Minutes of the 415th meeting of the State Level Expert Appraisal Committee held on 09th May 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 09.05.2022 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 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.

The additional agenda of TOR/Scoping 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.

1.	SIA/GJ/IND2/176382/2020	**M/s. Omgene Life Sciences Pvt. Ltd.** BlockNo.109 (Old Block no- 98/B), Gavasad, Padra Jambusar Road, Ta-Padra, Dist. Vadodara.	Appraisal
Category of the unit: **5(f)** **Project status: Expansion**			

- Project proponent (PP) submitted online application vide no. SIA/GJ/IND2/176382/2020 on dated 11.05.2021 for obtaining Environmental Clearance.
- Project proponent has submitted Form – 1, Pre-Feasibility Report & Environment Management Plan as per Notification issued by MoEF&CC vide S.O. 1223(E) dated 27th March, 2020 regarding consideration of proposals or activities in respect of Active Pharmaceuticals Ingredients (API) as B2 category.
- This is a new unit proposed for manufacturing of synthetic organic chemicals **[API and API Intermediates]** as tabulated below.

Sr. No.	Name of the Products	CASNo.	Qty.MT/Month	End-useoftheproducts
PLANT-1PEPTIDESBLOCK				
GROUP-AProductMix–25KG/Month				
1	Carfilzomib	868540-17-4	0.025 either/or	Anti-Cancer
2	CetrorelixAcetate	145672-81-7		Gynae-Care,Anti-Cancer
3	DegarelixAcetate	934016-19-0		Anti-Cancer
4	GanirelixAcetate	129311-55-3		Gynae-Care,Anti-Cancer
5	LanreotideAcetate	127984-74-1		Endocrine
6	OctreotideAcetate	83150-76-9		Endocrine
7	TriptorelinAcetate/Pamoate	57773-63-4		Anti-Cancer
8	TriptorelinAcetate/Pamoate	124508-66-3		Anti-Cancer
GROUP–B–ProductMix-150-KG/Month				
9.	Abaloparatide	247062-33-5	0.150 either/or	OrthoCare
10.	Carbetocin	37025-55-1		Gynae-Care
11.	Linaclotide	851199-59-2		Gastric-Care
12.	Liraglutide	204656-20-2		Anti-Diabetic
13.	Oxytocin	50-56-6		Gynae-Care
14.	Plecanatide	467426-54-6		Gastric–Care
15.	Semaglutide	910463-68-2		Anti-Diabetic
16.	Sincalide	25126-32-3		Gastric-Care
17.	Terlipressin	14636-12-5		Vasoactive(Hypotensive)
18.	Vasopressin	11000-17-2		Post-OperativeGastric-Care
TOTALPLANT-1(GROUPA+B)			0.175	
PLANT-2SEMISYNTHETIC&Others				
GROUP-C-5000-KG/Month				
19.	AnidulafunginFructose	166663-25-8	5 either/or	Anti-Fungal
20.	Brexanolone	516-54-1		CNS
21.	MicafunginSodium	208538-73-2		Anti-Fungal
22.	Midostaurin	120685-11-2		Anti-cancer
23.	Obeticholicacid	459789-99-2		Gastric-Care
24.	AclidiniumBromide	320345-99-1		PulmonaryCare

- 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 06.09.2021.
- During the meeting dated 06.09.2021, 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 JYOTI OM CHEMICAL RESEARCH CENTRE PVT.LTD remain 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 GPCB is under preparation of revised policy 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 of revised policy by GPCB regarding permission of new or expansion polluting units in Padra Region.**
- PP submitted reply of above query generated on SEAC VC meeting dated 22.04.2022, through Parivesh portal.
- This proposal is reconsidered in SEAC meeting dated **09.05.2022**. PP along with their technical expert/consultant, M/s. JYOTI OM CHEMICAL RESEARCH CENTRE PVT.LTD remains present in the meeting and made presentation before Committee.
- Looking to proposal for change in location of proposed project site, Committee asked for purpose of change of location proposal. Technical expert of PP informed that due to still 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, PP suffering from financial problem and hence request for change of location of proposed project site from **"BlockNo.109 (Old Block no- 98/B),Gavasad, Padra Jambusar Road, Ta-Padra, Dist.Vadodara"** to **"*block no. 590,594,0595 & 599, Village: Kandri, Taluka: Karjan, District: Vadodara- 391210"***

- Committee members informed technical expert of PP regarding proposal of EC appraisal is for location base as per submission of form- 1 and you have submitted proposal with respect to Village- Gavasad, Padra location in PARIVESH portal and now asked for change in location proposal, hence it is contradictory with EIA Notification 2006.
- Even though Committee asked for presenting documents regarding proposal i.e. land document for new site. Technical expert of PP presented only rent agreement for new site and upon asking regarding NA permission for industrial purpose for new proposed project site at Padra **to "*block no. 590,594,0595 & 599, Village: Kandri, Taluka: Karjan, District- Vadodara*** and linkage between land owner and project proponent in place of simply comes with rent agreement for proposed project site.
- **As proposal submitted by PP was not adequate and hence after detailed discussion, Committee unanimously decided to call project proponent after decision of revised policy by GPCB regarding permission of new or expansion polluting units in Padra Region.**

2.	SIA/GJ/IND2/206596/2021	**M/s. Annexy Chemo Pharma Industries** Plot no- 5905/7,6,5 GIDC Ankleshwar, ta-Ankleshwar, Dist-Bharuch	EC-Reconsideration

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

Project status: Expansion

- Project proponent (PP) submitted online application vide no. SIA/GJ/IND2/206596/2021 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 an expansion project proposed for manufacturing of synthetic organic chemicals **[API and API Intermediates]** as tabulated below

Sr. No.	Name of Product	API OR INTERMEDIATE	CAS No	Quantity MT/month			End use of the product
				Existing as per CTE 108818	Proposed	Total	
1	Solvent Distillation	---	---	300	0	300	
2	Thinner	---	---	500	0	500	
3	Piperazine Citrate	API	144-29-6	0	100	100	Anthelmintic
4	Piperazine Adipate	API	142-88-1	0			Anthelmintic

5	Piperazine Hexahydrate	API	142-63-2	0			Anthelmintic	
6	Piperazine Phosphate	API	18534-18-4	0			Anthelmintic	
7	Piperazine Dihydrochloride	API	142-64-3	0			Anthelmintic	
8	Cetrimide Solution 40 % either / OR Cetrimide powder	API	1119-97-7	0			Anti Bacterial	
9	Glycine	API	56-40-6	0	70	70	Glycine is used for treating schizophrenia. stroke, benign prostatic hyperplasia (BPH, and some rare inherited metabolic disorders	
10	Chlororhexadine HCl	API	3697-42-5	0			Anti Bacterial	
11	Chlorohexadine Gluconate	API	18472-51-0	0			Anti Bacterial	
12	Chlorohexadine Acetate	API	56-95-1	0	10	10	Anti Bacterial	
13	Chlorohexadine Base	Intermediate	55-56-1	0			Intermediate of Chlorohexadine Gluconate	
14	Losartan Potassium & Intermediates	API	124750-99-8	0	30	30	Anti-Hypertensive	
	4-{[2-butyl-4chloro-5-(hydroxymethyl)-1H-imidazol-1-yl]methyl}biphenyl-2 carbonitrile	Intermediate	114772-55-3	0			intermediate for Losartan Potassium	
	2-n-butyl-4-chloro-5hydroxymethyl-1-{[2"-(1H-tetrazole-5-yl)-biphenyl-4-yl]methyl]imidazole	Intermediate	124751-00-4	0			Losartan Potassium	

	2-n-butyl-4-chloro-5hydroxymethyl-1-{[2"-(1H-tetrazole-5-yl)-biphenyl-4-yl]methyl]imidazole potassium (Stage – Final)	Intermediate	124750-99-8	0			Losartan Potassium	
15	Metoprolol Tartrate	API	37350-58-6	0			Anti-hypertensive	
	(2-{[4-(2-methoxyethyl) phenoxy]oxirane) (Stage – A)	Intermediate	56718-70-8	0				
	(1-[4-2-methoxyethyl) phenoxy]-3-(propane-2-ylamino)propan-2ol) (Stage – B)	Intermediate	51384-51-1	0				
	(±)1-(Isopropylamino)-3-[p-(β-methoxyethyl)phenoxy]-2-propanol (+)-tartrate salt,	Intermediate	37350-58-6	0				
16	Metoprolol Succinate	API	98418-47-4	0			Anti-hypertensive	
	(2-{[4-(2-methoxyethyl)phenoxy]oxirane)	Intermediate	56718-70-8	0				
	(1-[4-2-methoxyethyl)phenoxy]-3-(propane-2-ylamino)propan-2ol)	Intermediate	51384-51-1	0				
	1-[4-(2-methoxyethyl)phenoxy]-3-[(1-methylethyl)amino]-2-propanol	Intermediate	98418-47-4	0				
17	Telmisartan& Intermediates AND/OR	API	144701-48-4	0			Anti-hypertensive	
	4'-methylbiphenyl – 2-carbonitrile (Stage – A)	Intermediate	114772-53-1	0				
	4-Bromomethyl 2-cyano biphenyl (Stage – B)	Intermediate	114772-54-2	0				

	4'-[[4-methyl-6-(1-methyl-1H-benzimidazol-2-yl)-2-propyl-1H-benzimidazol- 1-yl] biphenyl-2-carbonitrile.(Stage – C)	Intermediate	144702-27-2	0			
	4'-[[4-Methyl-6-(1-methyl-2 benzimidazole)-2-propyl-1-benzimidazol-1-yl] methyl] biphenyl-2-carboxylic acid.(Stage - Final)	Intermediate	144701-48-4	0			
18	Bosentan Monohydrate & Intermediates AND/OR	API	147536-97-8	0			Anti-hypertensive
	4-tert-butyl-N-(6-(2-hydroxy ethoxy)-5-(2-methoxy-phenoxy)-[2,2']-bipyrimidin-4-yl]-benzene sulphonamide Monohydrate	Intermediate	150728-13-5	0			
	4-tert-butyl-N-(6-(2-hydroxy ethoxy)-5-(2-methoxy-phenoxy)-[2,2']-bipyrimidin-4-yl]-benzene sulphonamide	Intermediate	150727-06-3	0			

	P-t-butyl-N-(6-chloro-5-(o-ethoxyphenoxy)-4-pyrimidinyl) benzene sulphonamide	Intermediate	147536-97-8	0			
	4, 6 dichloro-5-(2-methoxy phenoxy)-2,2'-bipyridine	Intermediate	157212-55-0	0			
19	Nebivolol & Intermediates	API	99200-09-6	0			Anti-hypertensive
	[6-fluoro-2-(oxiran-2-yl)-3,4-dihydro-2H-chromene]	Intermediate	169293-50-9	0			
	2-(6-fluoro-3,4-dihydro-2H-chromen-2-yl)ethyl acetate]	Intermediate	129101-36-6	0			
	[2-(6-fluoro-3,4-dihydro-2H-chromen-2-yl)ethyl acetate]	Intermediate	1345202-53-0	0			
	1-(6-fluoro-3,4-dihydro-2H-chromen-2-yl)-2-[[2-(6fluoro-3,4-dihydro-2H-chromen-2-yl)-2hydroxyethyl] amino] ethanol; hydrochloride	Intermediate	99199-90-3	0			
20	Pentoxifyline	API	06-05-93	0			Anti-hypertensive
	3,7-Dihydro-3,7-dimethyl-1-(5-oxohexyl)-1*H*-purine-2,6-dione	Intermediate	06-05-93	0			
21	Paroxitine HCl& Intermediates	API	78246-49-8	0			Anti depressant
	(3S-trans)-3-[(1,3-Benzodioxol-5-	Intermediate	317323-77-6	0			

	yloxy)methyl]-4-(4-fluorophenyl) piperidine Hydrochloride						
	(3S,4R)-3-[(1,3-benzodioxol-5-yloxy)methyl]-4-(4-fluorophenyl)-1-methylpiperidine	Intermediate	110429-36-2	0			
	(3S)-4-(4-fluorophenyl)-1-methylpiperidin-3-yl]-methyl 4-methyl benzenesulfonate	Intermediate	78246-49-8	0			
22	Topiramate & Intermediates	API		0			Anti viral
	2,3:4,5-bis-O-(1-isopropylidene)-β-D-fructopyranose	Intermediate	20880-92-6	0			
	3:4,5-Bis-O-(1-methylethylidene)- β -D-fructopyranosesulfamate	Intermediate	97240-79-4	0			
23	Granisetron	API	109889-09-0	0			Antiemitic
	1-Methyl-N-(1S)-9-methylbicyclo (3.3.1) non-3-yl]-1H-indazole-3-carboxamide HCl	Intermediate	107007-99-8	0			
24	Granisetrone Base	API	109889-09-0	0			Antiemitic
	1-Methyl-N-(1S)-9-methylbicyclo (3.3.1) non-3-yl] -1H-indazole-3-carboxamide Base	Intermediate	109889-09-0	0			
25	Repaglinide & Intermediates	API	135062-02-1	0			Hypoglcemic
	((S)-3-Methyl-1-[(2-(1-piperidinyl)phenyl] butylamine))	Intermediate	147770-06-7	0			
	((S)-2-Ethoxy-4-[2-[[3-methyl-1-[(2-(1-piperidinyl)phenyl] butyl]amino]-2-oxoethyl benzoic acid ethyl ester)	Intermediate		0			

	((S)-2-Ethoxy-4-[2-[[(1S)-3-methyl-1-[(2-(1-piperidin-1-yl)phenyl]butyl]amino]-2-oxoethyl] benzoic acid)	Intermediate	135969-54-9	0			
26	Riluzole & Intermediates	API	1744-22-5	0			Anti-depressant
	6-(Trifluoromethoxy)-2-Benzothiazoleamine	Intermediate	1744-22-5	0			Riluzole
27	Colesevelam HCl & Intermediates	API	182815-44-7	0			Antihyperlipidemic
	Polly Allylamine Hydrochloride	Intermediate	71550-12-4	0			
	2-(chloromethyl)oxirane; prop-2-en-1-amine;hydrochloride	Intermediate	152751-57-0	0			
28	Desloratidine Levocetrizine di hydrochloride & Intermediates	API	100643-71-8	0			Antihistamine
29	Fluticasone Propionate & Intermediates	API	80474-14-2	0			Anti-inflammatory
	[17 β{(N,N dimethylcarbomoyl) thio}carbonyl-6a,9a-difluoro 11β-hydroxy-16 α-Methyl- 17 α(propionyloxy)-3-oxondrosta-1,4-diene]	Intermediate	105638-31-1	0			
	6α,9α-Difluoro-11β-hydroxy-16α-methyl-3-oxo-17α-(propionyloxy)-androsta-1,4-diene-17β-carbothioic Acid	Intermediate	80474-45-9	0			
	[S-fluoromethyl 6a,9a-difluoro 11β-hydroxy-16 α-Methyl- 17 α(propionyloxy)-3-oxondrosta-1,4-diene 17 β-carbothioate]	Intermediate	80474-14-2	0			
	[S-fluoromethyl 6a,9a-difluoro 11β-hydroxy-	Intermediate	80474-14-2	0			

	16 α-Methyl- 17 α(propionyloxy)-3-oxondrosta-1,4-diene 17 β-carbothioate]						
30	Zonisamide & Intermediates	API	68291-97-4	0			Anticonvulsant
	1, 2-Benzisoxazole - 3-methane sulfonyl chloride	Intermediate	73101-65-2	0			
	1, 2-Benzisoxazole - 3-methane sulfonamide	Intermediate	68291-97-4	0			
31	Lacosamide & Intermediates	API	175481-36-4	0			Anticonvulsant
	(R)-N-Boc-D- serine	Intermediate	6368-20-3	0			
	Boc-D-Serine Benzylamide	Intermediate	1253790-58-7	0			
	(R)-N-Benzyl-2-N-Bocamino-3-methoxy propionamide	Intermediate	880468-89-3	0			
	(R)-2-Amino-N-Benzyl-3-methoxy-propionamide	Intermediate	196601-69-1	0			
32	Oxcarbazepine & Intermediates	API	28721-07-5	0			Anticonvulsant
	10-oxo-10,11-dihydro-5H-dibenzo[b,f]azepine-5-carboxamide	Intermediate	28721-07-5	0			
33	Deferasirox & Intermediates	API	201530-41-8	0			Anticonvulsant
	2-(2-(2-hydroxyphenyl) Benz(e)[1,3]oxazine - 4-0ne	Intermediate	1218-69-5	0			
	4-[3,5-Bis(2-hydroxyphenyl)-1H-1,24-triazole -1-yl benzoic acid	Intermediate	201530-41-8	0			
34	Esomeprazole Magnassium & Intermediates	API	217087-09-7	0			Peptic ulcer diseases

