 707 L (Potassium Octoate + Zinc Octoate)
19.	PATSTAB – 707 H (Potassium Octoate + Zinc Octoate)
20.	MALSTAB – 751 (Potassium Octoate + Zinc Octoate)
21.	PATSTAB – 851 (Lead Octoate)
22.	PATSTAB – 852 (Lead Octoate)
23.	PATSTAB – 853 (Lead Octoate)
24.	PATSTAB – 951 (Barium Octoate + Cadmium Oleate)
25.	PATSTAB – 1001 (Antimony Mercaptide)
26.	PATSTAB – 1002 (Antimony Mercaptide)
27.	PATSTAB – 1002 C (Antimony Mercaptide)
28.	PATSTAB – 1003 (Antimony Mercaptide)
29.	PATSTAB – 2204 (Barium Phenolate + Antimony Mercaptide)
30.	PATSTAB – 2204 A (Barium Phenolate + Antimony Mercaptide)
31.	PATSTAB – 2204 B (Barium Phenolate + Antimony Mercaptide)
32.	PATSTAB – 2204 R (Barium Phenolate + Antimony Mercaptide)
33.	PATSTAB – 2501 (Barium Octoate + Antimony Mercaptide)

- 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 15.07.2021.
- Salient Features of Water, Air and Hazardous waste management are submitted.
- During the SEAC Video conference meeting dated 15.07.2021, Project Proponent (PP) and their technical expert and EIA consultant from M/s. Envisafe Environment Consultants 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 November 2020 to January 2021. Ambient Air Quality monitoring was carried out for PM₁₀, PM_{2.5}, SO₂, NO_x, 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 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 Panoli. This unit is established before year 2006. 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 on closure order and two Show cause notice (SCN) issued by GPCB to unit and also revocation order and reply of SCN presented by PP during meeting.
- Committee noted the following:
 - Product profile discussed in depth. Existing products will be discontinued by PP after proposed expansion.
 - Source of water is GIDC.
 - Unit had proposed primary ETP for waste water treatment and treated effluent will be send to CMEE of M/s ACPTCL, Ankleshwar for evaporation. Domestic waste water disposal proposed in

soak pit and septic tank.

- Natural gas is proposed as fuel in thermo packs. Alkali scrubber proposed for all reactors.
 - 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.
 - Greenbelt development plan within premises 514 Sq m (18 %) of plot area.
 - Adequate fire hydrant pipeline network not mentioned in layout plan.
- Committee deliberated on EMP in which Occupational health cost mentioned only 20,000 Rs and fire and safety cost mentioned only one lacs Rs which is inadequate and hence Committee insisted for revised EMP with mentioning adequate OHC cost and fire hydrant network, fire water tank cost and fire extinguishers cost and also informed for submission of existing fire hydrant network, OHC, fire extinguishers, safety cost like auto control process for existing and after expansion project in comparative table form. Also Committee insisted for status of fire NOC for existing plant from competent authority. Looking to Green belt area showing only 18% within premises in layout plan, Committee asked for clarify regarding it, technical expert of PP informed that additional green belt will be proposed outside premises in GIDC area but GIDC authority letter not presented by him during meeting. Hence Committee insisted for greenbelt development as per CPCB guidelines along with GIDC letter for allotment of land by GIDC to unit for greenbelt development.
 - Technical expert of PP have not presented Certified compliance report (CCR) from MoEF & CC, RO , Bhopal or GPCB for existing plant and submitted details of self certified compliance report for existing plant even though MoEF & CC accorded ToR regarding submission of Certified compliance report (CCR) from MoEF & CC, RO , Bhopal or GPCB for existing plant. Committee asked for clarification regarding it, technical expert of PP informed that GPCB officials visited for certified compliance report for existing plant and its inspection report is still awaited. Looking to misleading information regarding greenbelt development, EMP in which mentioning inadequate OHC & fire and safety cost and misguide information regarding certified compliance report (CCR) from MoEF & CC, RO, Bhopal or GPCB for existing plant, Committee felt that technical expert of PP have to submission of justification regarding it.
 - Looking to product profile, Committee asked for submission of revised product profile with mentioning specific end use of each product instead of mode of transport in prescribed SEAC format and also name of each products in place of simply mentioning combination various products as per annexure in product profile. Also Committee asked for revised layout plan with mentioning maximum green belt development within premises as per CPCB guidelines instead of only 18% and fire hydrant network in existing and proposed plant area with adequate size peripheral road with separate entry and exit.
 - Looking to proposal of expansion project in GIDC Panoli area, Committee insisted for revised process emission matrix with mentioning adequate APCM like two stage scrubber , separately for pollutant like SO₂, NO_x instead of common alkali scrubber for all reactors.

- **After detailed discussion, Committee unanimously decided to consider the project in one of upcoming meeting after submission of following documents and submission of justification regarding misleading information regarding greenbelt development, EMP in which mentioning inadequate OHC & fire and safety cost and misguide information regarding Certified compliance report (CCR) from MoEF & CC, RO, Bhopal or GPCB for existing plant:**

1. Certified compliance report (CCR) from MoEF & CC, RO, Bhopal or GPCB for existing plant as per Terms of Reference accorded by MoEF & CC vide letter no. IA-J-11011/135/2020-IA.II (I) dated 24/07/2020.
2. Revised EMP with mentioning adequate OHC cost and fire hydrant network, fire water tank cost and fire extinguishers cost and also informed for submission of existing fire hydrant network, OHC, fire extinguishers, fire water tank of adequate size in place of only 10 KL ,safety measures cost like auto control process for existing and after expansion project in comparative table form.
3. Revised product profile with mentioning specific end use of each product instead of mode of transport in prescribed SEAC format and also name of each products in place of simply mentioning combination various products as per annexure in product profile.
4. Revised layout plan with mentioning maximum green belt development within premises as per CPCB guidelines instead of only 18% and fire hydrant network in existing and proposed plant area with adequate size peripheral road with separate entry and exit.
5. Letter of GIDC for greenbelt development outside premises in GIDC area by unit with mentioning area with longitude and latitude, number of trees to be planted and assurance regarding conservation of green belt area in GIDC area.
6. Revised water balance diagram with mentioning domestic waste water disposal other than soak pit and septic tank.
7. Revised process emission matrix with mentioning adequate APCM like two stage scrubber, separately for pollutant like SO₂, NO_x instead of common alkali scrubber for all reactors.
8. Status of fire NOC for existing plant from competent authority and fire hydrant network in existing plant mentioned in layout plan and revised EMP with mentioning above changes cost in it.

- PP submitted above query reply, online in Parivesh portal for above points.
- Again this case was reconsidered in SEAC VC meeting dated **16.02.2022**. During meeting technical expert of PP, M/s. Envisafe Environment consultant and PP remains present and made presentation for above project.
- Committee noted that technical expert of PP submitted certified compliance report (CCR) from MoEF & CC, RO, Bhopal or GPCB for existing plant. Committee noted that PP has addressed revised EMP with mentioning adequate OHC cost and fire hydrant network, fire water tank cost and fire extinguishers cost

and also informed for submission of existing fire hydrant network, OHC, fire extinguishers, fire water tank of adequate size in place of only 10 KL, revised product profile with mentioning specific end use of each product instead of mode of transport in prescribed SEAC format and also name of each products and revised process emission matrix with mentioning adequate APCM.

- Technical expert of PP submitted status of fire NOC for existing plant from competent authority and fire hydrant network in existing plant mentioned in layout plan and revised EMP, letter from GIDC for additional greenbelt development and domestic waste water disposal other than soak pit and septic tank.
- PP submitted revised salient features of water,air and hazardous waste management and are as under,

Sr. no.	Particulars	Details					
A-1	Total cost of Project (Rs. In Crore):						
	Existing	Proposed	Total				
	6.807	0.646	7.453				
	Break-up of proposed project Cost (Rs. In Crore):						
	Details	Existing	Proposed	Total			
	Land & Site Development	0.3847	--	0.3847			
	Building	4.6569	0.2480	4.9049			
	Plant & Machineries	1.7584	0.3450	2.1034			
	Environmental Protection Measure	0.007	0.053	0.06			
	Total	6.807	0.646	7.453			
A-2	Details of EMP						
	Sr. No	Unit	Details	Capital Cost (Rs. in Lacs)	Operating Cost (Lacs/ Month)	Maintenance Cost (Lacs/ Month)	Total Recurr Cost (Lacs Annur
	1	Water Pollution Control	Construction and Installation of ETP	1.0			0.50
	2.	Air Pollution Control	Installation of stack for DG Set and re-structuration existing stack for proposed TFH.	0.50			0.50
	3.	Hazardous / Solid Waste Management	Construction of storage of hazardous waste, membership of TSDF/CHWIF	0.50	--	--	15.0
	4.	Noise Pollution	Acoustic enclosure for DG Set, Pumps housing & other plant machineries	0.04	--	--	0.02
	5.	Fire & Safety	Provision of fire	20.0	--	--	3.0

		extinguishers & upgradation of fire & safety devices					
6.	Occupational Health	Upgradation of First Aid Center	0.20	--	--	1.0	
7.	Green Belt development	Additional Plantation, Irrigation System within plant premises. Plantation & maintenance outside premises. through hiring agency.	0.40	--	--	0.78	
8.	Environmental Monitoring	Installation of VOC detector, In-house monitoring and testing facilities.	2.0	--	--	5.0	
9.	CER	Execution of various CER activities	1.30	--	--	--	
Total			25.94			25.8	