	5-Methoxy-2-(4-methoxy-3,5-dimethylpyridine-2-yl-methylthio)1H-benzimidazole	Intermediate	113713-24-9	0			
	methoxy -2-{(S)-[(4-methoxy-3,5-dimethyl pyridine -2-yl)methyl sulfinyl) 1H – benzimidazole magnesium, trihydrate	Intermediate	217087-09-7	0			
35	Pentaprazole sodium & Intermediates	API	138786-67-1	0			Peptic ulcer diseases
	5-(Difluoromethoxy)-2- {[(3,4 Dimethoxypyridin - 2-yl) methyl] thio}-1H-benzimidazole	Intermediate	102625-64-9	0			
	(1H-Benzimidazole, 5-(difluoromethoxy)-2-(((3,4-dimethoxy-2-pyridinyl) methyl)sulfinyl)	Intermediate	164579-32-2	0			
36	Lercadipine Hydrochloride & Intermediates	API	132866-11-6	0			Peptic ulcer diseases
	5-Methoxycarbonyl-2,6-Dimethyl-4-(3-Nitrophenyl)-1,4-Dihydrpyridine-3-Carboxylic Acid	Intermediate	74936-72-4	0			
	1,4-Dihydro-2,6-dimethyl-4-(3-nitro phenyl)-2-[(3,3-diphenylpropyl) methyl amino]-1,1-dimethylethyl methyl ester 3,5-pyridinedicarboxylic	Intermediate	132866-11-6	0			

	acid hydrochloride						
37	Rosuvastatin Calcium & Intermediates	API	147098-20-2	0			Peptic ulcer diseases
	(+)-(3R, 5S)-7-[4-(4-FLUOROPHENYL)-6-ISOPROPYL-2-(N-METHYL-N-METHANESULFONYLAMINO)PYRIMIDIN-5-YL]-(3,5)-DIHYDROXY-6(E)-HEPTENOATE, tert-Butyl rosuvastatin	Intermediate	147098-18-8	0			
38	Atorvastatin & Intermediates	API	134523-00-5	0			Peptic ulcer diseases
	(4R,6R)-tert-Butyl-6-(2-aminoethyl)-2,2-dimethyl-1,3-dioxane-4-acetate	Intermediate	125995-13-3	0			
	tert-Butyl (4R,6R)-2-[[[6-(2-4-fluorophenyl)-5-isopropyl-3-phenyl-4-(phenylcarbamoyl)pyrrol-1-yl]ethyl]-2,2-dimethyl-1,3-dioxan-4-yl]acetate	Intermediate	125971-95-1	0			
	[R-(R*, R*)]-2-(4-fluorophenyl)-β, δ-dihydroxy-5-(1-methylethyl)-3-phenyl-4-[(phenylamino)carbonyl]-1Hpyrrole-1-heptanoic acid, calcium salt (2:1)trihydrate.	Intermediate	134523-03-8	0			
39	Sitagliptin Phosphate & Intermediates	API	654671-78-0	0			Antidiabatic
	(Z)-3-[[(1R)-1-phenylethyl)amino]-4-(2,4,5-trifluorophenyl)but-2-enoic acid	Intermediate	---	0			
	(2z)-3-{[(1r)-1-phenylethyl]amino}-1-[3-(trifluoromethyl)-5,6-dihYdro[1,2,4]triazolo[4,3-a]pyrazin-7(8h)-yl]-4-(2,4,5-trifluorophe Nyl)-2-buten-1-one	Intermediate	1169707-29-2	0			
	(3R)-3-amino-1-[3-	Intermedia	654671-	0			

	(trifluoromethyl)-6,8-dihydro-5H-[1,2,4]triazolo[4,3-a]pyrazin-7-yl]-4-(2,4,5-trifluorophenyl)butan-1-one;phosphoric acid;hydrate	te	77-9				
	Sitagliptin Phosphate & Intermediates	API	654671-78-0	0			
40	Canagliflozin Teniligliptine & Intermediates	API	928672-86-0	0			
41	Glimipiride & Intermediates	API	93479-97-1	0			
	N-{2-[4-(aminosulfonyl)phenyl]ethyl}-3-ethyl-4-methyl-2- oxo-2, 5-dihydro-1H-pyrrole-1-carboxamide	Intermediate	119018-29-0	0			Antidiabatic
	3-ethyl-4-methyl-N-{2-[4-({[(4-methylcyclohexyl)carbamoyl]aminosulfonyl) phenyl]ethyl}-2-oxo-2,5-dihydro-1H-pyrrole-1-carboxamide	Intermediate	93479-97-1	0			
42	Adapelene & Intermediates	API	106685-40-9	0			
	2-(1-admantyl)-4-bromophenol	Intermediate	104224-63-7	0			
	3-(5-bromo-2-methoxyphenyl) tricycle [4.3.1.0] decane	Intermediate	106685-41-0	0			
	Methyl 6-[3-(1-adamantyl)-4-methoxyphenyl]-2-naphthoate	Intermediate	106685-40-9	0			Antidiabatic
	6-(4-methoxy-3-tricyclo [3.3.1.1] dec-1-yl phenyl) napthalene-2-carboxylic acid	Intermediate	106685-40-9	0			
43	Etoricoxib & Intermediates	API	202409-33-4	0			
	1-(6-Methyl-3-pyridinyl)-2-(4-methyl sulfonyl) phenyl ethenone (Ketosulphone,	Intermediate	221615-75-4	0			Analgesic
	5-chloro-6'-methyl-3-	Intermedia	202409-	0			

	[4-(methylsulfonyl) phenyl]-2,3'-bipyridine	te	33-4				
44	Lornoxicam & Intermediates	API	70374-39-9	0			
	6-chloro-4-hydroxy-3-Methoxycarbonyl-2H-Thieno[2,3,e]-1,2-Thiazine-1,1-Dioxide	Intermediate	70374-51-5	0			
	6-chloro-4-hydroxy-2-methyl-3-Methoxycarbonyl-2H-Thieno [2,3,e]-1,2-Thiazine-1,1-Dioxide	Intermediate	70415-50-8	0			
	6-chloro-4-hydroxy-2-methyl-N-(2-pyridinyl)-2H-thieno[2,3,e]-1,2-Thiazine-3-carboxamide- 1,1-dioxide	Intermediate	70374-39-9	0			
45	Maloxicam & Intermediates	API	71125-38-7	0			
	methyl (1,1-dioxido-3-oxo-1,2-benzothiazol-2(3*H*)-yl)acetate	Intermediate	6639-62-9	0			
	methyl 4-hydroxy-2-methyl-2*H*-1,2-benzothiazine-3-carboxylate 1,1-dioxide	Intermediate	35511-15-0	0			
	4-hydroxy-2-methyl-*N*-(5-methyl-1,3-thiazol-2-yl)-2*H*-1,2-benzothiazine-3-carboxamide 1,1-dioxide	Intermediate	1027136-06-6;	0			
46	Fluconazole & Intermediates	API	86386-73-4	0			
	2-(2, 4-diflurophenyl)-1, 3-bis (1H-1, 2,4-triazol-1-yl)-propan-2-ol.	Intermediate	89429-59-4	0			
	1-H-1, 2,4 Trizole	Intermediate	288-88-0	2	28		
	4 Amino 1, 2,4 Trizole	Intermediate	584-13-4	2	28		
47	Sertaconazole & Intermediates	API	99592-32-2	0	30		
	(RS)-1-[2-[(7-chloro-1-benzothiophen-3-yl)methoxy]-2-(2,4,-dichlorophenyl) ethyl]-1H-imidazole	Intermediate	99592-32-2	0			

	1-[2-[(7-chloro-1-benzothiophen-3-yl)methoxy]-2-(2,4-dichlorophenyl) ethyl]imidazole;nitric acid	Intermediate	99592-39-9	0			
48	Terbinafine HCl & Intermediates	API	91161-71-6	0			
	trans-N-(6,6-Dimethyl-2-hepten-4-ylyl)-N-methyl-1-naphthyl methyl amine	Intermediate	78628-80-5	0			
49	Pregabalene & Intermediates	API	148553-50-8	0			
	(3- (2-amino-2-oxoethyl) -5-methylhexanoic acid	Intermediate	181289-15-6	0			
	(3R)-3- (2-amino-2-oxoethyl)-5-methylhexanoic acid	Intermediate	181289-33-8	0			
	(3S)-3-(aminomethyl)-5-methyl hexanoic acid	Intermediate	148553-50-8	0			
50	Olmesartanmedoxomil & Intermediates	API	144689-63-4	0			
	Ethyl-4(1-hydroxy-1-ethylethyl)-2-propyl-1-{4-[2-(trityl tetrazol-5-yl-) -phenyl] phenyl} methyl imidazole-5-carboxylate.	Intermediate	189400-21 - 3	0			
	1H-Imidazole-5-carboxylicacid,4-(1-hydroxy-1-methyl ethyl)-2-propyl -1-[2'-[1-(triphenylmethyl)-1-H-tetrazole-5-yl][1,1'-biphenyl]-4-yl]methyl]-(5-methyl-2-oxo-1,3-dioxol-4-yl)methyl ester	Intermediate	144690-92 - 6	0			Anti hypertensive
	4-(1-Hydroxy-1-methylethyl)-2-propyl-1-[[2'-(1H-tetrazole-5yl)[1,1'-biphenyl]-4-yl]-methyl]-1H-imidazole-5-carboxylic acid (5-methyl-2-oxo-1, 3- dioxol-4-yl) methyl ester	Intermediate	144689 – 63 - 4	0			
51	Frucemide &	API	54-31-9	0			

	Intermediates						
	4-Chloro-N-furfuryl-5-sulfamoyl anthranilic acid, 5-(Aminosulfonyl)-4-chloro-2-([2-furanylmethyl] amino) benzoic acid	Intermediate	54-31-9	0			
52	Phenyl ephrineHCl & Intermediates	API	61-76-7	0			Anti-alergatic
	2-bromo-1-(3-hydroxyphenyl) ethanone	Intermediate	2491-37-4	0			
	2-[benzyl(methyl)amino]-1-(3-hydroxyphenyl)ethanone	Intermediate	56917-44-3	0			
	3-[1-hydroxy-2-(methylamino)ethyl]phenol	Intermediate	1477-63-0	0			
	1R)-1-(3-Hydroxyphenyl)-2-(methylamino)ethanol hydrochloride	Intermediate	61-76-7	0			
53	Vildagliptine & Intermediates	API	274901-16-5	0			Anti-alergatic
	(2S)-1-(chloroacetyl)pyrrolidine-2-carboxamide	Intermediate	214398-99-9	0			
	(2S)-1-(chloroacetyl)pyrrolidine-2-carbonitrile	Intermediate	207557-35-5	0			
	(2S)-1-{[(3-hydroxytricyclo [3.3.1.13,7] dec-1-yl)amino]acetyl}pyrrolidine-2 carbonitrile	Intermediate	274901-16-5	0			
54	Luliconazole	API	187164-19-8	0			Antifungal
	1H-imidazol-1-ylacetonitrile	Intermediate	98873-55-3	0			
	(2E)-[(4R)-4-(2,4-dichlorophenyl)-1,3-dithiolan-2-ylidene](1H-imidazol-1-yl)ethanenitrile HCl	Intermediate	187164-19-8	0			
55	Atovaquone & Intermediates	API	95233-18-4	0			Antimalarial
	2-chloro-3-[trans-4-(4-chlorophenyl)cyclohexyl]naphthalene-1,4-dione	Intermediate	153977-22-1	0			
	2-[trans-4-(4-	Intermedia	95233-	0			

	chlorophenyl) cyclohexyl]-3-hydroxynaphthalene-1,4-dione	te	18-4				
56	Linagliptine & Intermediates	API	668270-12-0	0			Anti-diabetic
	8-Bromo-7-(but-2-yn-1-yl)-3-methyl-3,7-dihydro-1H-purine-2,6-dione	Intermediate	666816-98-4	0			
	(2-(Chloromethyl)-4-methylquinazoline)	Intermediate	109113-72-6	0			
	(5-methyl-2-[(3R)-piperidin-3yl]-1H-isoindole-1,3(2H)-dione)	Intermediate	4667-76-9	0			
	(8-bromo-7-(But-2-yn-1-yl)-3-methyl-1-[(4-methylquinazolin-2-yl)methyl]-3,7 dihydro-1H-purine-2,6-dione)	Intermediate	853029-57-9	0			
57	Hydroxychloroquine & Intermediate	API	118-42-3	0			Antimalarial
	4,7-dichloro quinolone	Intermediate	86-98-6	0			
	hydroxynoval diamine	Intermediate	69559-11-1	0			
58	Albendazole	API	54965-21-8	0			Anthelmintic
	2-Nitro-p-thiocyanoaniline	Intermediate	54029-45-7	0			
	4-propylthio-o-phenylenediamine	Intermediate	66608-52-4	0			
	5-Propyl thio benzamidazol carbamate	Intermediate	54965-21-8	0			
59	Mebendazol	API	31431-39-7	0			Anthelmintic
	4-chloro-3-nitro Benzophenone	Intermediate	56107-02-9	0			
	3,4-Diaminobenzophenone) (DABP)	Intermediate	39070-63-8	0			
	Methyl 6-benzoyl-1H-benzimidazol-2-yl) carbamate	Intermediate	31431-39-7	0			
60	Febendazol	API	43210-67-9	0			Anthelmintic
	(Methyl [6-(phenylsulfanyl)-1*H*-benzimidazol-2-yl]	Intermediate	43210-67-9	0			
61	Amio darone	API	19774-82-4	0			Antiarrhythmic

	(2-butyl-1-benzofuran-3-yl)(4-hydroxyphenyl)methanone	Intermediate	141645-16-1	0			
	(2-butyl-1-benzofuran-3-yl)(4-hydroxy-3,5-diiodophenyl)methanone	Intermediate	1951-26-4	0			
	(2n-butybenzofuran-3-yl){4-[2-(diethylamino)ethoxy]-3,5-diiodoohenyl}methanone hydrochloride	Intermediate	19774-82-4	0			
62	Aripiprazole	API	129722-12-9	0			
	-(4-iodobtoxy)-3,4-dihydro-2(1H) quinolinone	Intermediate	952308-47-3	0			
	7-{4-[4-(2,3-Dichlorophenyl) piperazin-1-yl]butoxy}-3,4-dihydro quinolin-2(1H)-one (Technical)	Intermediate	129722-12-9	0			
63	Azithromycine	API	83905-01-5	0			Antibiotic
64	Bupropion HCl	API	31677-93-7	0			Antidepressant
65	Duloxetine HCl	API	136434-34-9	0			Antidepressant
	(3-(dimethylamino)-1-thiophen-2-yl)propan-1-ol	Intermediate	132335-44-5	0			
	(N,N-dimethyl-3-(napthalen-1-ylox-y)-3-(thiophen-2-yl)propane-1-amine)	Intermediate	132335-47-8	0			
	(+)-(S)-N-Methyl-γ-(1-naphthyloxy)-2-thiophenepropylamine hydrochloride	Intermediate	136434-34-9	0			
	Duloxetine HCl	API	136434-34-9	0			
66	Linezolid & Intermediate	API	93246-53-8	0			Antibiotic
	3-Fluoro-4-morpholinylaniline	Intermediate	168828-89-5	0			
	(S)-N—[[3-[3-fluoro-4-[4[morpholinyl]-1-phenyl]-1-2-oxo-5-0xazolidinyl]methyl]phthalimide	Intermediate	189038-36-6	0			
	N-[[(5S)-3-[3-Fluoro-4-(4-	Intermediate	93246-53-8	0			

	morpholinyl)phenyl]-2-oxo-5-oxazolidinyl]methyl]-acetamide						
67	Tenoxicam	API	59804-37-4	0			Antiinflamatory
	Methyl – 4 – Hydroxy – 2H – Thieno [2,3-e] – 1, 2 – Thiazine – 3 – Carboxylate - 1 , 1 Dioxide.	Intermediate	98827-44-2	0			
68	Tenoxicam	API	59804-37-4	0			Antiinflamatory
	Methyl – 4 – Hydroxy – 2H – Thieno [2,3-e] – 1, 2 – Thiazine – 3 – Carboxylate - 1 , 1 Dioxide.	Intermediate	98827-44-2	0			
69	RebePrazole Sodium	API	117976-90-6	0			Gastrointestinal
	4(3-methoxy propoxy)-2-hydroxymethyl -3-methyl pyridine hydrochloride	Intermediate	118175-10-3	0			
	4-(3-methoxy-propoxy)-2-Chloromethyl -3-methyl-pyridine	Intermediate	153259-31-5	0			
	2-[4-(3-Methoxy-propoxy)-3-methyl-pyridin-2-ylmethylsulfanyl]-1H-benzoimidazole	Intermediate	117977-21-6	0			
	2-[4-(3-Methoxy-propoxy)-3-methyl-pyridin-2-ylmethanesulfinyl]-1H-benzoimidazole	Intermediate	117976-89-3	0			
70	Cetrizine Dihydrochloride	API	83881-52-1	0			Anti allargic
	P-Chloro Benzhydryl chloride	Intermediate	134-83-8	0			
	4-Chlorobenzhydryl Piperazine	Intermediate	303-26-4	0			
	4-Chlorobenzhydryl Piperazine ethanol	Intermediate	164726-80-1	0			
	4-Chlorobenzhydryl Piperazine ethanol Duhydrochloride	Intermediate	83881-52-1	0			