Summary

Cost of Proposed Project in Crores:	Rs. 0.646 Crore
EMP Capital Cost in Crores and Percentage:	Rs. 0.2594 Crore (40%)
EMP Recurring Cost in Crores per Annum:	Rs. 0.258 Crore

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

As per OM no. 22-65/2017 on dated 01/05/2018 regarding "Corporate Environment Responsibility" (CER), Brownfield projects have to contribute 1% of the Additional Capital Investment, the company will contribute Rs. 1.3 Lakhs as funds for CER activities

Component	As per Norms	Allocation
CER	Rs. 64,000 (1%)	Rs. 1.3 Lakhs (2%)

Activities to be carried out under CER:

- Free medical camp for healthcare of people
- installation of RWH structures

B	Land / Plot ownership details:				
B-1	Total Plot area (sq. meter)				
	Existing Plot Area	Proposed Plot Area	Total Plot Area		
	3,208.62 Sq. m.	--	3,208.62 Sq. m.		
B-2	<p>Brief note on Area adequacy in line to proposed project activities The proposed expansion will be carried out within existing premises in undeveloped area; hence there will be no need of additional land for the proposed expansion. <u>Comments:</u> SEAC has examined it w.r.t.to total monthly production, maximum products, manufactured per month, the total raw material required, weekly storage requirement of each raw material, their mode of storage, their compatibility (flammability, corrosive, toxic), area needed by each raw material, one week storage of finished goods. Area adequacy, from overall safety perspective, has been provided in proposal and is satisfactory.</p>				
B-3	Green belt area (sq. meter)				
	Particulars	Existing (Sq. meter)	Proposed (Sq. meter)	Total (Sq. meter)	
	Within Plant Premises	514.08	69.54	583.62	
	Outside Plant Premises (Adjoining the unit)	297.00	--	297.00	
	Outside Plant Premises (Within GIDC Area)	--	300.00	300.00	
	Total (Within premises + outside premises)	811.08	369.54	1,180.62	
-Comments:					
The condition shall be given that -					
The PP shall develop green belt (583Sq. m. within premises and 597 sq. meter outside premises 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		
	38 Nos.	5 Nos.	43 Nos.		
D	Water				
D-1	Source of Water Supply(GIDC, Bore well, Surface water, Tanker Supply etc..)				
	GIDC water supply				
	Status of permission from the concern authority				
	➤ Water will be sourced from GIDC water supply and unit will apply for permission from GIDC for the same.				
D-2	Water consumption (KLD)				
	Category	Existing KLD/day	Proposed (Additional)	Total after Expansion	Remarks

		KL/day	KL/day	
(R) Domestic	2.4	Nil	2.4	Fresh
(S) Gardening	Nil	2.4	2.4	Reuse
(T) Industrial				
Process	1.0	12.8	13.8	Fresh
APCM	--	1.0	1.0	Fresh
Cooling	0.6	1.4	2.0	Fresh
Washing	--	0.9	0.9	Fresh
Total (Industrial)	1.6	16.1	17.7	
Total (A+B+C)	4.0	18.5	22.5	Industrial Fresh: 17.7 KLD Reuse: 2.4 KLD treated sewage reuse in gardening

Summary of water requirement	Existing, KLD	Proposed, KLD	Total, KLD	Remarks
Total water requirement for the project (A)	4.0	18.5	22.5	-
Quantity to be recycled (B)	Nil	2.4	2.4	-
Total fresh water requirement (C)	4.0	16.1	20.1	-

Reuse/Recycle details (KLD) with feasibility. : Not Applicable

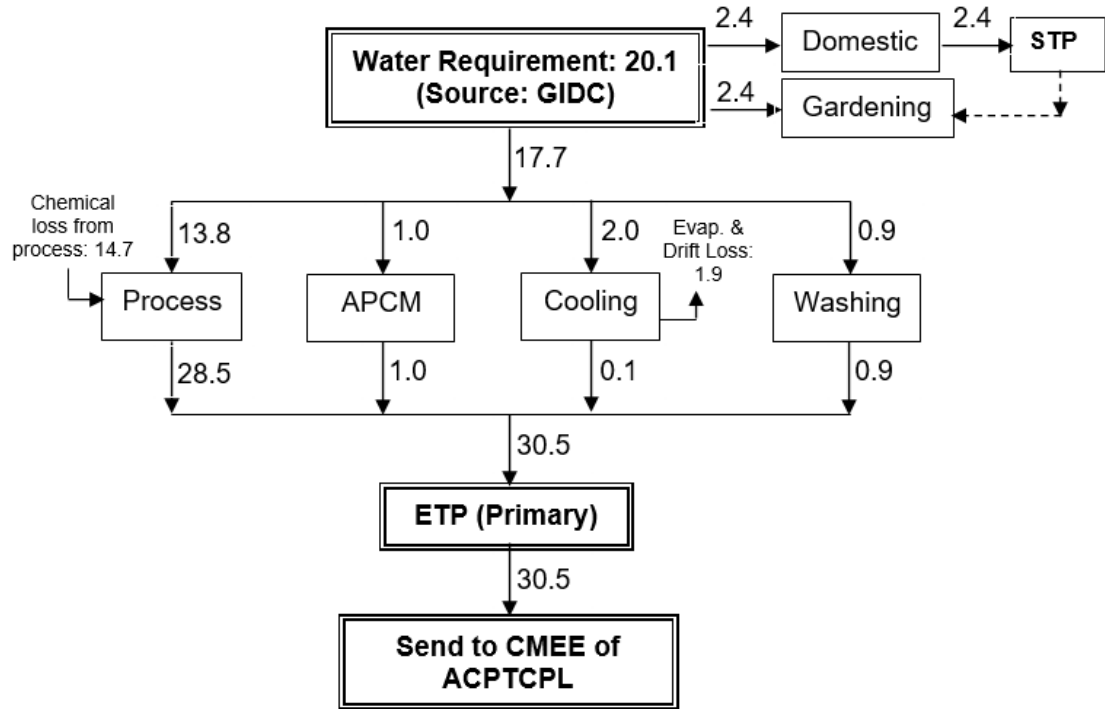
[Source of reuse & application area]

Source of waste water for reuse with quantity in KLD	Application area with quantity in KLD	Characteristics of waste water to be reused	Remarks regarding feasibility to reuse
--	--	--	--
--	--	--	--
--	--	--	--

D-3 Waste water generation (KLD)

Category	Existing KL/Day	Proposed (Additional) KL/day	Total after Expansion KL/day	Remarks
(M) Domestic	2.4	Nil	2.4	Fresh
(N) Industrial				
Process	1.0	27.5	28.5	Fresh
APCE	--	1.0	1.0	Fresh
Cooling	--	0.1	0.1	Fresh
Washing	--	0.9	0.9	Fresh
Total wastewater	3.4	29.5	32.9	Generation:32.9 KLD Industrial Discharge: 30.5 KLD to CMEE of ACPTCPL 2.4 KLD treated sewage will be reused in gardening

Brief Note on worst case scenario for waste water generation(Qualitative and Quantitative): Worst case scenario has been taken considering maximum effluent potential from each product.					
D-4	Mode of disposal & Final Meeting Point				
	<table border="1"> <tr> <td>Domestic:</td> <td>2.4 KLD will be treated in STP and treated sewage will be reused in gardening</td> </tr> <tr> <td>Industrial:</td> <td>30.5 KLD will be treated in ETP having primary treatment units and primary treated effluent will be sent to common environment infrastructure (CMEE) of Ankleshwar Cleaner Process Technology Centre Pvt. Ltd. (ACPTCPL) for ultimate disposal.</td> </tr> </table>	Domestic:	2.4 KLD will be treated in STP and treated sewage will be reused in gardening	Industrial:	30.5 KLD will be treated in ETP having primary treatment units and primary treated effluent will be sent to common environment infrastructure (CMEE) of Ankleshwar Cleaner Process Technology Centre Pvt. Ltd. (ACPTCPL) for ultimate disposal.
Domestic:	2.4 KLD will be treated in STP and treated sewage will be reused in gardening				
Industrial:	30.5 KLD will be treated in ETP having primary treatment units and primary treated effluent will be sent to common environment infrastructure (CMEE) of Ankleshwar Cleaner Process Technology Centre Pvt. Ltd. (ACPTCPL) for ultimate disposal.				
D-5	Treatment facilities				
For Domestic waste water: Domestic sewage will be treated in STP and treated sewage will be reused in gardening					
For Industrial waste water					
Treatment facility within premise with capacity [In-house ETP (Primary, Secondary, Tertiary), MEE, Stripper, Spray Dryer, STP etc.] ➤ ETP: 35 KLD (Hy. Load: 30.5 KLD) Treatment scheme including segregation at source Presently, effluent from industrial activities @1 KLD is sent to the common spray dryer of Panoli Enviro Technologies Limited (PETL) after giving primary treatment, if required. After proposed expansion, total effluent industrial effluent @30.5 KLD will be treated in ETP having primary treatment units and primary treated effluent will be sent to common environment infrastructure (CMEE) of Ankleshwar Cleaner Process Technology Centre Pvt. Ltd. (ACPTCPL) for ultimate disposal.					
<u>Note: (In case of CETP discharge):</u>					
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. ➤ Industrial effluent will be treated in ETP having primary treatment units and primary treated effluent will be sent to common environment infrastructure (CMEE) of Ankleshwar Cleaner Process Technology Centre Pvt. Ltd. (ACPTCPL) for ultimate disposal.					
<u>Brief note on adequacy of ZLD (In case of Zero Liquid Discharge):</u>					
➤ Not applicable.					
D-6	In case of Common facility (CF) like CETP, Common Spray dryer, Common MEE etc. Name of Common Facility (CF) (For wastewater treatment) ➤ CMEE of Ankleshwar Cleaner Process Technology Centre Pvt. Ltd. (ACPTCPL) Membership of Common Facility (CF) (For wastewater treatment) ➤ Unit has obtained membership from CMEE for discharge of treated effluent.				
D-7	Simplified water balance diagram with reuse / recycle of waste water				



E Air

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

Sr. No	Type of Fuel	Utility	Daily Requirement			Calorific Value, Kcal/Kg	% Ash	% Sulfur	% Carbon
			Existing	Additional	Total				
1	Natural Gas	Thermic Fluid Heaters	150SC M	850 SCM	1,000SCM	10,084 Kcal/m ³	--	--	>66.0
2	Diesel	DG Set	--	400 Lit	400 Lit	9,500 Kcal/L	<1.0	<0.25	>77.0

E-2 Flue gas emission details (No. of Boilers/TFH/Furnaces/DG sets etc. with capacities viz. TPH, Kcal/hr, MT/hr, KVA etc.)