71	Mefenamic Acid	API	61-68-7	0			Anti-inflammatory
	(2-[(2,3-dimethylphenyl)amino]benzoic acid) Crude	Intermediate	61-68-7	0			
	Mefenamic acid	Intermediate	61-68-7	0			
72	Nimesulide	API	51803-78-2	0			Anti-inflammatory
	Nimesulide	Intermediate	51803-78-2	0			
73	Allopurinol	API	315-30-0	0			Anti uritic
	3-Morpholino-2-cyanoacrylamide	Intermediate	25229-97-4	0			
	3-Aminopyrazole-4-carboxamide hemi-sulphate	Intermediate	27511-79-1	0			
	4-Hydroxypyrazolo[3,4-d]pyrimidine Crude	Intermediate	315-30-0	0			
74	Diclofenac Sodium	API	15307-86-5	0			Anti-Hypertensive
75	Aceclofenac	API	89796-99-6	0			Anti-inflammatory
76	Tranexamic acid And its intermediate And	API	1197-18-8	0			Anti fibrinolytic
	4-cyano benzoic acid	Intermediate	619-65-8	0			
	4-(aminomethyl)benzoic acid	Intermediate	56-91-7	0			
77	Entacapone And its intermediate	API	130929-57-6	0			Anti-diabetic
78	N-N- Di ethyl amino cyano acetamide	API	2832-19-1	0			Anti-diabetic
79	Glipizide And its intermediate	API	29094-61-9	0			Anti diabetic
80	4-(2-amino ethyl)benzenesulfonamide	API	35303-76-5	0			Glipizide
81	5-methyl pyrazine-2-carboxylic acid	API	5521-55-1	0			Glipizide
82	Tramadol & its intermediate	API	27203-92-5	0			analgesics
	Meta Bromo Nitro Benzene	Intermediate	585-79-5	3	27		Tramadol
83	R & D Product	API/Intermediate	----	0	0.1	0.1	
Total			---	807	210.1	1017.1	

 # Brief Note of Product Profile:

- No of Manufacturing Plants: 1+2 (Existing+ Proposed)
- Brief Note regarding number of Products to be manufactured considering plant capacity:
- 05 Nos

ENDUSE of products

Sr. No.	Name of the Product	CAS No. (Product)	Type/ Category of Product (API/ Intermediate)	Stage i.e. n-1, n-2, etc.	Name of API in which Intermediate Used/ End use of said Intermediate	CAS no. (API)
1	Piperazine Citrate	API	144-29-6	--	--	---
2	Piperazine Adipate	API	142-88-1	--	--	---
3	Piperazine Hexahydrate	API	142-63-2	--	--	---
4	Piperazine Phosphate	API	18534-18-4	--	--	---
5	Piperazine Dihydrochloride	API	142-64-3	--	--	---
6	Cetrimide Solution 40 % either / OR Cetrimide powder	API	1119-97-7	--	--	---
7	Glycine	API	56-40-6	--	--	---
8	Cetrimide Solution 40 % either/OR Cetrimide powder	API	1119-97-7			
9	Glycine	API	56-40-6			
10	Chlororhexadine HCl	API	3697-42-5	---	---	---
11	Chlorohexadine Gluconate	API	18472-51-0	---	---	---
12	Chlorohexadine Acetate	API	56-95-1	---	---	---
13	Chlorohexadine Base	Intermediate	55-56-1	---	---	55-56-1
14	Losartan Potassium	API	124750-99-8	---	---	---
	4-{[2-butyl-4chloro-5-(hydroxymethyl)-1H-imidazol-1-yl]methyl}biphenyl-2-carbonitrile	Intermediate	114772-55-3	n-3	Losartan Potassium	124750-99-8
	2-n-butyl-4-chloro-5hydroxymethyl-1-{[2"-(1H-tetrazole-5-yl)-biphenyl-4-yl]methyl]imidazole	Intermediate	124751-00-4	n-2	Losartan Potassium	
	2-n-butyl-4-chloro-5hydroxymethyl-1-{[2"-(1H-tetrazole-5-yl)-biphenyl-4-yl]methyl]imidazole potassium	Intermediate	124750-99-8	n-1	Losartan Potassium	
15	Metoprolol Tartrate	API	37350-58-6	---	---	---

	(2-{[4-(2-methoxyethyl)phenoxy]oxirane)	Intermediate	56718-70-8	n-3	Metoprolol Tartrate	37350-58-6	
	(1-[4-2-methoxyethyl)phenoxy]-3-(propane-2-ylamino)propan-2ol)	Intermediate	51384-51-1	n-2	Metoprolol Tartrate		
	(±)1-(Isopropylamino)-3-[p-(β-methoxyethyl)phenoxy]-2-propanol (+)-*tartrate* salt	Intermediate	37350-58-6	n-1	Metoprolol Tartrate		
16	Metoprolol Succinate	API	98418-47-4				
	(2-{[4-(2-methoxyethyl)phenoxy]oxirane)	Intermediate	56718-70-8	n-3	Metoprolol Succinate	98418-47-4	
	(1-[4-2-methoxyethyl)phenoxy]-3-(propane-2-ylamino)propan-2ol)	Intermediate	51384-51-1	n-2	Metoprolol Succinate		
	1-[4-(2-methoxyethyl)phenoxy]-3-[(1-methylethyl)amino]-2-propanol	Intermediate	98418-47-4	n-1	Metoprolol Succinate		
17	Telmisartan	API	144701-48-4	---	----	---	
	4'-methylbiphenyl – 2-carbonitrile (Stage – A)	Intermediate	114772-53-1	n-4	Telmisartan	144701-48-4	
	4-Bromomethyl 2-cyano biphenyl (Stage – B)	Intermediate	114772-54-2	n-3	Telmisartan		
	4'-[[4-methyl-6-(1-methyl-1H-benzimidazol-2-yl)-2-propyl-1H-benzimidazol- 1-yl] biphenyl-2-carbonitrile.(Stage – C)	Intermediate	144702-27-2	n-2	Telmisartan		
	4'-[[4-Methyl-6-(1-methyl-2-benzimidazole)-2-propyl-1-benzimidazol -1-yl] methyl] biphenyl-2-carboxylic acid. (Stage - Final)	Intermediate	144701-48-4	n-1	Telmisartan		
18	Bosentan Monohydrate	API	157212-55-0	---	---	---	
	4, 6 dichloro-5-(2-methoxy phenoxy)-2,2'-bipyridine	Intermediate	150728-13-5	n-4	Bosentan Monohydrate	157212-55-0	
	P-t-butyl-N-(6-chloro-5-(o-ethoxyphenoxy)-4-pyrimidinyl) benzene sulphonamide	Intermediate	150727-06-3	n-3	Bosentan Monohydrate		

	4-tert-butyl-N-(6-(2-hydroxy ethoxy)-5-(2-methoxy-phenoxy)-[2,2']-bipyrimidin-4-yl]-benzene sulphonamide	Interme diate	147536-97-8	n-2	Bosentan Monohydrate	
	4-tert-butyl-N-(6-(2-hydroxy ethoxy)-5-(2-methoxy-phenoxy)-[2,2']-bipyrimidin-4-yl]-benzene sulphonamide Monohydrate	Interme diate	157212-55-0	n-1	Bosentan Monohydrate	
19	Nebivolol	API	99200-09-6	---	----	---
	1-(6-fluoro-3,4-dihydro-2H-chromen-2-yl)-2-[[2-(6-fluoro-3,4-dihydro-2H-chromen-2-yl)-2-hydroxyethyl]amino]ethanol;hydrochloride	Interme diate	169293-50-9	n-4	Nebivolol	99200-09-6
	[2-(6-fluoro-3,4-dihydro-2*H*-chromen-2-yl)ethyl acetate]	Interme diate	129101-36-6	n-3	Nebivolol	
	[2-(6-fluoro-3,4-dihydro-2*H*-chromen-2-yl)-2-{[(4-methylphenyl)sulfonyl]oxy}ethyl acetate]	Interme diate	1345202-53-0	n-2	Nebivolol	
	[6-fluoro-2-(oxiran-2-yl)-3,4-dihydro-2*H*-chromene]	Interme diate	99199-90-3	n-1	Nebivolol	
20	Pentoxifyline	API	06-05-93	---	---	---
	3,7-Dihydro-3,7-dimethyl-1-(5-oxohexyl)-1*H*-purine-2,6-dione	Interme diate	06-05-93	n-1	Pentoxifyline	---
21	Paroxitine HCl	API	61869-08-7	----	---	---
	(3*S*)-4-(4-fluorophenyl)-1-methylpiperidin-3-yl]-methyl 4-methyl benzenesulfonate	Interme diate	317323-77-6	n-3	Paroxitine HCl	61869-08-7
	(3*S*,4*R*)-3-[(1,3-benzodioxol-5-yloxy)methyl]-4-(4-fluorophenyl)-1-methylpiperidine	Interme diate	110429-36-2	n-2	Paroxitine HCl	
	(3S-trans)-3-[(1,3-Benzodioxol-5-yloxy)methyl]-4-(4-fluorophenyl) piperidine Hydrochloride	Interme diate	78246-49-8	n-1	Paroxitine HCl	
22	Topiramate	API	97240-79-4	---	---	----
	2,3:4,5-bis-O-(1-isopropylidene)-β-D-fructopyranose	Interme diate	20880-92-6	n-3	Topiramate	97240-79-4
	3:4,5-Bis-O-(1-methylethylidene)- β -D-fructopyranosesulfamate	Interme diate	97240-79-4	n-2	Topiramate	

	3:4,5-Bis-O-(1-methylethylidene)- β -D-fructopyranosesulfamate	Intermediate	97240-79-4	n-1	Topiramate	
23	Granisetron	API	109889-09-0	---	---	----
	1-Methyl-N-(1S)-9-methylbicyclo (3.3.1) non-3-yl]-1H-indazole-3-carboxamide HCl	Intermediate	107007-99-8	n-1	Granisetron	109889-09-0
24	Granisetrone Base	API	77-86-1	---	---	----
	1-Methyl-N-(1S)-9-methylbicyclo (3.3.1) non-3-yl] -1H-indazole-3-carboxamide Base	Intermediate	109889-09-0	n-1	Granisetrone Base	77-86-1
25	Repaglinide	API	135062-02-1	---	---	----
	((S)-2-Ethoxy-4-[2-[[3-methyl-1-[(2-(1- piperidinyl)phenyl]	Intermediate	147770-06-7	n-4	Repaglinide	135062-02-1
	butyl]amino]-2-oxoethyl benzoic acid ethyl ester)	Intermediate		n-3		
	((S)-2-Ethoxy-4-[2-[[(1S)-3-methyl-1-[(2-(1-piperidin-1-yl)phenyl]butyl]amino]-2-oxoethyl] benzoic acid)	Intermediate	135969-54-9	n-2		
	((S)-2-Ethoxy-4-[2-[[(1S)-3-methyl-1-[(2-(1-piperidin-1-yl)phenyl]butyl]amino]-2-oxoethyl] benzoic acid)	Intermediate	135969-54-9	n-1		
26	Riluzole	API	1744-22-5	---	---	----
	6-(Trifluoromethoxy)-2-Benzothiazoleamine	Intermediate	1744-22-5	n-1	Riluzole	1744-22-5
27	Colesevelam HCl	API	182815-44-7	---	---	----
	Polly Allylamine Hydrochloride	Intermediate	71550-12-4	n-3	Colesevelam HCl	182815-44-7
	2-(chloromethyl)oxirane;prop-2-en-1-amine;hydrochloride	Intermediate	152751-57-0	n-2		
28	Desloratidine Levocetrizine di hydrochloride	API	100643-71-8	---	---	----
29	Fluticasone Propionate	API	80474-14-2	---	---	----
	[17 β{(N,N dimethylcarbomoyl)thio}carbonyl-6a,9a-difluoro 11β-hydroxy-16 α-Methyl- 17 α(propionyloxy)-3-oxondrosta-1,4-diene]	Intermediate	105638-31-1	n-4	Fluticasone Propionate	80474-14-2

	6α,9α-Difluoro-11β-hydroxy-16α-methyl-3-oxo-17α-(propionyloxy)-androsta-1,4-diene-17β-carbothioic Acid	Intermediate	80474-45-9	n-3		
	[S-fluoromethyl 6a,9a-difluoro 11β-hydroxy-16 α-Methyl- 17 α(propionyloxy)-3-oxondrosta-1,4-diene 17 β-carbothioate]	Intermediate	80474-14-2	n-2		
	[S-fluoromethyl 6a,9a-difluoro 11β-hydroxy-16 α-Methyl- 17 α(propionyloxy)-3-oxondrosta-1,4-diene 17 β-carbothioate]	Intermediate	80474-14-2	n-1		
30	Zonisamide	API	68291-97-4	---	---	----
	1, 2-Benzisoxazole -3-methane sulfonyl chloride	Intermediate	73101-65-2	n-3	Zonisamide	68291-97-4
	1, 2-Benzisoxazole -3-methane sulfonamide	Intermediate	68291-97-4	n-1		
31	Lacosamide	API	175481-36-4	---	---	----
	(R)-N-Boc-D- serine	Intermediate	6368-20-3	n-4	Lacosamide	175481-36-4
	Boc-D-Serine Benzylamide	Intermediate	1253790-58-7	n-3		
	(R)-N-Benzyl-2-N-Bocamino-3-methoxy propionamide	Intermediate	880468-89-3	n-2		
	(R)-2-Amino-N-Benzyl-3-methoxy-propionamide	Intermediate	196601-69-1	n-1		
32	Oxcarbazepine & Intermediates	API	175481-36-4	---	---	---
	10-oxo-10,11-dihydro-5H-dibenzo[b,f]azepine-5-carboxamide	Intermediate	28721-07-5	n-2	Oxcarbazepine	175481-36-4
	10-oxo-10,11-dihydro-5H-dibenzo[b,f]azepine-5-carboxamide	Intermediate	28721-07-5	n-2		
33	Deferasirox & Intermediates	API	201530-41-8	---	---	---
	2-(2-(2-hydroxyphenyl)Benz(e)[1,3]oxazine -4-0ne	Intermediate	1218-69-5	n-3	Deferasirox	201530-41-8
	4-[3,5-Bis(2-hydroxyphenyl)-1H-1,24-triazole-1-yl benzoic acid	Intermediate	201530-41-8	n-2		
34	Esomeprazole Magnassium & Intermediates	API	217087-09-7	---	---	---

	5-Methoxy-2-(4-methoxy-3,5-dimethylpyridine-2-yl-methylthio)1H-benzimidazole	Intermediate	113713-24-9	n-2	Esomeprazole Magnesium	217087-09-7
	methoxy -2-{(S)-[(4-methoxy-3,5-dimethyl pyridine -2-yl)methyl sulfinyl) 1H – benzimidazole magnesium, trihydrate	Intermediate	217087-09-7	n-1		
35	Pentaprazole sodium & Intermediates	API	138786-67-1	---	----	---
	(*RS*)-6-(Difluoromethoxy)-2-[(3,4-dimethoxypyridin-2-yl)methylsulfinyl]-1*H*-benzo[d]imidazole	Intermediate	102625-64-9	n-2	Pentaprazole sodium	138786-67-1
	(*RS*)-6-(Difluoromethoxy)-2-[(3,4-dimethoxypyridin-2-yl)methylsulfinyl]-1*H*-benzo[d]imidazole	Intermediate	164579-32-2	n-1		
36	Lercadipine Hydrochloride & Intermediates	API	132866-11-6	---	----	---
	1,4-Dihydro-2,6-dimethyl-4-(3-nitrophenyl)-2-[(3,3-diphenylpropyl)methylamino]-1,1-dimethylethyl methyl ester 3,5-pyridinedicarboxylic acid hydrochloride	Intermediate	132866-11-6	n-2	Lercadipine Hydrochloride	132866-11-6
	1,4-Dihydro-2,6-dimethyl-4-(3-nitrophenyl)-2-[(3,3-diphenylpropyl)methylamino]-1,1-dimethylethyl methyl ester 3,5-pyridinedicarboxylic acid hydrochloride	Intermediate	132866-11-6	n-1		
37	Rosuvastatin Calcium & Intermediates	API	147098-20-2	---	----	---
	(+)-(3R, 5S)-7-[4-(4-FLUOROPHENYL)-6-ISOPROPYL-2-(N-METHYL-N-METHANESULFONYLAMINO)PYRIMIDIN-5-YL]-(3, 5)-DIHYDROXY-6(E)-HEPTENOATE, tert-Butyl rosuvastatin	Intermediate	147098-18-8	n-1	Rosuvastatin Calcium	147098-20-2
38	Atorvastatin & Intermediates	API	134523-00-5	---	----	---

	(4R,6R)-tert-Butyl-6-(2-aminoethyl)-2,2-dimethyl-1,3-dioxane-4-acetate	Intermediate	125995-13-3	n-3	Atorvastatin	134523-00-5
	tert-Butyl (4R,6R)-2-[[[6-(2-4-fluorophenyl)-5-isopropyl-3-phenyl-4-(phenylcarbamoyl)pyrrol-1-yl]ethyl]-2,2-dimethyl-1,3-dioxan-4-yl]acetate	Intermediate	125971-95-1	n-2		
	[R-(R*, R*)]-2-(4-fluorophenyl)-β, δ-dihydroxy-5-(1-methylethyl)-3-phenyl-4-[(phenylamino)carbonyl]-1Hpyrrole-1-heptanoic acid, calcium salt (2:1)trihydrate.	Intermediate	134523-03-8	n-1		
39	Sitagliptin Phosphate & Intermediates	API	654671-78-0	---	----	---
	(Z)-3-[[(1R)-1-phenylethyl)amino]-4-(2,4,5-trifluorophenyl)but-2-enoic acid	Intermediate	---	n-3	Sitagliptin Phosphate	654671-78-0
	(2z)-3-{[(1r)-1-phenylethyl]amino}-1-[3-(trifluoromethyl)-5,6-dihYdro[1,2,4]triazolo[4,3-a]pyrazin-7(8h)-yl]-4-(2,4,5-trifluorophe Nyl)-2-buten-1-one	Intermediate	1169707-29-2	n-2		
	(3*R*)-3-amino-1-[3-(trifluoromethyl)-6,8-dihydro-5*H*-[1,2,4]triazolo[4,3-a]pyrazin-7-yl]-4-(2,4,5-trifluorophenyl)butan-1-one;phosphoric acid;hydrate	Intermediate	654671-77-9	n-1		
40	Canagliflozin Teniligliptine	API	928672-86-0	---	----	---
41	Glimipiride& Intermediates	API	93479-97-1	---	----	---
	N-{2-[4-(aminosulfonyl)phenyl]ethyl}-3-ethyl-4-methyl-2- oxo-2, 5-dihydro-1H-pyrrole-1-carboxamide	Intermediate	119018-29-0	n-2	Glimipiride	93479-97-1
	3-ethyl-4-methyl-N-{2-[4-({[(4-methylcyclohexyl)carbamoyl]aminosulfonyl)phenyl]ethyl}-2-oxo-2,5-dihydro-1H-pyrrole-1-carboxamide	Intermediate	93479-97-1	n-1		
42	Adapelene & Intermediates	API	106685-40-9	---	----	---

	3-(5-bromo-2-methoxyphenyl) tricycle [4.3.1.0] decane	Intermediate	104224-63-7	n-4	Adapelene	106685-40-9
	Methyl 6-[3-(1-adamantyl)-4-methoxyphenyl]-2-naphthoate	Intermediate	106685-41-0	n-3		
	6-(4-methoxy-3-tricyclo [3.3.1.1] dec-1-yl phenyl) napthalene-2-carboxylic acid	Intermediate	106685-40-9	n-2		
	6-(4-methoxy-3-tricyclo [3.3.1.1] dec-1-yl phenyl) napthalene-2-carboxylic acid	Intermediate	106685-40-9	n-1		
43	Etoricoxib& Intermediates	API	202409-33-4	---	----	---
	1-(6-Methyl-3-pyridinyl)-2-(4-methyl sulfonyl)phenyl-ethanone(Ketosulphone,	Intermediate	221615-75-4	n-2	Etoricoxib	202409-33-4
	5-chloro-6'-methyl-3-[4-(methylsulfonyl)phenyl]-2,3'-bipyridine	Intermediate	202409-33-4	n-1		
44	Lornoxicam& Intermediates	API	70374-39-9	---	----	---
	6-chloro-4-hydroxy-2-methyl-3-Methoxycarbonyl-2H-Thieno [2,3,e]-1,2-Thiazine-1,1-Dioxide	Intermediate	70415-50-8	n-3		
	6-chloro-4-hydroxy-2-methyl-N-(2-pyridinyl)-2H-thieno[2,3,e]-1,2-Thiazine-3-carboxamide- 1,1-dioxide	Intermediate	70374-39-9	n-2		
	6-chloro-4-hydroxy-2-methyl-N-(2-pyridinyl)-2H-thieno[2,3,e]-1,2-Thiazine-3-carboxamide- 1,1-dioxide	Intermediate	70374-39-9	n-1		
45	Maloxicam & Intermediates	API	71125-38-7	---	----	---
	methyl (1,1-dioxido-3-oxo-1,2-benzothiazol-2(3*H*)-yl)acetate	Intermediate	6639-62-9	n-3	Maloxicam	71125-38-7
	methyl 4-hydroxy-2-methyl-2*H*-1,2-benzothiazine-3-carboxylate 1,1-dioxide	Intermediate	35511-15-0	n-2		
	4-hydroxy-2-methyl-*N*-(5-methyl-1,3-thiazol-2-yl)-2*H*-1,2-benzothiazine-3-carboxamide 1,1-dioxide	Intermediate	1027136-06-6;	n-1		
46	Fluconazole	API	86386-73-4	---	---	---
	2-(2, 4-diflurophenyl)-1, 3-bis (1H-1, 2,4-triazol-1-yl)-propan-2-ol.	Intermediate	89429-59-4	n-1	Fluconazole	86386-73-4

47	Sertaconazole	API	99592-32-2	---	---	---
	(RS)-1-[2-[(7-chloro-1-benzothiophen-3-yl)methoxy]-2-(2,4,-dichlorophenyl) ethyl]-1H-imidazole	Intermediate	99592-32-2	n-2	Sertaconazole	99592-32-2
	1-[2-[(7-chloro-1-benzothiophen-3-yl)methoxy]-2-(2,4-dichlorophenyl)ethyl]imidazole; nitric acid	Intermediate	99592-39-9	n-1		
48	Terbinafine HCl & Intermediates	API	91161-71-6	---	---	---
	trans-N-(6,6-Dimethyl-2-hepten-4-ylyl)-N-methyl-1-naphthylmethylamine	Intermediate	91161-71-6	n-1	Terbinafine HCl	91161-71-6
49	Pregabalene & Intermediates	API	148553-50-8	---	---	---
	(3- (2-amino-2-oxoethyl) -5-methylhexanoic acid	Intermediate	181289-15-6	n-3	Pregabalene	148553-50-8
	(3*R*)-3- (2-amino-2-oxoethyl)-5-methylhexanoic acid	Intermediate	181289-33-8	n-2		
	(3*S*)-3- (aminomethyl)-5-methylhexanoic acid	Intermediate	148553-50-8	n-1		
50	Olmesartanmedoxomil & Intermediates	API	144689-63-4	---	---	---
	Ethyl-4(1-hydroxy-1-ethylethyl)-2-propyl-1-{4-[2-(trityl tetrazol-5-yl-) -phenyl] phenyl} methyl imidazole-5-carboxylate.	Intermediate	189400-21 -3	n-3	Olmesartanmedoxomil	144689-63-4
	1H-Imidazole-5-carboxylicacid,4-(1-hydroxy-1-methyl ethyl)-2-propyl -1-[2'-[1-(triphenylmethyl)-1-H-tetrazole-5-yl][1,1'-biphenyl]-4-yl]methyl]-(5-methyl-2-oxo-1,3-dioxol-4-yl)methyl ester	Intermediate	144690-92 -6	n-2		
	4-(1-Hydroxy-1-methylethyl)-2-propyl-1-[[2'-(1H-tetrazole-5yl)[1,1'-biphenyl]-4-yl]-methyl]-1H-imidazole-5-carboxylic acid (5-methyl-2-oxo-1, 3- dioxol-4-yl) methyl ester	Intermediate	144689 – 63 - 4	n-1		
51	Frucemide & Intermediates	API	54-31-9	---	---	---

	4-Chloro-N-furfuryl-5-sulfamoylanthranilic acid, 5-(Aminosulfonyl)-4-chloro-2-([2-furanylmethyl]amino)benzoic acid	Intermediate	54-31-9	n-1	Frucemide	54-31-9
52	Phenyl ephrine HCl & Intermediates	API	61-76-7	---	---	---
	2-bromo-1-(3-hydroxyphenyl) ethanone	Intermediate	2491-37-4	n-4	Phenyl ephrineHCl	61-76-7
	2-[benzyl(methyl)amino]-1-(3-hydroxyphenyl)ethanone	Intermediate	56917-44-3	n-3		
	3-[1-hydroxy-2-(methylamino)ethyl]phenol	Intermediate	1477-63-0	n-2		
	1R)-1-(3-Hydroxyphenyl)-2-(methylamino)ethanol hydrochloride	Intermediate	61-76-7	n-1		
53	Vildagliptine & Intermediates	API	274901-16-5	---	Vildagliptine	274901-16-5
	(2*S*)-1-(chloroacetyl)pyrrolidine-2-carboxamide	Intermediate	214398-99-9	n-1		
	(2*S*)-1-(chloroacetyl)pyrrolidine-2-carbonitrile	Intermediate	207557-35-5	n-2		
	(2*S*)-1-{[(3-hydroxytricyclo[3.3.1.1^{3,7}]dec-1-yl)amino]acetyl}pyrrolidine-2-carbonitrile	Intermediate	274901-16-5	n-1		
54	Luliconazole	API	187164-19-8	---	---	---
	1*H*-imidazol-1-ylacetonitrile	Intermediate	98873-55-3	n-2	Luliconazole	187164-19-8
	(2*E*)-[(4*R*)-4-(2,4-dichlorophenyl)-1,3-dithiolan-2-ylidene](1*H*-imidazol-1-yl)ethanenitrile HCl	Intermediate	187164-19-8	n-1		
55	Atovaquone & Intermediates	API	95233-18-4	---	---	---
	2-chloro-3-[*trans*-4-(4-chlorophenyl)cyclohexyl]naphthalene-1,4-dione	Intermediate	153977-22-1	n-2	Atovaquone	95233-18-4
	2-[*trans*-4-(4-chlorophenyl)cyclohexyl]-3-hydroxynaphthalene-1,4-dione	Intermediate	95233-18-4	n-1		
56	Linagliptine & Intermediates	API	668270-12-0	---	---	---

	(5-methyl-2-[(3R)-piperidin-3yl]-1H-isoindole-1,3(2H)-dione) (Stage-D)	Intermediate	4667-76-9	n-4	Linagliptine	668270-12-0
	(8-bromo-7-(But-2-yn-1-yl)-3-methyl-1-[(4-methylquinazolin-2-yl)methyl]-3,7 dihydro-1H-purine-2,6-dione) (Stage-E)	Intermediate	853029-57-9	n-3		
	(8-[(3*R*)-3-Aminopiperidin-1-yl]-7-(but-2-yn-1-yl)-3-methyl-1-[(4-methylquinazolin-2-yl)methyl]-3,7-dihydro-1*H*-purine-2,6-dione) (Stage-G)	Intermediate	668270-12-0	n-2		
	(8-[(3R)-3-Aminopiperidin-1-yl]-7-(but-2-yn-1-yl)-3-methyl-1-[(4-methylquinazolin-2-yl)methyl]-3,7-dihydro-1H-purine-2,6-dione)	Intermediate	668270-12-0	n-1		
57	Hydroxychloroquine	API	118-42-3	---	---	---
	4,7-dichloro quinoline	Intermediate	86-98-6	n-3	Hydroxychloroquine	118-42-3
	hydroxynoval diamine	Intermediate		n-2		
	Ethanol, 2-[[4-[(7-chloro-4-quinolinyl)amino]pentyl]ethylamino	Intermediate	118-42-3	n-1		
58	Albendazole	API	54965-21-8	---	---	---
	2-Nitro-p-thiocyanoaniline(Stage – A)	Intermediate	54029-45-7	n-4	Albendazole	54965-21-8
	4-propylthio-o-phenylenediamine	Intermediate	66608-52-4	n-3		
	5-Propyl thio benzamidazol carbamate(Crude)	Intermediate	54965-21-8	n-2		
	5-Propyl thio benzamidazol carbamate	Intermediate	54965-21-8	n-1		
59	Mebendazol	API	31431-39-7	---	---	---
	4-chloro-3-nitro Benzophenone	Intermediate	56107-02-9	n-3	Mebendazol	31431-39-7
	3,4-Diaminobenzophenone) (DABP)	Intermediate	39070-63-8	n-2		
	Methyl 6-benzoyl-1*H*-benzimidazol-2-yl) carbamate (Crude)	Intermediate	31431-39-7	n-1		
60	Febendazol	API	43210-67-9	---	---	---
	(Methyl [6-(phenylsulfanyl)-1*H*-benzimidazol-2-yl] Carbamate) Crude	Intermediate	43210-67-9	n-2	Febendazol	43210-67-9
61	Amio darone	API	19774-82-4	---	---	---

	(2-butyl-1-benzofuran-3-yl)(4-hydroxyphenyl)methanone	Intermediate	141645-16-1	n-4	Amio darone	19774-82-4
	(2-butyl-1-benzofuran-3-yl)(4-hydroxy-3,5-diiodophenyl)methanone	Intermediate	1951-26-4	n-3		
	(2n-butybenzofuran-3-yl){4-[2-(diethylamino)ethoxy]-3,5-diiodoohenyl}methanone hydrochloride	Intermediate	19774-82-4	n-2		
	(2n-butybenzofuran-3-yl){4-[2-(diethylamino)ethoxy]-3,5-diiodoohenyl}methanone hydrochloride	Intermediate	19774-82-4	n-1		
62	Aripiprazole	API	129722-12-9	---	---	---
	-(4-iodobtoxy)-3,4-dihydro-2(1H)quinolinone	Intermediate	952308-47-3	n-3	Aripiprazole	129722-12-9
	7-{4-[4-(2,3-Dichlorophenyl)piperazin-1-yl]butoxy}-3,4-dihydroquinolin-2(1H)-one (Technical)	Intermediate	129722-12-9	n-2		
	7-{4-[4-(2,3-Dichlorophenyl)piperazin-1-yl]butoxy}-3,4-dihydroquinolin-2(1H)-one	Intermediate	129722-12-9	n-1		
63	Azithromycine	API	83905-01-5	---	---	---
64	Bupropion HCl	API	31677-93-7	---	---	---
65	Duloxetine HCl	API	136434-34-9	---	---	---
	(3-(dimethylamino)-1-thiophen-2-yl)propan-1-ol	Intermediate	132335-44-5	n-3	Bupropion HCl	136434-34-9
	(N,N-dimethyl-3-(napthalen-1-ylox-y)-3-(thiophen-2-yl)propane-1-amine)	Intermediate	132335-47-8	n-2		
	(+)-(S)-N-Methyl-γ-(1-naphthyloxy)-2-thiophenepropylamine hydrochloride	Intermediate	136434-34-9	n-1		
66	Linezolid	API	165800-03-3	---	---	---
	3-Fluoro-4-morpholinylaniline	Intermediate	93246-53-8	n-3	Linezolid	165800-03-3
	(S)-N—[[3-[3-fluoro-4-[4[morpholinyl]-1-phenyl]-1-2-oxo-5-0xazolidinyl]methyl]phthalimide	Intermediate	168828-89-5	n-2		

	N-[[(5S)-3-[3-Fluoro-4-(4-morpholinyl)phenyl]- 2-oxo-5-oxazolidinyl]methyl]-acetamide	Intermediate	189038-36-6	n-1		
67	Rivaroxaban	API	366789-02-8	---	---	---
	5-Chloro-N-({(5S)-2-oxo-3-[4-(3-oxo-4-morpholinyl)phenyl]-1,3-oxazolidin-5-yl}methyl)-2-thiophene-Carboxamide	Intermediate	366789-02-8	n-1	Rivaroxaban	366789-02-8
68	Tenoxicam	API	59804-37-4	---	---	---
	Methyl – 4 – Hydroxy – 2H – Thieno [2,3-e] – 1, 2 – Thiazine – 3 – Carboxylate - 1 , 1 Dioxide.	Intermediate	98827-44-2	n-1	Tenoxicam	59804-37-4
69	RebePrazole Sodium	API	117976-90-6	---	---	---
	4(3-methoxy propoxy)-2-hydroxymethyl -3-methyl pyridine hydrochloride	Intermediate	118175-10-3	n-4	RebePrazole Sodium	117976-90-6
	4-(3-methoxy-propoxy)-2-Chloromethyl -3-methyl-pyridine	Intermediate	153259-31-5	n-3		
	2-[4-(3-Methoxy-propoxy)-3-methyl-pyridin-2-ylmethylsulfanyl]-1H-benzoimidazole	Intermediate	117977-21-6	n-2		
	2-[4-(3-Methoxy-propoxy)-3-methyl-pyridin-2-ylmethanesulfinyl]-1H-benzoimidazole	Intermediate	117976-89-3	n-1		
70	Cetrizine Dihydrochloride	API	83881-52-1	---	---	---
	P-Chloro Benzhydryl chloride	Intermediate	134-83-8	n-4	Cetrizine Dihydrochloride	83881-52-1
	4-Chlorobenzhydryl Piperazine	Intermediate	303-26-4	n-3		
	4-Chlorobenzhydryl Piperazine ethanol	Intermediate	164726-80-1	n-2		
	4-Chlorobenzhydryl Piperazine ethanol Duhydrochloride	Intermediate	83881-52-1	n-1		
71	Mefenamic Acid	API	61-68-7	---	---	---
	(2-[(2,3-dimethylphenyl)amino]benzoic acid) Crude	Intermediate	61-68-7	n-2	Mefenamic Acid	61-68-7
72	Nimesulide	API	51803-78-2	---	---	---
	N-(4-nitro-2-phenoxyphenyl)methanesulfonamide Crude	*Intermediate*	51803-78-2	n-2	Nimesulide	51803-78-2

73	Allopurinol	API	315-30-0	---	---	---
	3-Morpholino-2-cyanoacrylamide	Intermediate	25229-97-4	n-3	Allopurinol	315-30-0
	3-Aminopyrazole-4-carboxamide hemi-sulphate	Intermediate	27511-79-1	n-2		
	4-Hydroxypyrazolo[3,4-d]pyrimidine Crude	Intermediate	315-30-0	n-1		
74	Diclofenac Sodium	API	15307-86-5	---	---	---
75	Aceclofenac	API	89796-99-6	---	---	---
76	Tranexamic acid And/Or its intermediate And/Or	API	1197-18-8	---	---	---
	4-cyano benzoic acid	Intermediate	619-65-8	n-2	Tranexamic acid And/Or its intermediate	1197-18-8
	4-(aminomethyl)benzoic acid	Intermediate	56-91-7	n-1		
77	Entacapone And/Or its intermediate	API	130929-57-6	---	---	---
78	N-N- Di ethyl amino cyano acetamide	API	2832-19-1	---	---	---
79	Glipizide	API	29094-61-9	---	---	---
80	4-(2-amino ethyl)benzene sulfonamide	API	35303-76-5	---	---	---
81	5-methyl pyrazine-2-carboxylic acid	API	5521-55-1	---	---	---
82	Tramadol	API	27203-92-5	---	---	---
	Meta Bromo Nitro Benzene	Intermediate	585-79-5	n-1	Tramadol	27203-92-5

- 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 31-08-2021.
- During the meeting dated 31.08.2021, 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. Jyoti Om Chemical Research Centre Pvt. Ltd remained present during video conference meeting.
- This is an existing plant involved in manufacturing of API and proposed for expansion of synthetic organic chemicals **[API]** at Plot No.: 5905/7, 5905/6, 5905/5, GIDC Ankleshwar. Total plot area is 3000

Sq. M. Product profile was discussed in depth.