Sr. No.	Source of emission with capacity	Status	Ht. & Dia. (m)	Fuel Name & Qty.	Type of Emission & Permissible limit	Air Pollution Control Measure
1.	Thermic Fluid Heater (3 Lac kcal/hr)	Existing	Common stack of 21 & 0.3	Natural Gas: 150 SCM/Day	PM ≤ 150 mg/Nm ³	Stack of Adequate Height
2	Thermic Fluid Heater (3 Lac kcal/hr)	Proposed		Natural Gas: 850 SCM/Day	SO ₂ ≤ 100 ppm	
3	Thermic Fluid Heater (2 Lac Kcal/hr)	Proposed	Common stack of 21 & 0.3		NO _x ≤ 50 ppm	Stack of Adequate Height

	4	Thermic Fluid Heater (2 Lac Kcal/hr)	Proposed				
	5	DG Set (82.5 kVA)	Proposed	7 & 0.1	Diesel 400 Lit/Day		Stack of Adequate Height
-							
E-3	Process gas i.e. Type of pollutant gases (SO ₂ , HCl, NH ₃ , Cl ₂ , NO _x etc.)						
-							
	Sr. No.	Stack attached to	Status	Ht. & Dia., m	Air Pollutant	Air Pollution Control Equipment	
	1.	Reactors of all Products	Proposed	11 & 0.2	Fumes & Vapors SO ₂ < 40 mg/Nm ³ , NO ₂ < 25 mg/Nm ³	Two stage Alkali Scrubber	
<p>➤ Yearly generation of all bleed liquors (MT/KL per Annum) as mentioned above and its sound management in HW matrix.</p>							
	Source	Type of waste (Bleed Liquor)	Cat.	Quantity Per Annum	Method of Disposal		
	APCE of all products	Bleed Liquor	Sch-2 B36	312 KL	Collection, Storage and send to Common MEE facility after primary treatment in ETP		
-							
E-4	Fugitive emission details with its mitigation measures						
<p>There are chance of fugitive emission and odour nuisance during manufacturing process as well as due to storage & handling of raw materials, fuel and products. The unit are taking following precaution for the control of fugitive emission.</p> <ul style="list-style-type: none"> ➤ Transfer, handling and charging of raw materials through pneumatic conveyance system as well as minimal manual handling ➤ Regular checking / inspection and periodic maintenance of chemical storage and transfer equipment and machineries. ➤ Transportation and handling of chemicals as per established SOPs and precaution measures as per MSDS. ➤ Periodical review of storage area and related SOPs implementation. ➤ Keep height of boundary wall higher than nearby coal stock pile. ➤ Transfer of coal by closed belt conveyers to coal crushers & boiler feeder. ➤ Provision of dust extraction system & water sprinklers at coal handling area. ➤ Provision of flexi curtain at the entrance of storage yard. ➤ Plantation of species having high tolerance to Air pollutants ➤ No. of species to be decided as per GDCR ➤ Type of species to be planted in consultation with horticulturist depending on surrounding and native species <p>Comments for E2, E3 & E4:</p> <ol style="list-style-type: none"> 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.

- 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, and scrubbing systems as per the requirements, to achieve the emission norms prescribed by the competent authorities.

F-1 Hazardous waste [Existing & Proposed](As per the Hazardous and Other Wastes (Management and Transboundary Movement) Rules 2016.

Type of waste	Source	Cat.	*Quantity per Annum			Method of Disposal
			E	P	T	
ETP sludge	ETP	Sch-I 35.3	--	0.5 MT	0.5 MT	Collection, Storage, & Disposal at GPCB approved TSDF
Process waste (Organic)	Mfg. of All Product	Sch-I 26.1	5 MT	255 MT	260 MT	Collection, Storage, & Disposal by co-processing OR Disposal at CHWIF
Bleed liquor from scrubber	APCM	Sch-B-II 36	--	312 KL	312 KL	Collection, Storage and send to Common MEE facility after primary treatment in ETP
Discarded Containers/ Barrels/ Liners / Bags	Storage & Handling of Raw materials & Products	Sch-I 33.1	40.8 MT	54.2 MT	95.0 MT	Collection, Storage, Disposal by sending to authorized decontamination facility
Spent / Used Oil	Plant Machineries & Equipment	Sch-I 5.1	0.22 MT	0.58 MT	0.80 MT	Collection, Storage, Transportation and Sell to Registered Re-processor / MoEF&CC Approved Recyclers

***E-Existing, P-Proposed, T-Total after proposed expansion**

-Comments:

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

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

Unit has obtained membership of RSPL for the co-processing of hazardous waste.

F-3 Details of Non-Hazardous waste & its disposal
(MSW and others)
STP Sludge: 37.44 TPA

Comments:

- STP sludge shall be used as manure within premises.

G	Solvent management, VOC Emissions etc. (If any)			
G-1	Brief Note on types of solvents, Details of Solvent recovery, % recovery, reuse of recovered Solvents etc.			
Solvents like n-Butanol, Toluene and Turpentine Oil required for the manufacturing of proposed products will be completely consumed in products and there will not be any generation of spent solvent which requires solvent recovery.				
G-2	Brief Note on LDAR proposed:			
↻	Electronic sensors/detectors are installed in the prominent section of the plant for continuous surveillance of leakages and fugitive emission of hazardous chemicals.			
↻	These sensors/detectors are continuously measure the concentration of each hazardous chemical in the work environment and the same are displayed at the measuring point (Section / Area) as well as in control room.			
↻	The sensors/detectors are fitted with audio-visual alarm, which will be activated when the measured concentration exceeds the threshold standards.			
↻	Whenever the measured the concentration of hazardous chemicals exceeds the threshold standards, the LDAR Program will be activated as under: <ul style="list-style-type: none"> ▪ The audio-visual alarm will buzz at measuring point and in control room to warn the operator & supervisor so that immediate corrective action can be taken. ▪ Leaking equipment/component/connection will be identified and will be repaired/ replaced as soon as possible. ▪ If the repair/replace of any component is not feasible technically without a process unit shutdown, the particular unit process will be shut-down immediately till the leakage is completely controlled. ▪ Problematic components will be replaced/upgraded with “leak less” or other technologies. 			
↻	Record of the leakage as well as repair are kept and used to plan preventive maintenances at source of leak.			
↻	Periodical checking and calibration of sensors/detectors are carried out for effective and reliable operation.			
Uninterrupted operation of sensors/detectors at all time are ensured by provision of emergency power supply & regular maintenance.				
G-3	VOC emission sources and its mitigation measures			
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.				
H-1	➤ Details regarding storage of Hazardous Chemicals			
	Sr. no	Name of Chemical	Capacity of Drum	Number of Drum
	1.	Acetic Acid	200 L	5
	2.	n-Butanol	200 L	10
	3.	Propionic Acid	200 L	50
	4.	Toluene	200 L	10
				Hazardous Characteristics of Chemical
				Toxic, Fire
				Toxic, Fire
				Toxic, Fire
				Toxic, Fire
Storage of Hazardous chemicals in Tanks				
	➤ Installation of level indicators on all storage tanks to know the exact liquid level inside the tank and to avoid the accidental spillage or overflow.			
	➤ Provision of spare tanks of sufficient quantity for any emergency spillage or leakage			
	➤ Regular inspection of all the tanks of hazardous chemicals and damaged tanks for separation and disposal to avoid the possibility of catastrophic rupture.			
	➤ Provision of double earthing to all storage tanks to prevent the firing due to static			

charges. Regular inspection of earthing pit.

- Provision of water showering system (Automated sprinkling system) to the flammable liquid storage tanks, wherever required to avoid vaporization due to increase in ambient temperature.
- Storage of tanks at ground level and take measures to prevent corrosion of the tank base.

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

- Use of drum trolley for the movement of drums of hazardous chemicals to avoid accident due to manual error.
- Provision of spare drums/barrel/tanks of sufficient quantity for any emergency spillage or leakage.
- Storage of drums/tanks at ground level and take measures to prevent corrosion of the drums/tank base
- Availability of adequate ventilation to ensure that in case of incidental release of organic vapor the vapor concentration is as low as possible, and in any event within the regulatory requirements
- No installation or storage shed to be open, and no work in any installation or storage shed to be permitted, between sunset and sunrise except where use of electric lighting is approved.
- Always keep adequate supply of dry sand or earth together with the necessary implements for its convenient application, or other efficient means of extinguishing petroleum fires in every installation and in or adjacent to every storage shed.
- Regular inspection of all the drums/tanks of hazardous chemicals and damaged drums for separation and disposal to avoid the possibility of catastrophic rupture.
- Maintain proper inventory of hazardous chemical and keep buffer stock as minimum as possible.