- Committee noted that unit was involved in manufacturing of non EC applicable products for which PP has obtained CCA. PP has also obtained CTE –Amendment for Expansion.
- Committee noted that there are no court cases pending and no public complaints against the project. No SCN or any other legal action initiated against the unit in past 3 years.
- Committee noted the following:
- Product profile with specific End-use of each product. At a time, 5 products can be manufactured.
- Generated industrial and domestic effluent shall be treated in the ETP and Low concentrated effluent shall be sent to ETL & High concentrated effluent shall be sent to CMEE BEIL.
- Agro Waste/ Briquette is proposed as fuel in boiler and TFH.
- Two stage alkali scrubbers shall be provided 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 Transboundary Movement) Rules 2016.
- Greenbelt development plan with 1022.95 Sq m (34.10%) of plot area.
- 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 :
  - Product list was discussed and it was found that Di Isopropayl ether HCL and ethyle Acetate HCL, IPA HCL etc were found in the list which cannot be mentioned as product.
  - Further Chemical reaction was discussed and it was found by the members that looking to the Chemical reaction HCL products mentioned in the product list cannot be considered as API Intermediate.
  - It was found that some products do not qualify the definition of API intermediate as per policy.
- **After detailed discussion committee unanimously decided to defer the proposal and consider the same only after submission of the following:**
  1. Revised Product list and revised proposal after removal of products which do not qualify the definition of API intermediate as per policy.
- PP submitted reply of above query generated on SEAC VC meeting, through Parivesh portal.
- This proposal is reconsidered in SEAC meeting dated **09.05.2022**. PP along with their technical expert/consultant, M/s. JYOTI OM CHEMICAL RESEARCH CENTRE PVT.LTD remains present in the meeting and made presentation before Committee.
- During meeting, Committee noted that PP submitted revised product profile which 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.

- 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 proposal presented by technical expert of PP, Committee insisted for revised water balance diagram, compatibility chart for proposed project hazardous chemicals, revised hazardous waste matrix etc for which PP is agreed upon and later on submitted revised details, through e-mail.
- Committee found reply submitted by PP was satisfactory.
- PP submitted revised salient features of water, air and hazardous waste as mentioned below,

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

Existing	Proposed	Total
0.99 Crores	4 Crores	4.99 Crores

Break-up of proposed project Cost:

Details	Existing (Rs. In Crores)	Proposed (Rs. In Crores)	Total (Rs. In Crores)
Land	0.09	0.10	0.09
Building	0.4	1	1.4
Machinery	0.46	1.94	2.5
EMP	0	1	1

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

Sr. No	Unit	Detail	Capital Cost (Rs. In Crores)	Total Recurring Cost (Rs. In Crores)
1	Waste Water	ETP, Stripper	0.10	1
2	Air	Scrubber, MCS, Water scrubber	0.15	0.1
3	Hazardous Management	Hazardous waste handling and its disposal	0.05	1
4	Fire & Safety	Fire hydrant, Fire Extinguishers, Fire proximity suite, PPEs	0.35	0.1
5	AWH Monitoring	Environment monitoring	--	0.06
6.	Green Belt Development	Greenbelt development	0.01	0.003
7.	Occupational Health	OHC	0.05	0.005
8	DCS	For Chlorination, Bromination, Hydrogenation, Nitration, Solvent Distillation	0.25	0.1

9	CER	CER Activity - installation of solar panel at girls school in Kosamdi village	0.03	0.001
Total			0.99	2.37

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%	0.04

Brief note on proposed activities:

- Installation of solar panel at girls school of Kosamdi village

Sr. No.	Activity	Capital Cost	Maintenance Cost	Total
1	Installation of solar panel in girl's school of Kosamdi village	3.5	0.5	4
Total		3.5	0.5	4

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

Existing	Proposed	Total
3000 Sq. m.	0 Sq. m.	3000 Sq. m.

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

	Existing	Proposed (Sq. meter)	Total (Sq. meter)
Area in Sq. meter (Within premises)	0	1022.95	1022.95
% of total area	0	34.10%	34.10%

Comments:

The condition shall be given that -

The PP shall develop green belt (1022 Sq. metere 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.

C	Employment generation

Existing	Proposed	Total
8	12	20

D	WATER
D-1	Source of Water Supply (GIDC, Bore well, Surface water, Tanker supply etc...)
	Status of permission from the concern authority. Water permission letter No.: NTA/ANK/DEE(WS)/989, Date: 3rd Jul 2021
D-2	Water consumption (KLD)

Category	Existing KLD	Proposed (Additional) KLD	Total after Expansion KLD	Remarks
(A) Domestic	1	1.5	2.5	
(B) Gardening	0	3	3	2.5 Recycle + 0.5 Fresh
(C) Industrial				
Process	0.5	19	19.5	
Washing	0	1	1	
Boiler	4	2	6	
Cooling	6	10	16	
Others (Process Scrubber)	0	1	1	
Other (Boiler Scrubber)	0	0.9	0.9	Recycled
Industrial Total	10.5	33.9	44.4	
Grand Total (A+B+C)	12.5	38.4	49.9	

Brief Note on worst case scenario for water consumption:

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

Source of waste water for reuse in KLD (From where it is coming)	Application area with quantity in KLD (Where it is used)	Characteristics of waste water to be reused (COD, BOD, TDS etc.)	Remarks regarding feasibility to reuse
Boiler blowdown- 0.9 KLD	Water scrubber- 0.9 KLD	pH- Neutral COD : NIL	Reusable
STP Treated sewage – 2.5 KLD	Gardening- 2.5 KLD	pH- Neutral COD : <10 BOD: <10	Reusable

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

- N.A

Comments:

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

D-3 | Waste water generation (KLD)

Category	Existing KLD	Proposed (Additional) KLD	Total after Expansion KLD
(A) Domestic	1.7	0.8	2.5
(B) Industrial			
Process	0.5	21	21.5
Washing	0	1	1
Boiler	0.7	1	1.7
Cooling	0.1	2.4	2.5
Others (Process Scrubber)	0	1	1
Total Industrial waste water	1.3	26.4	27.7

Comments:

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

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

EFFLUENT PARAMETER FOR PROCESS STEAM- HIGH COD

Parameter	ETP Inlet	After Primary Treatment	Inlet norms of M/s. CMEE - BEIL
pH	4 - 9	6.5 to 7.5	6.5 to 7.5
TDS (mg/l)	8000- 9000	10000 – 12000	--
TSS (mg/l)	200 - 250	< 100	--
COD (mg/l)	40000 – 45000	< 45000	<50,000
BOD (mg/l)	14000 – 15000	< 15000	--
Ammonical Nitrogen (mg/l)	< 100	< 100	--

EFFLUENT PARAMTER OF BOILER BLOW DOWN

Parameter	ETP Inlet	After Primary Treatment	Inlet norms of M/s. ETL
pH	7.5 to 9	6.5 to 7.5	6.5 to 7.5
TDS (mg/l)	1500-2500	2000-3000	10000
TSS (mg/l)	<50	<50	100
COD (mg/l)	NIL	NIL	11,000
BOD (mg/l)	NIL	NIL	3600
Ammonical Nitrogen (mg/l)	NIL	NIL	100

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).

- The unit is a member of CMEE of M/s. BEIL. Entire process effluent will be subjected to CMEE after removing solvents.

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

Existing and Proposed

Domestic:	Treatment in ETP
Industrial:	Low concentrated send to ETL & High concentrated send to CMEE BEIL

-

Clearly mention about final disposal

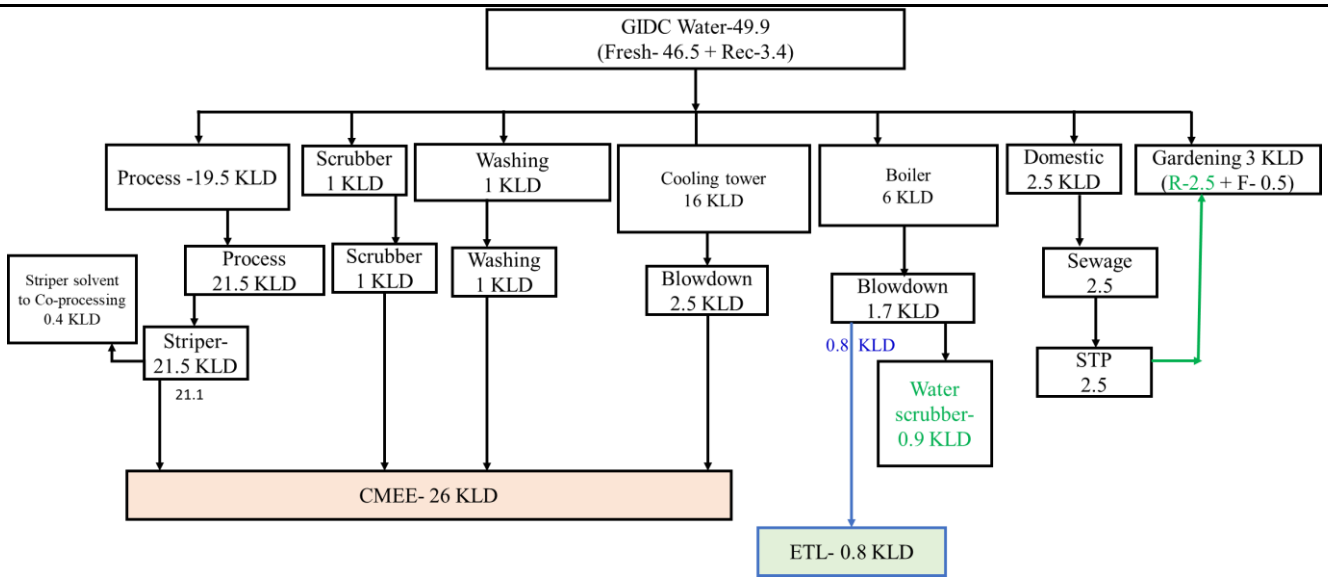
D-5	Treatment facilities

For Domestic waste water:

Capacity of STP: 3 KLD

For Industrial waste water: Treatment facility within premises with capacity

[In-house ETP (Primary, Secondary, Tertiary), MEE, Stripper, Spray Dryer, STP etc. Treatment scheme including segregation at source. (Give Characteristics of each stream i.e. COD, BOD, TDS etc.) In case of stream segregation, Separate ETP (ETP-1, ETP-2….) for each stream shall be proposed. High Concentrated effluent from process- 21.5 KLD pass through striper. Striped solvent send to Co-processing unit and striped out effluent (21.1 KLD) send to CMEE along with Scrubber (1 KLD), washing (1 KLD), cooling (2.5 KLD) Low Concentrated effluent i.e 0.8 KLD boiler blow down will be sent to ETL.	
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. • 0.8 KLD ETL Discharge as per Existing CTE& CCA.	
Brief note on adequacy of ZLD (In case of Zero Liquid Discharge): • Not Applicable	
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)
	➢ ETL & CMEE BEIL
	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.
	➢ CMEE No.: BEIL/ANK/2021/, Dated: 27th December 2021
D-7	Simplified water balance diagram with reuse / recycle of waste water (Existing and Proposed)



**66 KLD Boiler condensate and 350 KLD Cooling tower recirculation is also reuse in daily bases*

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

Sr. No.	Stack Attached to	Stack Height in meter	Fuel Consumption	With 100% fuel consumption MT/Day	With 70% fuel consumption MT/Day
1	Boiler (2 TPH)	30	Agro Waste/ Briquette	12 MT/Day	8 MT/Day
2	Thermic Fluid Heater 1 Nos. (1 Lack Kcal/hr)		Agro Waste/ Briquette	2 MT/Day	1.4 MT/Day

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)
As per Existing CTE- 110894						
1	Boiler (1 TPH)	20	Natural Gas	750 M^3/Day	PM Sox NOx	Adequate Stack Height
Additional After proposed Expansion						
2	Boiler (2 TPH)	30	Agro Waste/ Briquette	8 MT/Day	PM Sox NOx	MCS + Bag filter + Water scrubber
3	Thermic Fluid Heater 1 Nos. (1 Lack Kcal/hr)		Agro Waste/ Briquette	2 MT/Day	PM Sox NOx	
4	D.G. Set (63 KVA)	9	Diesel	10 lit/Hr	PM Sox NOx	Adequate Stack Height

E-3	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 emissions i.e. Air Pollutants (SO2, HCl, Cl etc.)	Stack/Vent Height (meter)	Air Pollution Control Measures (APCM)
As per Existing CTE- 108818 *There is no any process gas emission				
Additional After proposed Expansion				
2	Reaction Vessels (Chlorination , Bromination, Sulphonation, Nitration)	HCl SO_2 Cl_2 HBr Br_2 SO_x NOx	22	2 stag alkali Scrubber
3	Reaction Vessels (Amination)	Ammonia	22	2 stage Acid scrubber

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 above and its sound

management in HW matrix.

E-4	Fugitive emission details with its mitigation measures.

Sr. Noz.	Source	Probable Pollutant Emission	Control Measures/ APCM
1	Solvent storage tank	Air pollutant (VOC)	i) Carry out work place area monitoring to find out concentration level in ambient air Close handling system. ii) Provision of breather valve cum flame arrester.
2	Solvent recovery system	Air pollutant (VOC)	i) Solvent recovery system with steam condensation system. ii) Pumps & motors are Mechanical seal type.
3	Handling of raw material bags in storage area	Air pollutant (PM)	i) Provision of exhaust ventilation Provision of PPE. ii) Provision of Job rotation to reduce exposure.
4	Flange joints of pipeline, pump & motors	Air pollutant (VOC)	i) Routine &periodic inspection to check leakage. ii) Preventive maintenance, Follow SOP for maintenance. iii) Pumps & motors will be mechanical seal type. iv) LDAR program will be followed. Provision of Flange guard.
5	Solid raw material transferring to reactor	Air pollutant (PM)	Hopper will be provided with powder transfer system.
6	Liquid raw material transferring to reactor	Air pollutant (VOC)	Feeding of liquid raw material will be carried out by closed pipeline and mechanical seal pump.
7	Loading /unloading at storage area	Air pollutant (VOC)	Unloading through pipeline to tank in a close system.