Safety details of Hazardous Chemicals:

Type of Hazardous Chemicals	Safety measures
FLAMMABLE & EXPLOSIVE	<ul style="list-style-type: none"> ○ Surround every installation by a wall or fence of at least two meters in height. ○ Keep distance of 15 m clear at all times between fence and storage shed or an enclosure wall used for the storage of hazardous chemicals. ○ Mark capacity in litres of every tank in an installation. ○ No installation or storage shed without permission in writing from the Chief Inspector be used for any purpose other than the storage and distribution of petroleum and purposes directly connected therewith. ○ Storage tanks or other receptacles for the storage of petroleum in bulk other than well-head tanks, after being placed in a final position and before being brought into use, be tested by water pressure in the presence of an Engineer accepted as qualified for the purpose by the licensing authority. ○ Ensure no installation or storage shed is open, and no work in any installation or storage shed be permitted between sunset and sunrise except where approved electric lighting is exclusively used. ○ Leave an air-space of not less than 5% of its capacity in each receptacle at the time of filling.

		<ul style="list-style-type: none"> ○ Fit installations in tank with a vent pipe leading into the open air. Secure the vent pipe with support and ensure its height not less than 4 meters in height. ○ All electric wires installed at less than 5 meters from the ground in any petroleum installation or situated within 6 meters of any building or tank containing class A petroleum, if any, to consist of insulated cables, enclosed in metallic coverings which will be gas-tight, electrically and mechanically continuous throughout, and effectively earthed outside the building. ○ Ensure no accumulation of water in all enclosures surrounding tanks or buildings belonging to an installation or storage shed. ○ Ensure no personal to carry matches, fuses or other appliance for producing ignition or explosion in any installation or storage shed. ○ Ensure no fire, furnace or other source of heat or light capable of igniting inflammable vapour be allowed in any licensed installation or storage shed in places specially authorized by the licensing authority for the purpose. ○ Keep adequate supply of dry sand or earth together with the necessary implements for its convenient application, or other efficient means of extinguishing petroleum fires, in every installation and in or adjacent to every storage shed. ○ Paint outside of storage tanks / drums with heat reflecting paint to reduce vapor losses. ○ Provision of proper earthing to prevent static electricity from accumulating. ○ Equip tank vent with flame arrester. ○ Give proper handling training considering physical, chemical and flammable properties of methanol. ○ Availability of safe handling procedure. 					
<p>➤ Applicability of PESO: Unit has obtained licence from Petroleum & Explosives Safety Organization (PESO) for storage of Petroleum Class B chemical Mineral Turpentine Oil. Unit will apply for obtaining license from PESO for additional storage of chemicals under class A and B.</p>							
H-2	<p>Types of hazardous Processes involved and its safety measures: ➤ (Hydrogenation process, Nitration process, Chlorination process, Exothermic Reaction etc.)</p> <table border="1" data-bbox="212 1442 1422 1641"> <thead> <tr> <th data-bbox="212 1442 804 1480">Type of Process</th> <th data-bbox="804 1442 1422 1480">Safety measures including Automation</th> </tr> </thead> <tbody> <tr> <td data-bbox="212 1480 804 1641">No hazardous process involved like Hydrogenation process, Nitration process, Chlorination process, Exothermic Reaction</td> <td data-bbox="804 1480 1422 1641">None</td> </tr> </tbody> </table>			Type of Process	Safety measures including Automation	No hazardous process involved like Hydrogenation process, Nitration process, Chlorination process, Exothermic Reaction	None
Type of Process	Safety measures including Automation						
No hazardous process involved like Hydrogenation process, Nitration process, Chlorination process, Exothermic Reaction	None						
H-3	Details of Fire load calculation						
Total Plot Area:		3208 sq.m.					
Area utilized for plant activity:		2121 sq.m.					
Area utilized for Hazardous Chemicals Storage:		700 sq.m					
Number of Floors:		G+2					
Water requirement for firefighting in KL:		7 KL					
Water storage tank in KL:		50 KL					
Nearest Fire Station :		Panoli GIDC @500 m distance					
Applicability of Off Site Emergency Plan:		Applicable					
H-4	Details of Fire NOC/Certificate						

Unit is covered under The Factories Act, 1984. Hence, as per Notification by Urban Development and Urban Housing Department Sachivalay, Gandhinagar Dated 08/07/2021 unit does not require Fire NOC/Certificate.

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-5 Details of Occupational Health Center

Number of permanent Employee :	43
Number of Contractual person/Labour:	--
Area provided for OHC:	Not required
Number of First Aid Boxes :	2
Nearest General Hospital :	Civil Hospital
Name of Antidotes to be store in plant :	Milk of magnesia, banana, jaggery, glucose and Milk etc.

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.

• **DELIBRATION AND RECOMMENDATION:**

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

Conditions with which Environment Clearance is recommended:

Construction Phase

- "Wind – breaker of appropriate height i.e. 1/3rd of the building height and maximum up to 10 meters shall be provided. Individual building within the project site shall also be provided with barricades.
- "No uncovered vehicles carrying construction material and waste shall be permitted."
- "No loose soil or sand or construction & demolition waste or any other construction material that cause dust shall be left uncovered. Uniform piling and proper storage of sand to avoid fugitive emissions shall be ensured."
- Roads leading to or at construction site must be paved and blacktopped (i.e. – metallic roads).

- e. No excavation of soil shall be carried out without adequate dust mitigation measures in place.
- f. Dust mitigation measure shall be displayed prominently at the construction site for easy public viewing.
- g. Grinding and cutting of building materials in open area shall be prohibited.
- h. Construction material and waste should be stored only within earmarked area and road side storage of construction material and waste shall be prohibited.
- i. Construction and demolition waste processing and disposal site shall be identified and required dust mitigation measures be notified at the site. (If applicable).

SPECIFIC CONDITIONS:

1. Unit shall install CEMS [**Continuous Emission Monitoring System**] in line to CPCB directions to all SPCB vide letter no. B-29016/04/06PCI-1/5401 dated 05/02/2014 for effluent discharge and air emission as per pollutants discharge/emission from respective project and an arrangement shall also be done for reflecting the online monitoring results on the company's server, which can be assessable by the GPCB/CPCB on real time basis. [**For Small/Large/Medium (Red Category) & Whichever (Air emission & Effluent discharge) is applicable**].
2. 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. All measures shall be taken to avoid soil and ground water contamination within premises.
7. PP shall not have GIDC underground drainage connection within premises.
8. **Safety & Health:**
 - a. PP shall obtain PESO permission for the storage and handling of hazardous chemicals.
 - b. PP shall provide Occupational Health Centre (OHC) as per the provisions under the Gujarat Factories Rule 68-U.
 - c. PP shall obtain fire safety certificate / Fire No-Objection certificate (NOC) from the concern authority as per the prevailing Rules / Gujarat Fire Prevention and Life Safety Measures Act, 2016.
 - d. Unit shall adopt functional operations/process automation system including emergency response to eliminate risk associated with the hazardous processes.
 - e. PP shall carry out mock drill within the premises as per the prevailing guidelines of safety and display proper evacuation plan in the manufacturing area in case of any emergency or accident.
 - f. PP shall install adequate fire hydrant system with foam trolley attachment within premises and separate storage of water for the same shall be ensured by PP.

- g. PP shall take all the necessary steps for control of storage hazards within premises ensuring incompatibility of storage raw material and ensure the storage keeping safe distance as per the prevailing guidelines of the concerned authority.
- h. PP shall take all the necessary steps for human safety within premises to ensure that no any harm is caused to any worker/employee or labour within premises.
- i. Flame proof electrical fittings shall be provided in the plant premises, wherever applicable.
- j. Unit shall provide water sprinkler to the flammable material storage area.
- k. Unit shall never store drum/barrels/carboys of incompatible material/chemical together.
- l. Unit shall provide effective Isolation for Process area and storage of hazardous chemicals.

WATER

- 9. Total water requirement for the project shall not exceed 22.50 KLD. Unit shall recycle 2.40 KLD treated waste water recycled within plant. Hence, fresh water requirement shall not exceed 20.10 KLD and it shall be met through GIDC 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 30.50 KLD after expansion.
- 11. Total industrial effluent shall be treated in ETP. Then treated effluent shall be sent to CMEE of M/s. ACPTCL, Ankleshwar, through GPS fitted tanker for evaporation.
- 12. Treated waste water shall be sent to CMEE only after complying with the inlet norms of CMEE prescribed by GPCB to ensure no adverse impact on Human Health and Environment.
- 13. Domestic wastewater generation shall not exceed 2.40 KL/Day after proposed expansion and it shall be treated in STP. It shall not be disposed off through soak pit/ septic tank. Unit shall provide buffer water storage tank of adequate capacity for storage of treated waste water during rainy days.
- 14. The unit shall provide adequate buffer storage facility to store waste water in case of any emergency or any shut down of CMEE.
- 15. The unit shall provide metering facility at the inlet and outlet of ETP and maintain records for the same.
- 16. Proper logbooks of ETP; reuse/ recycle of treated/ untreated effluent; chemical consumption in effluent treatment; quantity & quality of treated effluent disposal to CMEE; power consumption etc. shall be maintained and shall be furnished to the GPCB from time to time.