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, D G set, 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 Transboundary Movement) Rules 2016. Note: ➢ Priorities for HW Management: Pre-processing, Co-Processing, Reuse/Recycle within premises, Sell out to actual users having Rule-9 permission, TSDF/CHWIH. ➢ Quantification of hazardous waste shall be based on mass balance and calculations shall be incorporated in EMP details separately. ➢ Disposal to scrap vendors/vendors/traders is not allowed
F-1	Hazardous waste management matrix

Existing & Proposed

Sr. no.	Type/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	From ETP plant	35.3	0	170	170	Collection, Storage, Transportation, Disposal at TSDF site
2	Used Oil	From Lubrication	5.1	0	2	2	Collection, Storage & Reused within the premises.
3	Discarded Drums/Empty Barrels/ Containers / Bag/Liners	Packing of raw materials.	33.1	2.5	5.5	8	Collection, storage, decontamination & disposal by selling to GPCB authorized recycler or recycled back
4	Spent Caron/ Hyflow	From manufacturing process	28.3	0	200	200	Collection, Storage, Transportation & send to co processing.
5	Spent Catalyst	Generated from product No.29,54,63	28.2	0	0	80	Collection, Storage, and sell to regenerator unit.
6	Distillation	From Solvent	28.1	84	156	240	Collection,

	Residue	Recovery Unit					storage, Transportation & Send to Co-processing unit / Incineration
7	Date expired Product	From Manufacturing activity	28.5	0	1	1	Collection, storage, transportation, and send to Co-processing / Incineration
8	Off-specification Product	From Manufacturing activity	28.4	0	1	1	Collection, storage, Transportation & Send to Co-processing unit / Incineration
9	Stripped Solvent	From Stripper	28.6	0	146	146	Collection, storage, and send to send for Co-processing / / Incineration / Recovered through in-house distillation.
	Spent Solvent (Recoverable)			0	7300	7300	Collection, storage, distillation and reuse in plant premises
	Solvent Distillation	Crude solvent		3688	0	3688	Reception, collection and captive consumption as raw material in process
10	Scrubber Solution – (Sodium Bromide solution (low concentration)	From Scrubber	--	0	73	73	Collection, storage, and send to ETP.
11	Scrubber Solution – (Hcl solution) (10% to 12%)	From Scrubber	--	0	73	73	Collection, storage and send into ETP.
12	Scrubber Solution – (SBS solution) (low concentration)	From Scrubber	--	0	73	73	Collection, storage, and send to ETP.
13	Scrubber Solution –	From Scrubber	--	0	36.5	36.5	Collection, storage, and

	(Ammonium sulphate solution (low concentration)						send to ETP.
14	Scrubber Solution (Sodium nitrite/ nitrate solution)	From Scrubber	--	0	73	73	Collection, storage, and send to ETP.
15	Scrubber solution (Sodium hypochlorite solution)	From Scrubber	--	0	36.5	36.5	Collection, storage, and send to ETP

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

Details of Membership letter no. & Date with spare capacity of the Common Facility.

- BEIL/ANK/2021, Dated: 27th December 2021

F-3	Details of Non-Hazardous waste & its disposal (MSW and others)

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	Wood	Packing materials	0	0.1	0.1	Disposal will be as per rule
2	Paper waste	Packing materials	0	0.2	0.2	
3	Glass waste	Storage containers, lab equipment	0	0.1	0.1	
4	Fly Ash	From Utility	0	360	360	
5	STP Sludge	From STP	0	0	18	Use as manure for green belt development

Comments:

1) Management of Flyash storage and its disposal shall be carry out as per Flyash notification.

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

	reuse of recovered Solvents etc.

Name of Product	Name of Solvent	Total Solvent Quantity MT/M	Fresh Solvent Quantity MT/M	Recovered solvent Quantity MT/M	% of Recovery	% loss in Air	% loss in Water	% loss in Hazardous waste	Total % Loss
Losartan Potassium	Dimethyl Acetamide	8.77	0.23	8.51	96	0.004	1.996	2	4
	Ethyl Acetate	28.38	1.15	27.63	96	0.002	0.998	3	4
	Toluene	31.1	0.88	30.22	97	0.002	1.998	1	3
Metoprolol Tartrate	Isopropyl alcohol	7.76	0.31	7.45	96	0.001	1.999	2	4
	Acetone	19.4	0.58	18.82	97	0.002	0.998	2	3
Metoprolol Succinate	Isopropyl alcohol	9.08	0.5	8.6	95	0.002	1.998	3	5
	Acetone	20.43	0.8	19.6	96	0.003	0.997	3	4
Telmisartan	Toluene	8.87	0.27	8.6	97	0.018	1.982	1	3
	MDC	18.282	0.73	17.55	96	0.002	0.998	3	4
	Ethyl acetate	26.27	0.53	25.74	98	0.003	0.997	1	2
	Methanol	34.349	1.37	32.98	96	0.001	1.999	2	4
Bosentan	Methanol	84.76	3.4	81.4	96	0.08	2.92	1	4
	Acetone	37.68	1.9	35.8	95	0.002	2.998	2	5
	MDC	121.6	4.9	116.7	96	0.07	2.93	1	4

	Toluene	15.48	0.9	14.6	95	0.012	2.418	2.5	5
	Ethylene glycol	48.62	2.4	46.2	95	0.003	1.997	3	5
	Tetrahydrofurane	40	2	38	95	0.003	2.997	2	5
	Isopropyl acetate	52.76	2.1	50.6	96	0.03	1.97	2	4
	Ethanol	29.82	0.9	28.9	97	0.03	0.97	2	3
Nebivolol	MDC	2.94	0.1	2.8	96	0.14	1.899	1.961	4
	DMSO	0.74	0	0.7	96	0.04	1.96	2	4
	Hexene	0.6	0	0.6	95	0.033	2.367	2.6	5
	Ethyl Acetate	6.07	0.2	5.9	97	0.001	1.999	1	3
	Methanol	7.58	0.3	7.3	96	0.12	1.899	1.981	4
	Acetonitrile	0.17	0	0.2	97	0.001	0.999	2	3
Pentoxifyline	Dimethyl formamide	2.91	0.1	2.8	96	0.002	0.998	4	4
	Methanol	2.9	0.1	2.8	96	0.004	1.996	2	4
Paroxitine Hcl	Methylene chloride	3.47	0.2	3.3	95	0.004	1.996	3	5
	Triethylamine	0.27	0	0.3	96	0.002	0.998	3	4
	Toluene	10.69	0.3	10.4	97	0.02	1.98	1	3
	Isopropyl alcohol	6.04	0.2	5.9	97	0.022	0.978	2	3
	Dimethyl Sulfoxide	0.71	0	0.7	95	0.004	2.996	2	5

Topiramate	Acetone	10.68	0.3	10.4	97	0.004	1.996	1	3
	Toluene	103.47	4.1	99.3	96	0.003	1.997	2	4
	Hexane	34.67	1.4	33.3	96	0.001	1.999	2	4
	Isopropyl alcohol	3.73	0.1	3.6	97	0.004	0.996	2	3
	Methanol	4.11	0.2	3.9	95	0.011	2.289	2.7	5
	Ethyl acetate	53.26	2.7	50.6	95	0.001	1.999	3	5
	Cyclohexane	20.16	0.8	19.4	96	0.001	1.882	2.117	4
Graniserton	MDC	11	0.4	10.6	96	0.003	0.997	3	4
	Triethylamine	0.33	0	0.3	95	0.001	2.999	2	5
	Ethanol	5.77	0.3	5.5	95	0.021	2.079	2.9	5
Graniserton Base	Ethylacetate	5.36	0.3	5.1	95	0.002	1.998	3	5
Repaglinide	Toluene	4.48	0.2	4.3	96	0.002	1.88	2.118	4
	Petrolium ether	1.59	0	1.5	97	0.01	1.99	1	3
	Ethanol	0.16	0	0.2	97	0.009	0.991	2	3
Riluzole	Isopropyl alcohol	1.01	0	1	96	0.003	0.997	3	4
	Toluene	1.39	0	1.4	98	0.012	0.988	1	2
	Cyclohexane	0.77	0	0.7	96	0.08	2.92	1	4
Lithium Carbonate	Methanol	0.4	0	0.4	95	0.002	2.998	2	5

Sevelamer Carbonate	Methanol	77.04	1.5	75.5	98	0.002	0.998	1	2
	Ethyl acetate	4	0.1	3.9	97	0.003	1.997	1	3
	Iso Propyl Alcohol	59.04	3	56.1	95	0.012	2.418	2.5	5
Colesevelam Hydrochloride	Methanol	42.33	1.7	40.6	96	0.07	2.93	1	4
	Ethyl acetate	2.17	0.1	2.1	96	0.03	1.97	2	4
	Iso Propyl Alcohol	1.23	0	1.2	97	0.003	0.997	2	3
DESSLORATIDINE	Toluene	9.66	0.5	9.2	95	0.003	1.997	3	5
	Cyclohexane	3.3	0.1	3.2	98	0.033	0.967	1	2
	Methanol	0.2	0	0.2	96	0.14	1.899	1.981	4
Levocetrizine Di Hydrochlori	Dimethyl Formamide	1.69	0.1	1.6	97	0.015	1.985	1	3
Levocetrizine Di Hydrochlori	Dimethyl Formamide	1.69	0.1	1.6	97	0.015	1.985	1	3
	Ethyl Acetate	4.79	0.2	4.6	95	0.003	2.997	2	5
	Methylene chloride	3.54	0.2	3.4	95	0.033	2.367	2.6	5
Fluticasone Propionate	Tetrahydrofuran	0.53	0	0.5	96	0.04	1.96	2	4
	Acetone	0.54	0	0.5	97	0.008	0.992	2	3
	Triethylamine	0.1	0	0.1	95	0.004	1.996	3	5
	Methylene Chloride	3.39	0.1	3.3	96	0.12	1.899	1.981	4
	Toluene	0.56	0	0.5	96	0.004	1.996	2	4

.Zonisamide	Ethyl acetate	67.41	2	65.4	97	0.003	1.997	1	3
	Isopropyl alcohol	12.33	0.2	12.1	98	0.004	0.996	1	2
Lacosamide	Methylene chloride	85.13	2.6	82.6	97	0.002	0.998	2	3
	Dimethyl sulfate	1.45	0	1.4	97	0.002	1.998	1	3
	Methanol	0.97	0	0.9	96	0.002	0.998	3	4
Oxcarbazepine	Methanol	17.62	0.9	16.7	95	0.004	2.996	2	5
	Dimethyl formamide	7.62	0.3	7.3	96	0.08	2.92	1	4
	Toluene	14.54	0.4	14.1	97	0.003	0.997	2	3
Deferasirox	Dimethyl formamide	0.68	0	0.7	97	0.018	1.982	1	3
	Methanol	6.36	0.1	6.2	98	0.014	0.986	1	2
Esomeprazole Magnessium	Toluene	25.44	1	24.4	96	0.07	2.93	1	4
	Trietyl amine	0.1722	0	0.2	98	0.001	0.999	1	2
	Acetone	21.84	0.9	21	96	0.003	1.997	2	4
	Methanol	16.94	0.3	16.6	98	0.011	0.989	1	2
Pentaprazole	Isopropyl alcohole	1.39	0	1.4	97	0.008	0.992	2	3
	Methylene dichloride	2.81	0.1	2.7	97	0.015	1.985	1	3
	Acetone	2.9	0.1	2.8	96	0.001	1.999	2	4
	Cyclohexane	2.03	0.1	1.9	96	0.04	1.96	2	4

.Zonisamide	Ethyl acetate	67.41	2	65.4	97	0.003	1.997	1	3
	Isopropyl alcohol	12.33	0.2	12.1	98	0.004	0.996	1	2
Lacosamide	Methylene chloride	85.13	2.6	82.6	97	0.002	0.998	2	3
	Dimethyl sulfate	1.45	0	1.4	97	0.002	1.998	1	3
	Methanol	0.97	0	0.9	96	0.002	0.998	3	4
Oxcarbazepine	Methanol	17.62	0.9	16.7	95	0.004	2.996	2	5
	Dimethyl formamide	7.62	0.3	7.3	96	0.08	2.92	1	4
	Toluene	14.54	0.4	14.1	97	0.003	0.997	2	3
Deferasirox	Dimethyl formamide	0.68	0	0.7	97	0.018	1.982	1	3
	Methanol	6.36	0.1	6.2	98	0.014	0.986	1	2
Esomeprazole Magnessium	Toluene	25.44	1	24.4	96	0.07	2.93	1	4
	Tri etyl amine	0.1722	0	0.2	98	0.001	0.999	1	2
	Acetone	21.84	0.9	21	96	0.003	1.997	2	4
	Methanol	16.94	0.3	16.6	98	0.011	0.989	1	2
Pentaprazole	Isopropyl alcohole	1.39	0	1.4	97	0.008	0.992	2	3
	Methylene dichloride	2.81	0.1	2.7	97	0.015	1.985	1	3
	Acetone	2.9	0.1	2.8	96	0.001	1.999	2	4
	Cyclohexane	2.03	0.1	1.9	96	0.04	1.96	2	4

Lercadipine Hydrochloride	Tetrahydrofuran	7.9448	0.4	7.5	95	0.011	2.289	2.7	5
	Triethyl amine	0.2438	0	0.2	96	0.12	1.899	1.981	4
	Acetonitrile (for washing)	0.3078	0	0.3	97	0.03	0.97	2	3
Rosuvastatin Calcium	Methanol	50.4	1.5	48.9	97	0.004	0.996	2	3
	Ethyle Acetate	45.12	0.9	44.2	98	0.012	0.988	1	2
	Toluene	13.98	0.6	13.4	96	0.003	0.997	3	4
	Acetonitrile	47.88	1.9	46	96	0.002	1.88	2.118	4
Atorvastain	methanol	39.26	1.6	37.7	96	0.03	1.97	2	4
	methylenne chloride	11.27	0.6	10.7	95	0.001	2.999	2	5
	cyclohexane	20.56	0.6	19.9	97	0.001	1.999	1	3
	methyl tert butyl ether	21.99	0.7	21.3	97	0.004	0.996	2	3
Sitagliptin Phosphate	triethylamine	0.62	0	0.6	96	0.14	1.899	1.981	4
	acetic acid	0.15	0	0.1	96	0.04	1.96	2	4
	methanol	1.33	0.1	1.3	95	0.001	0.999	1	2
	isopropyl alcohol	6.02	0.2	5.8	97	0.004	1.996	1	3
Canagliflozin	methanol	9.5	0.4	9.1	96	0.12	1.899	1.981	4
	Ethyl Acetate	12.77	0.3	12.5	98	0.003	0.997	1	2
	Methyl Tertiary Butyl	2.67	0.1	2.5	95	0.021	2.079	2.9	5

	Ether								
	N-HEPTANE	17.97	0.7	17.2	96	0.004	1.996	2	4
Teniligliptine	Methylene dichloride	10.97	0.3	10.6	97	0.001	0.999	2	3
	Acetic Acid	0.15	0	0.1	96	0.08	2.92	1	4
	Isopropyl alcohol	#REF!	#REF!	#REF!	95	0.002	1.998	3	5
Glimipiride	Toluene	4.55	0.2	4.4	96	0.002	0.998	3	4
	Acetone	8.33	0.3	8	96	0.003	1.997	2	4
	Methanol	3.33	0.1	3.2	97	0.02	1.98	1	3
Adapalene	MDC	4.93	0.1	4.8	98	0.011	0.989	1	2
	Acetic Acid	0.27	0	0.3	96	0.003	1.997	2	4
	Hexane	0.1	0	0.1	95	0.002	2.998	2	5
	Ethyl acetate	0.33	0	0.3	96	0.001	1.882	2.117	4
	THF	0.33	0	0.3	97	0.009	0.991	2	3
Rosuvastatin Calcium	THF	19.8	0.8	19	96	0.002	1.88	2.118	4
	Methanol	9.5	0.2	9.3	98	0.002	0.998	1	2
	Toluene	30.66	1.2	29.4	96	0.08	2.92	1	4
	Isopropyl Alcohol	11.21	0.4	10.8	96	0.04	1.96	2	4
Lornoxicam	Methanol	7.34	0.2	7.1	97	0.01	1.99	1	3
	Dimethyl	0.13	0	0.1	98	0.0	0.9	1	2

	Sulfate					33	67		
	Acetone	0.78	0	0.7	95	0.012	2.418	2.5	5
	O-Xylene	28.61	0.6	28	98	0.004	0.996	1	2
	MDC	0.94	0	0.9	97	0.022	0.978	2	3
Maloxicam	Dimethyle Formamide	13.81	0.4	13.4	97	0.03	0.97	2	3
	Dimethyl Sulfate	25.02	1	24	96	0.12	1.899	1.981	4
	Methanol	13.81	0.6	13.3	96	0.04	1.96	2	4
	Acetone	17.68	0.7	17	96	0.07	2.93	1	4
Fluconazole	Ethyl Acetate	12.66	0.6	12	95	0.033	2.367	2.6	5
	Methylen Dichloride	0.06	0	0.1	97	0.018	1.982	1	3
	Isopropyl Alcohol	0.19	0	0.2	97	0.002	0.998	2	3
	Acetone	1.76	0	1.7	98	0.001	0.999	1	2
	Methanol	0.19	0	0.2	96	0.04	1.96	2	4
Sertaconazole	Toluene	17.46	0.7	16.8	96	0.003	1.997	2	4
	Methanol	12.76	0.4	12.4	97	0.002	1.998	1	3
	Acetone	29.8	0.6	29.2	98	0.002	0.998	1	2
Terbinafine Hcl	Methylene dichloride	15.12	0.5	14.7	97	0.001	1.999	1	3
	Ethyle Acetate	19.58	0.6	19	97	0.001	0.999	2	3
Pregabelene	Toluene	5.52	0.1	5.4	98	0.0	0.9	1	2

						11	89		
	Iso Propyl Alcohol	4.14	0.2	3.9	95	0.004	1.996	3	5
Olmesartan	Ethyl ester	0.5	0	0.5	96	0.002	1.88	2.118	4
	Toluene	16	0.5	15.5	97	0.02	1.98	1	3
	Acetic acid	1	0	1	96	0.001	1.999	2	4
	Acetone	6	0.1	5.9	98	0.033	0.967	1	2
	Methyl ethyl ketone	0.015	0	0	95	0.004	2.996	2	5
Frucemide	ISOPROPANOL	2.31	0.1	2.2	97	0.022	0.978	2	3
	ACETIC ACID	1.54	0	1.5	97	0.004	1.996	1	3
Phennyl Ephrine Hcl	Ethyl acetate	1.5	0.1	1.4	96	0.07	2.93	1	4
	Toluene	13	0.5	12.5	96	0.03	1.97	2	4
	Methanol	6	0.2	5.8	96	0.001	1.882	2.117	4
Vildagliptine	Acetonitrile	47.92	1	47	98	0.004	0.996	1	2
	Ethyle acetate	32.5	1	31.5	97	0.004	0.996	2	3
	Dimethyle formamide	1.08	0	1	97	0.01	1.99	1	3
	Isopropyl alcohol	15.85	0.3	15.5	98	0.014	0.986	1	2
	Methyl tert butyl ether	9.38	0.4	9	96	0.003	0.997	3	4
Luliconazole	Ethyl acetate	181.04	5.4	175.6	97	0.009	0.991	2	3
	Methylene	143.7	4.3	139.4	97	0.0	1.9	1	3

	dichloride	1				03	97		
	Dimethyl sulphoxide	43.95	0.9	43.1	98	0.001	0.999	1	2
Atoaquone	Methanol	377.35	15.1	362.3	96	0.07	2.93	1	4
	Acetonitrile	17.5	0.9	16.6	95	0.011	2.289	2.7	5
	Methylene dichloride	99.97	5	95	95	0.001	1.999	3	5
	ETHYL ACETATE	46.52	1.9	44.7	96	0.004	1.996	2	4
	TOLUENE	16.8	0.5	16.3	97	0.003	0.997	2	3
	Dimethyle formamide	14.6	0.6	14	96	0.003	0.997	3	4
Linagliptine	Acetic acid	46.71	2.3	44.4	95	0.001	2.999	2	5
	Methanol	198.3	5.9	192.3	97	0.015	1.985	1	3
	MDC	218.22	4.4	213.9	98	0.011	0.989	1	2
	Hexane	15.16	0.3	14.9	98	0.003	0.997	1	2
	Acetone	142.5	5.7	136.8	96	0.002	0.998	3	4
	Ethanol	20.8	0.8	20	96	0.002	1.88	2.118	4
	TEA	1.25	0.1	1.2	95	0.021	2.079	2.9	5
	Ethyl acetate	21.5	0.9	20.6	96	0.003	1.997	2	4
	DMF	12	0.4	11.6	97	0.008	0.992	2	3
	Toluene	15.5	0.5	15	97	0.003	0.997	2	3
	IPA	23	0.9	22.1	96	0.0	1.8	2.117	4

						01	82		
Hydroxychloroquine	Ethylene glycol	9.25	0.5	8.8	95	0.002	2.998	2	5
	Cyclohexane	52.35	2.6	49.7	95	0.001	1.999	3	5
	Methanol	15.53	0.8	14.8	95	0.001	2.999	2	5
	Methylene dichloride	30.9	1.2	29.7	96	0.001	1.999	2	4
Albendazole	Methanol	40	1.6	38.4	96	0.08	2.92	1	4
	n-Propane	35	1.1	34	97	0.015	1.985	1	3
	Aceton	30	1.2	28.8	96	0.12	1.899	1.981	4
Mebendazol	Toluene	21.74	1.1	20.7	95	0.033	2.367	2.6	5
	Methanol	26.09	0.5	25.6	98	0.012	0.988	1	2
	DMS	32.61	1.3	31.3	96	0.07	2.93	1	4
	Acetone	21.74	0.7	21.1	97	0.001	0.999	2	3
Febendazol	Methanol	40.15	1.6	38.5	96	0.04	1.96	2	4
Amio darone	Toluene	39.15	1.2	38	97	0.003	1.997	1	3
	DMF	0.09	0	0.1	98	0.002	0.998	1	2
	Isopropyl Alcohol	43.49	1.7	41.7	96	0.03	1.97	2	4
Aripiprazole	Acetonitrile	2.1	0.1	2	95	0.001	2.999	2	5
	N,N-dimethylformamide	1.7	0.1	1.6	95	0.002	1.998	3	5

Azithromycine	Acetic Acid	0.2	0	0.2	96	0.14	1.899	1.981	4
	Methanol	22.1	0.9	21.2	96	0.003	0.997	3	4
	Acetone	7.66	0.2	7.4	97	0.009	0.991	2	3
Bupropion HCl	MDC	4	0.1	3.9	98	0.033	0.967	1	2
	Ethyl acetate	2	0.1	1.9	97	0.004	0.996	2	3
	IPA	2	0.1	1.9	96	0.12	1.899	1.981	4
Duloxetine HCl	Methanol	1.5	0	1.5	98	0.004	0.996	1	2
	DMSO	0.5	0	0.5	97	0.004	1.996	1	3
	Ethyl a Acetate	1.5	0	1.5	97	0.004	0.996	2	3
	Acetone	0.5	0	0.5	98	0.001	0.999	1	2
Linezolid	Ethyl acetate	4	0.2	3.8	95	0.021	2.079	2.9	5
	Methanol	14.26	0.6	13.7	96	0.002	1.88	2.118	4
	IPA	2	0.1	1.9	97	0.01	1.99	1	3
	DMF	1	0	1	98	0.014	0.986	1	2
	MDC	8	0.2	7.8	98	0.011	0.989	1	2
Rivaroxaban	Acetic Acid	0.5	0	0.5	96	0.04	1.96	2	4
Tenoxicam	Hexane	25.7	0.8	24.9	97	0.009	0.991	2	3
	Methanol	13.67	0.7	13	95	0.004	2.996	2	5

	DMS	1.06	0	1	96	0.001	1.882	2.117	4
	Acetone	13.01	0.3	12.7	98	0.003	0.997	1	2
	DMF	14.38	0.4	13.9	97	0.002	1.998	1	3
Rebe Prazole Sodium	Acetic acid	0.46	0	0.4	97	0.002	0.998	2	3
	Toluene	13.5	0.5	13	96	0.14	1.899	1.981	4
	DMSO	2	0.1	1.9	96	0.001	1.999	2	4
	MDC	13.5	0.3	13.2	98	0.012	0.988	1	2
	Acetone	1.5	0.1	1.4	96	0.03	1.97	2	4
	Isopropyl Alcohol	3	0.1	2.9	98	0.002	0.998	1	2
Cetrizine Dihydrochloride	N-Hexane	5.86	0.2	5.7	97	0.018	1.982	1	3
	Methanol	2.6	0.1	2.5	96	0.001	1.999	2	4
	Triethyl amine	0.8	0	0.8	97	0.03	0.97	2	3
	Toluene	12	0.5	11.5	96	0.07	2.93	1	4
	DMF	3.4	0.1	3.3	98	0.033	0.967	1	2
	Ethyl acetate	24	0.5	23.5	98	0.004	0.996	1	2
	MDC	13.8	0.4	13.4	97	0.003	0.997	2	3
	Acetone	14.5	0.6	13.9	96	0.002	0.998	3	4
Mefenamic Acid	Toluene	97	1.9	95.1	98	0.014	0.986	1	2

	DMF	24.4	0.7	23.7	97	0.015	1.985	1	3
	Methanol	346	10.4	335.6	97	0.003	1.997	1	3
Nimesulide	Acetic acid	0.4	0	0.4	96	0.08	2.92	1	4
	Toluene	40	2	38	95	0.004	1.996	3	5
	Methanol	88.4	2.7	85.7	97	0.001	1.999	1	3
Allopurinol	Isopropyl alcohol	4.17	0.2	4	96	0.004	1.996	2	4
	Acetone	18.24	0.5	17.7	97	0.009	0.991	2	3

G-2	Brief Note on LDAR proposed:

- To prevent losses of these solvents in atmosphere, following infrastructure shall beused 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

- 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:

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

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

-

Sr. no	Name of Chemical	Capacity of Tank	Number of Tanks	Hazardous Characteristics of Chemical
No. Unit will store all solvents in drums.				

Brief note on storage of Hazardous chemicals in Tanks

- Not Applicable

Brief note on 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	Storage in compatible storage unit with flame proof fitting, also provide firefighting measures. Only trained person allowed to handle
Corrosive	Storage in compatible storage unit with safe distance with other chemicals, Only trained person allowed to handle
Toxic	Storage in compatible storage unit with safe distance with other chemicals, Only trained person allowed to handle

- Applicability of PESO : Yes. Unit will apply for PESO after EC grant

Comments:

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

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

-

Type of Process	Safety measures including Automation
Chlorination	Scrubber provided. Required PPEs 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.

H-3	Details of Fire Load Calculation

-

Total Plot Area:	3000
Number of Floors:	G+2
Water requirement for firefighting in KL :	10.9 KL
Water storage tank provided for firefighting in KL:	150 KL
Details of Hydrant Pumps:	Main Pump Jocky Pump DG Pump
Nearest Fire Station :	4 km
Applicability of Off Site Emergency Plan:	N.A

- **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 150 KL. SEAC found it as per the requirement.

H-4	Details of Fire NOC/Certificate:
The unit will obtain it.	
H-5	Details of Occupational Health Centre (OHC):

-

Number of permanent Employee :	20
Number of Contractual person/Labour :	5
Area provided for OHC:	21
Number of First Aid Boxes :	2
Nearest General Hospital :	2
Name of Antidotes to be store in plant :	Sodium Hydro-Carbonate (4% Conc.), Diazem – 1 mg/Kg.(Intravenous), Epinephina, Efidrine, 10 mg diazepam through injection

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. 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 keep secure distance between existing solvent distillation plant from proposed API plant keeping in consideration of safety, health and Environment point of view.

6. PP shall procure spent solvent as hazardous waste from units except pesticide plant for existing solvent distillation facility keeping in consideration of proposed API plant.

7. 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].

8. (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.

9. 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.

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

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

12. GPCB shall ensure compliance of direction under section 18 (1) (b) of the Water (Prevention and Control of Pollution) act, 1974 issued by CPCB regarding compliance of CETP and also that the pollution load is not increased in the CPA/SPA for the compliance of Hon'ble NGT order.

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

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

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

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

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

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

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

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

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

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

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

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

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

m) (1) Unit shall provide effective fire hydrants, water monitors & foam application system at solvent storage tank farm area. (2) Unit shall provide adequate safety system such as water sprinklers, water curtains, foam pouring system etc. to restrict cascade fire emergency in solvent tank farm.

n) Unit shall provide water sprinkler to ammonia storage/cylinder area.

o) Unit shall obtain all required permissions from the Narcotics Control Bureau for usage as raw material, storage and handling of Acetic Anhydride & any such chemicals.

WATER

13. Total water requirement for the project shall not exceed 49.90 KLD. Unit shall reuse 3.40 KLD of cooling and boiler condensate and treated effluent within premises. Hence, fresh water requirement shall not exceed 46.50 KLD and it shall be met through GIDC supply only. Prior permission from concerned authority shall be obtained for withdrawal of water.

14. The industrial effluent generation from the project shall not exceed 27.70 KLD after expansion.

15. Management of Industrial effluent shall be as under:

High Concentrated Stream (21.50 KLD)

- 21.50 KLD, high COD and high TDS effluent from Process shall be passed through solvent stripper and then treated effluent along with 4.5 KLD, effluent from washing, scrubber and utility shall be treated in primary ETP-1 and then treated effluent shall be sent to CMEE of M/s. BEIL through GPS fitted tanker for evaporation.
- Unit shall send wastewater to CMEE only after ensuring content of effluent for COD/VOC so as not to get air borne during evaporation in order to achieve no adverse impacts on Environment and Human Health.

Low Concentration Stream (0.8 + 0.9 KLD) :

- 0.8 KLD, Low COD and TDS effluent shall be treated in ETP-2 & then treated effluent shall be sent to CETP of M/s. ETL for further treatment and disposal.
- 0.9 KLD boiler blow down waste water shall be used for fresh make up for scrubber of boiler within premises.

16. Unit shall provide buffer water storage tank of adequate capacity for storage of treated waste water

during any shut down of CMEE.

17. Domestic wastewater generation shall not exceed 2.50 KL/day for proposed project and it shall be treated in STP. It shall not be disposed off in soak pit and septic tank.

18. Unit shall provide ETP and STP with adequate capacity.

19. Treated waste water shall be discharged into CETP of M/s. ETL only after complying with the inlet norms prescribed by GPCB to ensure no adverse impact on Human Health and Environment.

20. The unit shall provide metering facility at the inlet and outlet of ETP, STP and maintain records for the same.

21. Proper logbooks of ETP, STP, reuse/ recycle of treated/ untreated effluent; chemical consumption in effluent treatment; quantity & quality of treated effluent discharge to CETP, 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, thermic fluid heater, 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 work zone environment shall be monitored. The emission shall conform to the standards prescribed by the concerned authorities from time to time (e.g. Directors of Industrial Safety& Health). Following indicative guidelines shall also be followed to reduce the fugitive emission.

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

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

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

    - ✓ 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.

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 ground level concentration of PM_{10}, $PM_{2.5}$, SO_2, NOx, HCl, Br2, NH3,Cl2, NH3 and VOCs shall be carried out in the impact zone and its records shall be maintained. Ambient air quality levels shall not exceed the standards stipulated by the GPCB. If at any stage these levels are found to exceed the prescribed limits, necessary additional control measures shall be taken immediately. The location of the stations and frequency of monitoring shall be decided in consultation with the GPCB.

HAZARDOUS / SOLID WASTES:

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. Management of fly ash shall be as per the Fly ash Notification 2009 & its amendment time to time

and it shall be ensured that there is 100% utilization of fly ash to be generated from the unit.

35. STP sludge shall be used as manure within premises for gardening purpose.
36. 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

37. The PP shall develop green belt (1022 sq. m. within premises i.e. 34 % of the total plot area) as per the undertaking submitted before SEAC. Green belt shall be developed with native plant species that are significant and used for the pollution abatement as per the CPCB guidelines. It shall be implemented within 3 years of operation phase in consultation with GPCB.

OTHERS:

38. The project proponent shall carry out the entire activities [Installation of solar panel at girls school of Kosamdi 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.
39. 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:

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 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.
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 Honourable 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

3.	SIA/GJ/IND2/206758/2021	**M/s.Satv Pharmachem LLP** Plot No. 65, Hari Om Industrial Co. Op. Estate Limited, Gozariya, Dist -Mehsana,	EC

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

Project status: New

- Project proponent (PP) submitted online application vide no. **SIA/GJ/IND2/206758/2021** 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 a new project proposed 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	Fosfomycin	API	78964-85-9	**35 MT/Month (Either Or)**	Fosfomycin is an antibiotic primarily used to treat bladder infections.
2	Etodolac	API	41340-25-4		Etodolac is a nonsteroidal anti-inflammatory drug.
3	Leflunomide	API	75706-12-6		Leflunomideis used in active moderate-to-severe rheumatoid arthritis and psoriatic arthritis.
4	Levosulpiride	API	23672-07-3		Levosulpiride is an atypical antipsychotic medication used in the treatment of nausea,

					vomiting, depression.	
	5	Ondansetron HCL	API	103639-04-9	Ondansetron HCl is used to prevent nausea.	
	6	Pregabalin	API	148553-50-8	Pregabalin is used to treat epilepsy, neuropathic pain, fibromyalgia, restless leg syndrome, and generalized anxiety disorder.	
	7	Telmisartan	API	144701-48-4	Telmisartan is a medication used to treat high blood pressure.	
	8	Teriflunomide	API	163451-81-8	Teriflunomide is used to treat relapsing forms of multiple sclerosis in adults.	
	9	Benfotiamine	API	22457-89-2	Benfotiamine is a medication or dietary supplement to treat diabetic neuropathy.	
	10	Famotidine	API	76824-35-6	It is used to treat peptic ulcer disease, gastroesophageal reflux disease,	
	11	Losartan potassium	API	124750-99-8	Losartan potassium is a medication used to treat high blood pressure.	
	12	Metaxalone	API	1665-48-1	Metaxaloneis a muscle relaxant medication used to relax muscles and relieve pain caused by strainsconditions.	
	13	Salbutamol	API	18559-94-9	Salbutamol is used to relieve symptoms of asthma and chronic	

					obstructive pulmonary disease (COPD).	
14	Loratadine	API	79794-75-5		Loratadine is a medication used to treat allergies.	
15	L Phenylephrine HCL	API	61-76-7		L Phenylephrine HCl is used to relieve nasal discomfort caused by colds, allergies.	
16	Clomiphene citrate	API	911-45-5		Clomifene Citrate is medication used to treat infertility in women.	
17	Nicardipine HCL	API	54527-84-3		Nicardipine HCl is a medication used to treat high blood pressure and angina.	
18	Benidipine HCL	API	91599-74-5		Benidipine is use to treatment of high blood pressure.	
19	Clevidipine HCL	API	167221-71-8)		Clevidipine is use in indicated for the reduction of blood pressure	
20	Terbutaline sulphate	API	23031-32-5		Terbutaline Sulphate is used to prevent and treat wheezing, shortness of breath, and chest tightness caused by asthma.	
21	Azilsartan	API	147403-03-0		Azilsartan is used to treat high blood pressure (hypertension).	
22	Candesartan	API	139481-59-7		Candesartan is use for the treatment of high blood pressure and congestive heart failure.	
23	Irbesartan	API	138402-11-6		Irbesartan is a medication used	

					to treat high blood pressure, heart failure, and diabetic kidney disease.	
24	Olmesartan Medoxomil	API	144689-63-4		Olmesartan Medoxomil is a medication used to treat high blood pressure.	
25	Valsartan	API	137862-53-4		Valsartan is a medication used to treat high blood pressure, heart failure.	
26	Acebutolol HCL	API	34381-68-5		Acebutolol is used to treat high blood pressure.	
27	Atenolol	API	29122-68-7		Atenolol is used to treat high blood pressure and heart-associated chest pain.	
28	Metoprolol Succinate	API	98418-47-4		used to treat chest pain (angina), heart failure, and high blood pressure.	
29	Nebivolol HCl	API	152520-56-4		Nebivolol is usedto treat high blood.	
30	Metformin Hydrochloride	API	1115-70-4		It is used in patients with type 2 diabetes.	
31	Canagliflozin	API	842133-18-0		It is used in patients with type 2 diabetes.	
32	Dapagliflozin	API	461432-26-8		It is used in patients with type 2 diabetes.	
33	Glipizide	API	29094-61-9		Glipizide is an anti-diabetic medication	
34	L Methyl Calcium Folate	API	151533-22-1		L Methyl Calcium Folate used to treat or prevent low folate levels.	
35	N Methyl O Phenylene diamine 2 HCL	Intermediate	25148-68-9		Intermediate of Telmisartan is used to treat blood Pressure.	