AIR:

- 17. Unit shall not exceed fuel consumption for TFH and D G Set as per the point no. E-2 as mentioned above.
- 18. Unit shall provide adequate APCM with flue gas generation sources to achieve the norms prescribed by GPCB.
- 19. Unit shall provide adequate APCM with process gas generation sources as the point no. E-3 as mentioned above.
- 20. PP shall use approved fuels only as fuel in boilers.
- 21. The fugitive emission in the workzone environment shall be monitored. The emission shall conform to

the standards prescribed by the concerned authorities from time to time (e.g. Directors of Industrial Safety & Health). Following indicative guidelines shall also be followed to reduce the fugitive emission.

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

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

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

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

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

HAZARDOUS / SOLID WASTES:

25. All the hazardous/ solid waste management shall be taken care as per the point no. F-1 as mentioned above.

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

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

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

29. 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

30. The PP shall develop green belt within premises (583 Sq. m. within premises and 597 sq. meter outside premises in GIDC area 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.

OTHERS:

31. The project proponent shall carry out the activities (Free medical camp for healthcare of people and installation of RWH structures) proposed under CER and it shall be part of the Environment Management Plan (EMP) as per the MoEF&CC's OM no. F. No. 22-65/2017-IA.III dated 30.09.2020. This shall be monitored and the monitoring report shall be submitted to the regional office of MoEF&CC as a part of half-yearly compliance report and to the District Collector. The monitoring report shall be posted on the website of the project proponent.
32. All the recommendations, mitigation measures, environmental protection measures and safeguards proposed in the EIA report of the project prepared by **M/s. Envisafe Environment Consultants** and submitted by the project proponent and commitments made during presentation before SEAC and proposed in the EIA report shall be strictly adhered to in letter and spirit.

COMPLIANCE OF ENVIRONMENT CLEARANCE/REPORTING/ADMINISTRATION/APPEAL:

33. Project proponent shall inform to all the concerned authorities including Municipal Corporation and District Collector and shall also give wide publicity through advertisement in minimum two local newspapers within seven days, about the Environment Clearance order accorded.
34. Project proponent shall appoint a key person in the organization who shall be responsible for compliance of above condition fully on behalf of the proponent. It will not mean that appointing a key person will exempt the project proponent from the responsibility of compliance. Any change in key person shall immediately be informed to SEIAA and all concerned authorities.
35. Designated key person shall submit six monthly compliance report to SEIAA/SEAC, MOEF&CC, GPCB and Nodal Department of the Government.
36. The Nodal Department or any authority or officer authorized by MOEF&CC/SEIAA can inspect the site of the project and all the facilities, for verification of compliances of environment clearance conditions.
37. In case of violation reported upon, the project proponent shall be responsible for all the legal actions as per Environment Protection Act, 1986 including SEIAA may cancel, withdraw or keep in abeyance, the Environment Clearance accorded.
38. Any person including the project proponent affected by this Environment Clearance order may file appeal to Honorable National Green Tribunal West Zone branch, Pune, preferably within a period of thirty days from the date of issue of Environment Clearance as prescribe under section 16 of National Green Tribunal Act 2010.
39. All complains and public grievance or representations may be addressed to SEIAA/SEAC in the email addresses (a) msseiaagj@gmail.com & (b) seacgujarat@gmail.com

16.	Offline	M/s. Natural Bleach Earths Pvt. Ltd Survey No. : 904, Village: Dhaneti, Bhuj – Bhachau Highway, Tal: Bhuj, Dis: Kutch	EC
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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 an existing unit and now proposes for Mineral Beneficiation as tabulated below:

Sr. no.	Name of the Products	CAS no. / CI no.	Quantity MT/Month			End-use of the products
			Existing	Proposed	Total	
1	Attapulgate / bentonite clay (fullers earths)	8031-18-3	500	--	500	Refining Of Petroleum & Solvents
2	Precipitated Silica	7631-86-9	300	---	300	Rubber, Plastics Fillers
3	Activated bleaching Clay/ Earth	1302-78-9	---	1500	1500	Refining edible and non-edible oil (Oil Refining)
Total			800	1500	2300	

- 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 16.02.2022.
- During the SEAC Video conference meeting dated 16.02.2022, Project Proponent (PP) and their technical expert and EIA consultant from M/s. **Envirocare Technocrats Pvt. Ltd** remain present and made technical presentation before the Committee.
- Committee noted that this proposal is for new Mineral Beneficiation plant at Survey No. : 904, Village: Dhaneti, Bhuj – Bhachau Highway, Tal: Bhuj, Dis: Kutch in outside notified area. PP informed that proposal is for Physical Beneficiation of bentonite clay and production of it less than 20,000 MTPA for complying office memorandum dated 24/12/2013 considering project as B2 Category. Upon asking of residential habitat and river etc, PP presented Satellite image of proposed project location and distance from nearest habitat road and river etc and showing no residential habitat in proposed project area.
- Deliberation of Committee:

- ✓ Upon asking regarding status of previous application submitted by technical expert of PP and which was recommend for rejection of appraisal application under B2 category for reason of unit has concealed the details of compliance of existing project by SEAC members in video conference meeting on dated 29.07.2021, Technical expert of PP confessed that they have now obtained revocation of closure order from GPCB for existing plant vide letter no-PC/CCA-KUTCH-945(2)/GPCB ID 35695/609049 on dated 17/12/2021. Also GPCB issued valid CCA of the board vide CCA No: AWH-113432 issue on dated 23/06/2021 and valid up to 20/04/2026.
- ✓ Now they have applied as fresh application instead of earlier application rejection compliance as B2 category under offline at SEIAA as informed by technical expert of PP.
- ✓ Looking to revocation of closure order issued by GPCB with a condition that Industry shall manufacture Attapulgate / bentonite clay by dry process only, Industry shall not manufacture any products which attracts EIA Notification 2006 and industry shall not manufacture any products from which effluent generated till EMS i.e ZLD system installed for effluent treatment, Committee asked for compliance regarding it. Technical expert of PP could not able to progress for obtain ZLD for effluent adequately and informed Committee regarding submission of its reply through e-mail later on.
- ✓ Looking to reply submitted by technical expert of PP in notarized undertaking stating that unit will not intend to manufacture Precipitated Silica (in compliance of our permanent revocation order and undertaking submitted) in which effluent generation will occur while for other rest product (i.e Attapulgate /Bentonite Clay) in which no effluent will be generated. Therefore, we have not installed MEE till date. Also they have submitted letter to GPCB regarding not manufacturing precipitated silica and also not install MEE for compliance of condition mentioned in revocation order issued by GPCB on dated 17.12.2021.
- ✓ Product profile discussed in depth.
- ✓ Source of water is tanker water/bore well.
- ✓ Unit had proposed primary ETP for waste water treatment and treated effluent will be recycled back in process. Domestic waste water disposal proposed in STP.
- ✓ Agro Waste / White Coal / Fire Wood is proposed as fuel in boiler and HAG. Looking to bag filter as APCM not proposed for solid fuel fired boiler and HAG and fire wood as fuel, Committee insisted for revised APCM and discontinue of fire wood for which PP is agreed upon and later on submitted revised flue gas matrix through e-mail.
- ✓ Bag filter proposed for pulverisers.
- ✓ 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.
- ✓ Greenbelt development plan within premises 514 Sq m (18 %) of plot area.
- ✓ Adequate fire hydrant pipeline network not mentioned in layout plan.
- ✓ Committee deliberated on Committee asked about waste water management, PP informed that either

spent sulphuric acid, 15000 KL/year KLD and effluents from washing and boiler will be treated in primary treatment and ETP sludge i.e. gypsum will be sold to cement industry or spent sulphuric acid will be sold to end users having Rule-9 permission or 100% reuse for manufacturing precipitated silica within premises.

- PP submitted later on revised EMP with mentioning bag filter cost in it, through e-mail.
- PP submitted revised salient features of water,air and hazardous waste management and are as under,

Sr. no.	Particulars	Details	
A-1	Total cost of Proposed Project (Rs. in Crores):		
		Existing	Proposed
		1.8251 Crores	5.0471 Crores
		Total 6.8722 Crores	
	Break-up of proposed project Cost:		
		Existing (Rs. In Crores)	Proposed (Rs. In Crores)
		Total (Rs. In Crores)	
	Land	1.8251	--
	Building		0.9251
	Plant & Machinery		3.010
	EMP Cost		1.1120
	Total	1.8251	5.0471
			6.8722
A-2	Details of Environmental Management Plan (EMP)	As below:	
Sr. No.	Description	Approximate Capital Cost (Rs. In Lacs)	Approximate Recurring cost per Annum (Rs. In Lacs)
1	Air pollution Control	20.00	5.00
2	Water Pollution Control including ETP, STP, Rain water collection pit	50.00	6.00
3	Environment Monitoring and Management	5.00	5.00
4	Noise Pollution Control	1.00	0.50
5	Occupational Health Center with antidote	5.00	2.00
6	Green Belt	7.00	1.00
7	Drinking Water	0.20	1.50

8	Provision of safety measurement including fire extinguisher, Fire Hydrant Line & Lightening arrester etc...	18.00	4.0
9	CER Activity	5.00	1.00
	Total	111.20	26.00

Cost of Project in Crores per Annum:	6.8722 Crores
EMP Capital Cost in Crores per Annum and Percentage:	1.112 Crores (16.18 %)
EMP Recurring Cost in Crores per Annum and Percentage:	0.26 Crores (3.78 %)

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 as per OM dated 01/05/2018

% as per the OM	Rs. in Crores
1 %	0.050

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

Brief note on proposed activities for CER:

- As per MoEF guideline, Project Proponent have to expense 1.00 % of total Project Cost (BROWN FIELD) for CER activity, which will be 4.90 Lacs. We will to expense more than 1.00 % of total Project Cost for CER activity, which will be 5.00 Lacs.

Sr. No	Activities	Implementation year	Budget (Rs. In Lacs)	Location	Basis Consideration
1	Provision of 10 Nos. Solar street light (Solar pole, battery, panel, LED light complete) on village road.	2022	3.00	Dhaneti Village & Surrounding village*	As per Request received from Dhaneti Village & As per personal site observation in Surrounding

2	Tree plantation activity (Tree, Tree guard, man power, water & Fertilizer cost) on village road.	2023	2.00		village																																						
		Total	5.00																																								
<p>Comments:</p> <p>SEAC has examined it w.r.t.to total monthly production, maximum products, manufactured per month, the total raw material required, weekly storage requirement of each raw material, their mode of storage, their compatibility (flammability, corrosive, toxic), area needed by each raw material, one week storage of finished goods. Area adequacy, from overall safety perspective, has been provided in proposal and is satisfactory.</p>																																											
B	<p>Land / Plot ownership details: Land has been procured by Applicant Natural Bleach Earths Pvt. Ltd. Survey No. 904. Sale deed is submitted.</p>																																										
B-1	<p>Plot area</p> <table border="1" data-bbox="576 1037 1321 1144"> <thead> <tr> <th data-bbox="576 1037 829 1084">Existing</th> <th data-bbox="829 1037 1069 1084">Proposed</th> <th data-bbox="1069 1037 1321 1084">Total</th> </tr> </thead> <tbody> <tr> <td data-bbox="576 1084 829 1144">17,098 Sq. m.</td> <td data-bbox="829 1084 1069 1144">-- Sq. m.</td> <td data-bbox="1069 1084 1321 1144">17,098 Sq. m.</td> </tr> </tbody> </table> <p>-</p>					Existing	Proposed	Total	17,098 Sq. m.	-- Sq. m.	17,098 Sq. m.																																
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B-2	<p>Area adequacy</p> <table border="1" data-bbox="363 1234 1394 1964"> <thead> <tr> <th data-bbox="363 1234 475 1312" rowspan="2">Sr. No.</th> <th data-bbox="475 1234 879 1312" rowspan="2">Title</th> <th colspan="3" data-bbox="879 1234 1394 1272">Area (m²)</th> </tr> <tr> <th data-bbox="879 1272 1050 1312">Existing</th> <th data-bbox="1050 1272 1220 1312">Proposed</th> <th data-bbox="1220 1272 1394 1312">Total</th> </tr> </thead> <tbody> <tr> <td data-bbox="363 1312 475 1384">1</td> <td data-bbox="475 1312 879 1384">Plant Facilities</td> <td data-bbox="879 1312 1050 1384">500.00</td> <td data-bbox="1050 1312 1220 1384">1000.00</td> <td data-bbox="1220 1312 1394 1384">1500.00</td> </tr> <tr> <td data-bbox="363 1384 475 1458">2</td> <td data-bbox="475 1384 879 1458">Admin Building&Laboratory</td> <td data-bbox="879 1384 1050 1458">50.00</td> <td data-bbox="1050 1384 1220 1458">--</td> <td data-bbox="1220 1384 1394 1458">50.00</td> </tr> <tr> <td data-bbox="363 1458 475 1608">3</td> <td data-bbox="475 1458 879 1608">Utility Area (Boiler,Fuel Storage Area, Fly Ash Storage Area etc.)</td> <td data-bbox="879 1458 1050 1608">300.00</td> <td data-bbox="1050 1458 1220 1608">--</td> <td data-bbox="1220 1458 1394 1608">300.00</td> </tr> <tr> <td data-bbox="363 1608 475 1682">4</td> <td data-bbox="475 1608 879 1682">Storage of Raw Material – Bentonite</td> <td data-bbox="879 1608 1050 1682">1500.00</td> <td data-bbox="1050 1608 1220 1682">--</td> <td data-bbox="1220 1608 1394 1682">1500.00</td> </tr> <tr> <td data-bbox="363 1682 475 1832">5</td> <td data-bbox="475 1682 879 1832">Storage of Raw Material – Sulphuric Acid in Tank (20 KL each) & Sodium Silicate (20 KL each)</td> <td data-bbox="879 1682 1050 1832">55.00</td> <td data-bbox="1050 1682 1220 1832">55.00</td> <td data-bbox="1220 1682 1394 1832">110.00</td> </tr> <tr> <td data-bbox="363 1832 475 1964">6</td> <td data-bbox="475 1832 879 1964">Hazardous / Solid Waste StorageArea</td> <td data-bbox="879 1832 1050 1964">1000.00</td> <td data-bbox="1050 1832 1220 1964">--</td> <td data-bbox="1220 1832 1394 1964">1000.00</td> </tr> </tbody> </table>					Sr. No.	Title	Area (m ²)			Existing	Proposed	Total	1	Plant Facilities	500.00	1000.00	1500.00	2	Admin Building&Laboratory	50.00	--	50.00	3	Utility Area (Boiler,Fuel Storage Area, Fly Ash Storage Area etc.)	300.00	--	300.00	4	Storage of Raw Material – Bentonite	1500.00	--	1500.00	5	Storage of Raw Material – Sulphuric Acid in Tank (20 KL each) & Sodium Silicate (20 KL each)	55.00	55.00	110.00	6	Hazardous / Solid Waste StorageArea	1000.00	--	1000.00
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5	Storage of Raw Material – Sulphuric Acid in Tank (20 KL each) & Sodium Silicate (20 KL each)	55.00	55.00	110.00																																							
6	Hazardous / Solid Waste StorageArea	1000.00	--	1000.00																																							

	7	Garden area	5645.00	--	5645.00 (33.02 %)
	8	ETP& STP Area	250.00	--	250.00
	9	Finish Product storage area	700.00	1000.00	1700.00
	10	OpenLand& Internal Road Area	7098.00	5043.00	5043.00
	TOTAL		17,098.00		
B-3	Green belt area				
		Existing	Proposed (Sq. meter)	Total (Sq. meter)	
	Area in Sq. meter	5645.00 Sq. m	-- Sq. m	5645.00 Sq. m	
	% of total area	33.02%	--	33.02%	
	-Comments:				
	The condition shall be given that -				
	The PP shall develop green belt (5645Sq. 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	
	-	--	25 (Male- 20, Female- 05)	25 (Male- 25, Female- 05)	
D	WATER				
D-1	Source of Water Supply				
	➤ Tanker Water/ Borewell				
	Comments:				
	1) Necessary permission will be taken to abstract the groundwater from CGWA after getting EC.				
D-2	Water consumption (KLD)				
	-				
		Existing KLD	Proposed (Additional) KLD	Total after Expansion KLD	Remarks

(U) Domestic	2.50	0.50	3.00	Fresh-3.00 KLD
(V) Gardening	0.50	1.50	2.00	1.30 KLD Fresh + 0.70 KLD recycled
(W) Industrial				
Process	4.80	40.00	44.80	33.09 KLD Fresh + 11.71 KLD recycled
Washing	--	--	--	--
Boiler	4.20	14.10	18.30	11.30 KLD Fresh +7.00 KLD recycled
Cooling	--	--	--	--
Others (Dust Suppression)	--	2.00	2.00	2.00 KLD recycled
Industrial Total	9.00	56.10	65.10	
Grand Total (A+B+C)	12.00	58.10	70.10	

-

Comments:

Summary of water requirement	Quantity KLD	Remarks
Total water requirement for the project (A)	70.10	--
Quantity to be recycled (B)	21.41	Process water recycle: 11.71 KLD + Treated sewage water: 2.70 KLD + Boiler Condensed Steam : 7.00 KLD
Total fresh water requirement (C)	48.69	--
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 with quantity 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 i.e.	
Process – 11.71 KLD	Process – 11.71KLD	No chemical contamination due to washing of natural Silica Sand.	Reused in washing after primary treatment	
STP Treated Water – 2.70 KLD	Dust Suppression/ Gardening: 2.70 KLD	COD <100 mg/l BOD <30 mg/l SS <100 mg/l	Feasible for Reuse	
Boiler Condensed Steam – 7.00 KLD	Boiler Makeup Water – 7.00 KLD	COD <100 mg/l BOD <10 mg/l SS <10 mg/l	Feasible for Reuse	
<p>In case of no reuse/recycle of waste water, Give brief note on justification as why no reuse/recycle.</p> <p>Not Applicable</p>				
D-3	Waste water generation (KLD)			
-				
Category	Existing KLD	Proposed (Additional) KLD	Total after Expansion KLD	Remarks
(O) Domestic	2.50	0.20	2.70	Treated in In-house STP & recycle in Gardening/dust suppression
(P) Industrial				
Process	2.76	15.00	17.76	Treated into ETP & recycle in process
Washing	--	--	--	--
Boiler	0.24	0.36	0.6	Treated into ETP & recycle

					in process											
	Cooling	--	--	--	--											
	Others(Dust Suppression)	--	--	--	--											
	Total Industrial waste water	3.00	15.36	18.36												
	<p>Comments:</p> <p>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.</p>															
D-4	Break-up of waste water disposal & facility (For Domestic)															
	<table border="1"> <tr> <td>Domestic:</td> <td>Domestic effluent (2.70 KLD) shall be allowed into in-house STP and treated sewage water (2.70KLD) will be reused for gardening/ dust suppression.</td> </tr> </table> <p>Comments:</p> <p>Domestic wastewater generation shall not exceed 2.70 KL/day for proposed project and it shall be treated in ETP. It shall not be disposed off through soak pit/ septic tank.</p>					Domestic:	Domestic effluent (2.70 KLD) shall be allowed into in-house STP and treated sewage water (2.70KLD) will be reused for gardening/ dust suppression.									
Domestic:	Domestic effluent (2.70 KLD) shall be allowed into in-house STP and treated sewage water (2.70KLD) will be reused for gardening/ dust suppression.															
D-5	Break-up of waste water disposal & facility (For Industrial)															
	<table border="1"> <thead> <tr> <th>Sr. no.</th> <th>Quantity KLD</th> <th>Facility</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>17.76</td> <td rowspan="2">Waste water generated from each manufacturing activity will be allowed into in-house ETP (comprising of primary & Tertiary treatment (Sand & Carbon Colum) facility) for treatment. After than treated water will be reused in Activated bentonite manufacturing Process.</td> </tr> <tr> <td>2.</td> <td>0.6</td> </tr> <tr> <td>Total</td> <td>18.36</td> <td>Thus unit will maintain ZLD for entire activity after expansion.</td> </tr> </tbody> </table> <p>Comments,</p> <p>1. The industrial effluent generation from the project shall not exceed 18.36 KLD after expansion.</p> <p>2. Total industrial effluent shall be treated in ETP consist of primary and tertiary ETP units and then treated effluent shall be completely recycled back in process within premises.</p>					Sr. no.	Quantity KLD	Facility	1	17.76	Waste water generated from each manufacturing activity will be allowed into in-house ETP (comprising of primary & Tertiary treatment (Sand & Carbon Colum) facility) for treatment. After than treated water will be reused in Activated bentonite manufacturing Process.	2.	0.6	Total	18.36	Thus unit will maintain ZLD for entire activity after expansion.
Sr. no.	Quantity KLD	Facility														
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2.	0.6															
Total	18.36	Thus unit will maintain ZLD for entire activity after expansion.														
E	AIR															
E-1	Power (Electricity) requirement : Existing-125 KVA+ proposed 75 KVA = TOTAL-200 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)
EXISTING						
4.	Steam Boiler (Capacity – 1.5 TPH)	30.0** m	Agro Waste/White Coal / Fire Wood* OR	60 Kg/hr	PM SO ₂ NO _x	Multi Cyclone Separator [#] + Bag Filter [#] + Water Scrubber #
			HSD	150 Liter/Day		Adequate stack height
5.	Rotary Dryer (Hot Air Generator with Dryer)	30.0** m	Agro Waste/White Coal / Fire Wood* OR	60 Kg/hr	PM SO ₂ NO _x	Multi Cyclone Separator [#] + Bag Filter [#] + Water Scrubber
			HSD	175 Liter/Day		Adequate stack height
6.	D.G. Set (100 KVA – 1 No.)	08.0 m	HSD	15 Lit/Hr	PM	Adequate stack height
7.	Roller mill (1 No.)	Closed Loop			PM	Cyclone separator followed by bag filter
PROPOSED						
8.	Pulverizer (1.5 TPH)	18.0 m	--	--	PM	Bag Filter

Note:

- *After expansion, unit will stop utilization of Fire Wood as a fuel and utilized Agro Waste / Briquettes of Bio Coal as a fuel in the utilities.
- ** Existing stack height will be increased from 20 m to 30 m.
- # Will be provided as an additional APCS after expansion.

E-3 Process gas

Sr. no.	Specific Source of emission (Name of the Product & Process)	Type of emissions i.e. Air Pollutants (SO ₂ , HCl, Cl etc.)	Stack/Vent Height (meter)	Air Pollution Control Measures (APCM)
There shall be no process gas emission from existing and proposed project activities.				

E-4 Fugitive emission details with its mitigation measures.

- Storage area of raw materials, Manufacturing process, Vehicle movement on internal roads

- Water Spraying on crusher
- Hood for Screening
- Greenbelt at periphery of wall
- Wind breaking wall loose
- Material storage below wind breaking wall
- To minimize vehicular emission due to transportation of material, paved roads will be maintained. Necessary repairs will be done immediately if the road is damaged.
- Regular water sprinkling will be carried out to suppress the dust particles.
- Regular Cleaning of internal road.

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	Category and Schedule as per HW Rules.	Specific Source of generation (Name of the Activity, Product etc.)	Quantity (MT/Year)			Management of HW
				Existing	Proposed	Total	
1.	ETP Sludge (Gypsum)	35.3 Sch. I	ETP	10.00	4630.00	4640.00	Collection, Storage, Transportation & Disposal by sending to cement industries for co processing OR Send for back filling of mines OR TSDF Site for secured land fill

								Collection, Storage, Transportation (through GPS mounted vehicle) and Disposed by selling to authorized end user whom have valid permission from GPCB as per Haz. Waste Rule-9 OR 100 % reuse in manufacturing of Precipitated Silica OR converted into Gypsum
	2.	Spent Acid (15-30%) AND/OR Gypsum (By-Product)	SCHI/ 26.3	Manufacturing Process (Activated Beneficiation)	--	15000 KL	15000 KL	
					--	18000.0	18000.0	Collection, Storage, Transportation & Disposal by sending to cement industries for co processing OR Send for back filling of mines OR TSDf Site for secured land fill
	3.	Used Oil	5.1 Sch. I	D. G Set	0.165	--	0.165	Maximum quantity reuse in plant for lubrication purpose & balance quantity if any will be Collected, Stored, Transported and Disposed by selling to registered re-processor

							enlisted by GPCB.
4.	MEE Salt	37.3 Sch. I	MEE	8	-8	00*	Collection, Reuse, Storage, Transportation and disposal to authorized TSDF site.
<p>Note:</p> <ul style="list-style-type: none"> In case of spent acid is not reutilized in onwards products (Precipitated Silica), than it will converted in gypsum sludge for further disposal to TSDF site/ cement Industries for co-processing. TSDF site membership will be obtained after getting EC. Unit will carried out agreement with cement industries/ acid consuming industries after obtaining EC but before obtaining CTO. * MEE will not be utilize after expansion, so there will be no generation of MEE salt. <p>Comments:</p> <ol style="list-style-type: none"> Waste management includes hazardous waste management and other solid waste management. Hazardous waste-management comprises of collection, storage, transportation, disposal, incineration, and recycle of waste. SEAC examined the details provided and found it as per requirement. The project proponent has to obtain membership of TSDF site & CHWIF before obtaining CTO of GPCB. 							
F-2		Non- Hazardous waste management matrix					
Sr. No.	Type of Waste	Category	Source of Generation	Quantity (MT/Year)	Management		
1.	Fly Ash	As per Fly Ash Notification	Boiler & Dryer	110.00 MT/Year	Collection, Storage, Transportation & Disposal by selling to Cement / Brick manufacturing unit / Local road contractor.		
2.	STP Sludge	MSW	STP	2.00 Kg/Day	Collection, Storage and reuse as manure in garden within premises.		
<p>Comments:</p> <ol style="list-style-type: none"> Management of fly ash shall be as per the Fly ash Notification 2009 & its amendment time to time and it shall be ensured that there is 100% utilization of fly ash to be generated from the unit. STP sludge shall be 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.			
No solvent utilization for any process				
G-2	LDAR proposed:			
<ul style="list-style-type: none"> LDAR Programme not applicable to the unit. 				
G-3	VOC emission sources and its mitigation measures			
Measures for achieving maximum solvent recovery and minimize VOC generation:				
➤ Not Applicable to the unit				
<i>Comments:Not applicable</i>				
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	Sodium Silicate	20 KL	2 nos.	corrosive
2	Sulphuric Acid	20 KL	2 nos.	corrosive
-				
<u>Storage of Hazardous chemicals in Tanks</u>				
Safety Precautions for Storage & Handling of Sulphuric Acid&Sodium Silicate:				
<ul style="list-style-type: none"> Sulphuric Acid &Sodium Silicate storage in Tank. Storage tank will be stored away from the process plant Dyke is provided to contain leakages. Dyked enclosure is able to contain the complete contents of the tank in the dyke in case of any emergency. Tanker unloading procedure is prepared and implemented. Trained and experience operator employed for tank area. Proper and sufficient fire fighting arrangement provided in tank and around the storage. Safety shower, eye wash with quenching unit provided in storage area. Adequate PPEs like full body protection apron, Hand gloves, gumboot, Respiratory mask etc. are provided to operator. 				
<u>Storage of Hazardous chemicals other than Tanks i.e. Drum, Barrels, Carboys, Bags etc.</u>				
There shall be no such chemicals stored in drum, barrels, carboys, bags etc.				
<u>Safety details of Hazardous Chemicals:</u>				
Type of	Safety measures			

Hazardous Chemicals			
Flammable		<ul style="list-style-type: none"> ➤ There will be no flammable area except electrical panel room &HSD storage area. ➤ Flame proof electrical fitting will be provided at proposed Lignite storage and Handling area. ➤ Workers provided safety shoes, hand gloves, Goggles as personal protective equipment. 	
Toxic & Corrosive		<ul style="list-style-type: none"> ➤ Storage area have cross air ventilation, no direct sun light, storage temp. below 40 deg. C. ➤ Containers which are opened must be carefully resealed and kept upright to prevent leakage. ➤ Charging in reactor shall be carried out through vacuum pump.Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. during handling using protective gloves/ protective clothing/ eye protection / face with proper respiratory protection. Proper label and identification board /stickers will be provided in the storage area. Safety showers and eye wash stations will be installed near the storage area 	
<ul style="list-style-type: none"> ➤ Applicability of PESO: Not applicable to the unit. 			
<p>Comments: Not applicable</p>			
H-2	Types of hazardous Processes involved and its safety measures:		
Type of Process	Safety measures including Automation		
<ul style="list-style-type: none"> ➤ Not applicable to the unit as no any hazardous process will be involved. 			

• **DELIBRATION AND RECOMMENDATION:**

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

Conditions with which Environment Clearance is recommended:**Construction Phase**

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

SPECIFIC CONDITIONS:

1. Unit shall manufacture activated bleaching earth by physical beneficiation of bentonite clay only.
2. Unit shall use fresh sulphuric acid of 98% and fresh lime as raw material for proposed products.
3. Unit shall obtain amendment in Consent to Operate obtained from GPCB for existing plant CCA regarding not install MEE as per undertaking submitted by PP, for compliance of conditions mentioned in revocation order issued by GPCB on dated 17.12.2021 before commissioning of proposed expansion project.
4. Unit shall obtain CGWA permission for ground water source i.e. bore well within premises from competent authority before start production of proposed product.
5. Project proponent shall procure bentonite from the authorized lease holder who has obtained Environmental Clearance as per the EIA Notification 2006, CTE & CC&A.
6. Unit shall sell out Gypsum to Cement Industry for co processing or Land filling for TSDF.
7. Entire quantity of spent sulphuric acid (15000 KL/Year) generated from the manufacturing process shall be sold to authorized end users having permission Rule 9 under HW Rule 2016 or shall be converted into gypsum or shall be 100% reutilized for manufacturing of precipitated silica as mentioned in Hazardous waste matrix.
8. The above-mentioned wastes shall be sold only to the potential users who are authorized by the competent authority (MoEF&CC/CPCB/SPCB etc.)

9. The unit shall submit the list of authorized end users of above-mentioned wastes along with MoU signed with them at least two months in advance prior to commencement of production. In absence of potential buyers of these items, the unit shall restrict the production of respective item.
10. Unit shall explore the possibilities for environment friendly methods for disposal of ETP waste instead of sending to TSDF site.
11. Complete Zero Liquid Discharge [ZLD] status shall be maintained all the time.
12. Unit shall install CEMS [Continuous Emission Monitoring System] in line to CPCB directions to all SPCB vide letter no. B-29016/04/06PCI-1/5401 dated 05/02/2014 for effluent discharge and air emission as per pollutants discharge/emission from respective project and an arrangement shall also be done for reflecting the online monitoring results on the company's server, which can be assessable by the GPCB/CPCB on real time basis. [For Small/Large/Medium (Red Category) & Whichever (Air emission & Effluent discharge) is applicable].
13. Leak Detection and Repair (LDAR) program shall be prepared and implemented as per the CPCB guidelines. LDAR Logbooks shall be maintained.
14. 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.
15. 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.
16. 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.
17. All measures shall be taken to avoid soil and ground water contamination within premises.
18. **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 labour within premises.

- h. Flame proof electrical fittings shall be provided in the plant premises, wherever applicable.
- i. Unit shall provide water sprinkler to the flammable material storage area.
- 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.

WATER

- 19. Total water requirement for the project shall not exceed 70.10 KLD. Unit shall recycle 21.41 KLD treated waste water recycled within plant. Hence, fresh water requirement shall not exceed 48.69 KLD and it shall be met through tanker water/bore well supply only. Prior permission from concerned authority shall be obtained for withdrawal of water.
- 20. The industrial effluent generation from the project shall not exceed 18.36 KLD after expansion.
- 21. Total industrial effluent shall be treated in ETP consist of primary and tertiary ETP units and then treated effluent shall be completely recycled back in process within premises.
- 22. Domestic wastewater generation shall not exceed 2.70 KL/Day after proposed expansion and it shall be treated in STP. It shall not be disposed off through soak pit/ septic tank. Unit shall provide buffer water storage tank of adequate capacity for storage of treated waste water during rainy days.
- 23. The unit shall provide metering facility at the inlet and outlet of ETP and maintain records for the same.
- 24. Proper logbooks of ETP; reuse/ recycle of treated/ untreated effluent; chemical consumption in effluent treatment; quantity & quality of treated effluent; power consumption etc. shall be maintained and shall be furnished to the GPCB from time to time.

AIR:

- 25. Unit shall not exceed fuel consumption for boiler, HAG and D G Set as per the point no. E-2 as mentioned above.
- 26. Unit shall provide adequate APCM with flue gas generation sources to achieve the norms prescribed by GPCB.
- 27. There shall be no process gas emission from manufacturing process.
- 28. PP shall use approved fuels only as fuel in boilers.
- 29. The fugitive emission in the workzone environment shall be monitored. The emission shall conform to the standards prescribed by the concerned authorities from time to time (e.g. Directors of Industrial Safety & Health). Following indicative guidelines shall also be followed to reduce the fugitive emission.
 - i. Internal roads shall be either concreted or asphalted or paved properly to reduce the fugitive emission during vehicular movement.
 - ii. Air borne dust shall be controlled with water sprinklers at suitable locations in the plant.
 - iii. A green belt shall be developed all around the plant boundary and also along the roads to mitigate fugitive & transport dust emission.
- 30. Regular monitoring of Volatile Organic Compounds (VOCs) shall be carried out in the work zone area and ambient air.

31. For control of fugitive emission, VOCs, following steps shall be followed :
 - i. Closed handling and charging system shall be provided for chemicals.
 - ii. Reflux condenser shall be provided over Reactors / Vessels.
 - iii. Pumps shall be provided with mechanical seals to prevent leakages.
 - iv. Air borne dust at all transfers operations/ points shall be controlled either by spraying water or providing enclosures.
32. Regular monitoring of ground level concentration of PM10, PM2.5, SO2, NOx shall be carried out in the impact zone and its records shall be maintained. Ambient air quality levels shall not exceed the standards stipulated by the GPCB. If at any stage these levels are found to exceed the prescribed limits, necessary additional control measures shall be taken immediately. The location of the stations and frequency of monitoring shall be decided in consultation with the GPCB.

HAZARDOUS / SOLID WASTES:

33. All the hazardous/ solid waste management shall be taken care as per the point no. F-1 as mentioned above.
34. Authorized end-users shall have permissions from the concerned authorities under the Rule 9 of the Hazardous and Other Wastes (Management and Transboundary Movement) Rules 2016.
35. Unit shall explore the possibilities for environment friendly methods like co-processing of hazardous waste for disposal of Incinerable & land fillable wastes before sending to CHWIF & TSDF sites respectively.
36. The project proponent has to obtain membership of TSDF site & CHWIF before obtaining CTO of GPCB.
37. The unit shall submit the list of authorized end users of hazardous wastes along with MoU signed with them at least two months in advance prior to the commencement of production. In the absence of potential buyers of these items, the unit shall restrict the production of the respective items.

GREENBELT AREA

38. The PP shall develop green belt within premises (5645 Sq. m. within premises 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.

OTHERS:

39. The project proponent shall carry out the activities (Provision of 10 Nos. Solar street light (Solar pole, battery, panel, LED light complete) on village road and Tree plantation activity (Tree, Tree guard, man power, water & Fertilizer cost) on village road of Dhaneti Village & Surrounding village) proposed under CER and it shall be part of the Environment Management Plan (EMP) as per the MoEF&CC's OM no. F. No. 22-65/2017-IA.III dated 30.09.2020. This shall be monitored and the monitoring report shall be submitted to the regional office of MoEF&CC as a part of half-yearly compliance report and to the District Collector. The monitoring report shall be posted on the website of the project proponent.

COMPLIANCE OF ENVIRONMENT CLEARANCE/REPORTING/ADMINISTRATION/APPEAL:

40. Project proponent shall inform to all the concerned authorities including Municipal Corporation and

District Collector and shall also give wide publicity through advertisement in minimum two local newspapers within seven days, about the Environment Clearance order accorded.

41. Project proponent shall appoint a key person in the organization who shall be responsible for compliance of above condition fully on behalf of the proponent. It will not mean that appointing a key person will exempt the project proponent from the responsibility of compliance. Any change in key person shall immediately be informed to SEIAA and all concerned authorities.
42. Designated key person shall submit six monthly compliance report to SEIAA/SEAC, MOEF&CC, GPCB and Nodal Department of the Government.
43. The Nodal Department or any authority or officer authorized by MOEF&CC/SEIAA can inspect the site of the project and all the facilities, for verification of compliances of environment clearance conditions.
44. In case of violation reported upon, the project proponent shall be responsible for all the legal actions as per Environment Protection Act, 1986 including SEIAA may cancel, withdraw or keep in abeyance, the Environment Clearance accorded.
45. Any person including the project proponent affected by this Environment Clearance order may file appeal to Honorable National Green Tribunal West Zone branch, Pune, preferably within a period of thirty days from the date of issue of Environment Clearance as prescribe under section 16 of National Green Tribunal Act 2010.
46. All complains and public grievance or representations may be addressed to SEIAA/SEAC in the email addresses (a) msseiaagj@gmail.com& (b) seacgujarat@gmail.com

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

Minutes approved by:

1.	Shri Akshay Kumar Saxena, Chairman, SEAC	
2.	Dr. S. C. Pant, Vice Chairman, SEAC	
3.	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	