	36	4'-(bromomethyl) -[l,l'- biphenyl]-2-carboxylic acid methyl ester	Intermediate	114772-38-2		Intermediate of Telmisartan is used to treat blood Pressure.	
	37	Phenyl hydrazine HCl	Intermediate	59-88-1		Intermediate of Edaravone is an intravenous medication used to treat amyotrophic lateral sclerosis.	
	38	P amino methyl benzoic acid (PAMBA)	Intermediate	56-91-7		Intermediate Tranexamic acid is a medication used to treat or prevent excessive blood loss from major trauma, postpartum bleeding, surgery.	
	39	Triethyl orthoformate	Intermediate	122-51-0		Intermediate of Beclomethasone 21 acetate 17 propionateis used to prevent difficulty breathing, chest tightness, wheez ing, and coughing caused by asthma.	
	40	Triethyl Orthobenzoate	Intermediate	1663-61-2		Intermediates of Betamethasone benzoate It can be used topically to manage inflammatory skin conditions such as eczema.	
	41	Trimethyl orthoacetate	Intermediate	1445-45-0		Intermediate of Prednisolone acetate & Betamethasone acetate use as a corticosteroid.	
	42	Triethyl ortho propionate	Intermediate	115-80-0		Intermediate of Beclomethasone &dipropionatedr ugs known as corticosteroids.	
	43	Triethyl ortho	Intermediate	13820-09-2		Intermediate of	

	valerate				Betamethasone valerate is a steroid medication.
44	Trimethyl orthobenzoate	Intermediate	707-07-3		Intermediate of Betamethasone benzoateis a steroid medication.
45	Trimethyl ortho propionate	Intermediate	24823-81-2		Intermediate of Beclomethasone dipropionateis use as a steroid medication
46	Trimethyl orthoformate	Intermediate	149-73-5		Intermediate of Beclomethasone 21 acetate 17 propionateis used to prevent difficulty breathing, chest tightness, wheezing, and coughing caused by asthma.
47	Trimethyl ortho valerate	Intermediate	13820-09-2		Intermediate of Betamethasone valerate is a steroid medication
48	R&D	---	---	0.2	---
			Total	**35.2 MT/Month (Either Or)**	

 # Brief Note of Product Profile:

- No of Manufacturing Plants: 01 Nos.
- Brief Note regarding number of Products to be manufactured considering plant capacity:

For Plant-1: 47 Nos. API & Intermediates (Either Or) with maximum total capacity of 35 MT/Month (Either Or) and R & D activity 0.2 MT/Month.

Specific End-use of each proposed products:

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

1	Fosfomycin	78964-85-9	API	-	-	-	Fosfomycin is an antibiotic primarily used to treat bladder infections.
2	Etodolac	41340-25-4	API	-	-	-	Etodolac is a nonsteroidal anti-inflammatory drug.
3	Leflunomide	75706-12-6	API	-	-	-	Leflunomide is used in active moderate-to-severe rheumatoid arthritis and psoriatic arthritis.
4	Levosulpiride	23672-07-3	API	-	-	-	Levosulpiride is an atypical antipsychotic medication used in the treatment of nausea, vomiting, depression.
5	Ondansetron HCL	103639-04-9	API	-	-	-	Ondansetron HCl is used to prevent nausea.
6	Pregabalin	148553-50-8	API	-	-	-	Pregabalin is used to treat epilepsy, neuropathic pain, fibromyalgia, restless leg syndrome, and generalized anxiety disorder.
7	Telmisartan	144701-48-4	API	-	-	-	Telmisartan is a medication used to treat high blood pressure.
8	Teriflunomide	163451-81-8	API	-	-	-	Teriflunomide is used to treat relapsing forms of multiple sclerosis in adults.
9	Benfotiamine	22457-89-2	API	-	-	-	Benfotiamine is a medication or dietary supplement to treat diabetic neuropathy.
10	Famotidine	76824-35-6	API	-	-	-	It is used to treat peptic ulcer disease, gastroesophageal reflux disease,
11	Losartan potassium	124750-99-8	API	-	-	-	Losartan potassium is a medication used to treat high blood pressure.
12	Metaxalone	1665-48-1	API	-	-	-	Metaxalone is a muscle relaxant medication used to relax muscles and relieve pain caused

							by strains conditions.
13	Salbutamol	18559-94-9	API	-	-	-	Salbutamol is used to relieve symptoms of asthma and chronic obstructive pulmonary disease (COPD).
14	Loratadine	79794-75-5	API	-	-	-	Loratadine is a medication used to treat allergies.
15	L Phenylephrine HCL	61-76-7	API	-	-	-	L Phenylephrine HCl is used to relieve nasal discomfort caused by colds, allergies.
16	Clomiphene citrate	911-45-5	API	-	-	-	Clomifene Citrate is medication used to treat infertility in women.
17	Nicardipine HCL	54527-84-3	API	-	-	-	Nicardipine HCl is a medication used to treat high blood pressure and angina.
18	Benidipine HCL	91599-74-5	API	-	-	-	Benidipine is use to treatment of high blood pressure.
19	Clevidipine HCL	167221-71-8)	API	-	-	-	Clevidipine is use in indicated for the reduction of blood pressure
20	Terbutaline sulphate	23031-32-5	API	-	-	-	Terbutaline Sulphate is used to prevent and treat wheezing, shortness of breath, and chest tightness caused by asthma.
21	Azilsartan	147403-03-0	API	-	-	-	Azilsartan is used to treat high blood pressure (hypertension).
22	Candesartan	139481-59-7	API	-	-	-	Candesartan is use for the treatment of high blood pressure and congestive heart failure.
23	Irbesartan	138402-11-6	API	-	-	-	Irbesartan is a medication used to treat high blood pressure, heart failure, and diabetic kidney disease.
24	Olmesartan	144689-	API	-	-	-	Olmesartan

	Medoxomil	63-4					Medoxomil is a medication used to treat high blood pressure.
25	Valsartan	137862-53-4	API	-	-	-	Valsartan is a medication used to treat high blood pressure, heart failure.
26	Acebutolol HCL	34381-68-5	API	-	-	-	Acebutolol is used to treat high blood pressure.
27	Atenolol	29122-68-7	API	-	-	-	Atenolol is used to treat high blood pressure and heart-associated chest pain.
28	Metoprolol Succinate	98418-47-4	API	-	-	-	used to treat chest pain (angina), heart failure, and high blood pressure.
29	Nebivolol HCl	152520-56-4	API	-	-	-	Nebivolol is used to treat high blood.
30	Metformin Hydrochloride	1115-70-4	API	-	-	-	It is used in patients with type 2 diabetes.
31	Canagliflozin	842133-18-0	API	-	-	-	It is used in patients with type 2 diabetes.
32	Dapagliflozin	461432-26-8	API	-	-	-	It is used in patients with type 2 diabetes.
33	Glipizide	29094-61-9	API	-	-	-	Glipizide is an anti-diabetic medication
34	L Methyl Calcium Folate	151533-22-1	API	-	-	-	L Methyl Calcium Folate used to treat or prevent low folate levels.
35	N Methyl O Phenylene diamine 2 HCL	25148-68-9	Intermediate	n-1	Telmisartan	144701-48-4	Telmisartan is used to treat blood Pressure.
36	4'-(bromomethyl) -[l,l'-biphenyl]-2-carboxylic acid methyl ester	114772-38-2	Intermediate	n-1	Telmisartan	144701-48-4	Telmisartan is used to treat blood Pressure.
37	Phenyl hydrazine HCl	59-88-1	Intermediate	n-1	Edaravone	89-25-8	Edaravone is an intravenous medication used to treat amyotrophic lateral sclerosis.

38	P amino methyl benzoic acid (PAMBA)	56-91-7	Intermediate	n-1	Tranexamic acid	1197-18-8	Tranexamic acid is a medication used to treat or prevent excessive blood loss from major trauma, postpartum bleeding, surgery.
39	Triethyl orthoformate	122-51-0	Intermediate	n-1	Beclomethasone 21 acetate 17 propionate	5534-08-7	Beclomethasone 21 acetate 17 propionate is used to prevent difficulty breathing, chest tightness, wheezing, and coughing caused by asthma.
40	Triethyl Orthobenzoate	1663-61-2	Intermediate	n-1	Betamethasone benzoate	22298-29-9	Betamethasone benzoate It can be used topically to manage inflammatory skin conditions such as eczema.
41	Trimethyl orthoacetate	1445-45-0	Intermediate	n-1	Prednisolone acetate & Betamethasone acetate	52-21-1 & 987-24-6	Prednisolone acetate &Betamethasone acetate use as a corticosteroid.
42	Triethyl ortho propionate	115-80-0	Intermediate	n-1	Beclomethasone dipropionate	5534-09-8	Beclomethasone dipropionate drugs known as corticosteroids.
43	Triethyl ortho valerate	13820-09-2	Intermediate	n-1	Betamethasone valerate	2152-44-5	Betamethasone valerate is a steroid medication.
44	Trimethyl orthobenzoate	707-07-3	Intermediate	n-1	Betamethasone benzoate	22298-29-9	Betamethasone benzoate is a steroid medication.
45	Trimethyl ortho propionate	24823-81-2	Intermediate	n-1	Beclomethasone dipropionate	5534-09-8	Beclomethasone dipropionate is use as a steroid medication
46	Trimethyl orthoformate	149-73-5	Intermediate	n-1	Beclomethasone 21 acetate 17 propionate	5534-08-7	Beclomethasone 21 acetate 17 propionate is used to prevent difficulty breathing, chest tightness, wheezing, and coughing caused by asthma.
47	Trimethyl ortho valerate	13820-09-2	Intermediate	n-1	Betamethasone valerate	2152-44-5	Betamethasone valerate is a steroid medication
48	R&D	---	---	---	**---**	**---**	**---**

- 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 13-08-2021.
- The salient features of the project including Water, Air and Hazardous waste management are as under:

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

Total Project
10.0 Crores

Break-up of proposed project Cost:

Details	Project Cost (Rs. In Crores)
Land	0.0
Building	4.0
Machinery	6.0

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

Sr. No.	Description	Component		Capital Cost (Lakhs)	Recurring Cost (Lakhs/Annum)		
					Operating Cost	Maintenance Cost	Total Recurring Cost
1.	Air Pollution Control	Cost of stack installation		25.0	7.0	3.0	10.0
		Cost of scrubber					
		Cost of maintenance of APCM System					
2.	Water Pollution Control	cost of In house MEE System.		50.0	15.0	10.0	25.0
		Construction cost of ETP					
		Treatment cost of effluent					
3.	Hazardous / Solid Waste Management	Membership cost of TSDF/ CHWIF		15.0	6.0	1.0	7.0
		Construction of Hazardous waste storage yard					
		Cost for TSDF disposal					
4.	Fire & Safety	Details	Cost in Lakh.	50.0	10.0	5.0	15.0
		Civil Cost for Fire Tank	20.0				

		Fire Extinguisher ABC Powder type 5 Kg / Fire Extinguisher CO2 Powder type 5 Kg / Sand Bucket / Foam trolley 50 kg / DCP Type 5 kg — 8.0				
		Electrical Jockey Pump — 7.0				
		Fire Hydrant System (Pipe Hydrant System, Flexible Pipe, Valve, Fire Brigade Booster, Booster Pump Set, Hydrant, Lay flat Fire Hose, Block Plan, etc.) & Fire Proximity Suits — 15.0				
5.	Occupational Health and Safety	Construction of Occupational Health & Safety / Medical Equipment and Antidotes / Medical Kits & PPEs	10.0	2.0	2.0	4.0
6.	Green Belt Development	Land leveling, Plantation, Irrigation System Installation, Labour cost	4.0	2.0	2.0	4.0
7.	AWH Monitoring	Self monitoring & Third party monitoring of Air, water and hazardous pollution control measurements	7.0	2.0	1.0	3.0
8.	SCADA System	DCS based Automatic control system	19.0	5.0	5.0	10.0
9.	CER Activity	• Providing Solar street light in Gram Panchayat of Nearest Villages	20.0	10.0	10.0	20.0
		TOTAL	200.0	59.0	39.0	98.0

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.

Summary

Cost of Project in Crores per Annum:	10.0
EMP Capital Cost in Crores per Annum and Percentage:	2.0 (20%)
EMP Recurring Cost in Crores per Annum and Percentage:	0.98 (9.8%)

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
2%	0.20

Brief note on proposed activities:

Sr. No.	CER Activities	Year wise Budget (Cr.)		Total (Cr.)
		2021-2022	2022-2023	
1.	Providing Solar Street Light in nearest Village.	0.10	0.10	0.20
	Total	0.10	0.10	0.20

B Land / Plot ownership details:

B-1 Plot area

Total Plot area
2904.90 Sq. m.

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

Land use planning	Area in Sq. Mt.
Built-up Area	496.42
Utility Area	551.12
Greenbelt Area	962.49
Road Area	759.49
Other Built-up	135.38
Total Plot Area	2904.90

List of Plant Machinery:

Sr. no	Name of equipment	Capacity	NO.
1	S. S. reactor 10 KL with column, condenser and S.S receiver OR S. S. Glass line reactor 10 KL with column, condenser and glass receiver	10 KL	2
2	S. S. reactor 6 KL with column, condenser and S.S receiver OR S. S. Glass line reactor 6 KL with column, condenser and glass receiver	6 KL	10
3	S. S. reactor 3 KL with column, condenser and S.S receiver OR S. S. Glass line reactor 3 KL with column, condenser and glass receiver	3 KL	2

4	S. S. reactor 2 KL with column, condenser and S.S receiver OR S. S. Glass line reactor 2 KL with column, condenser and glass receiver	2 KL	2
5	S.S Microwave synthesizer 1 KL and 6 KL with column, condenser and S.S receiver OR S. S. Microwave synthesizer Glass line 1 KL and 6 KL with column, condenser and glass receiver	1 KL and 6 KL	2
6	Glass Assembly with received heating and condensor	200 Lit./100 Lit./50 Lit./20 Lit.	6
7	ANFD	60"	2
8	S. S Centrifuge/rubber coated	48 "/36"	8
9	S. S. Nutch filter/ rubber coated	200/100/50	3
10	S. S. AirTray dryer	48 Tray	4
11	S. S Vacuum Tray Dryer	48 Tray	2
12	S.S Rotary vacuum dryer cone/paddle	1000 Ltr	2
13	S. S. Multimill	100 Kg/hour	2
14	S. S. Shifter	36"	2
15	S. S Jet Mill	10 " (100 Kg/hour)	1
16	S. S Blander	2000 Kg	1
17	S. S Sparker Filter	24" X 18 plates	2
18	Steam boiler	2 TPH	1
26	Thermic Fluid Heater	6 Lakh Kcal.	1
27	Steam jet high vacuum system	-	1
28	High vacuum pump	7.5 HP	6
29	Cooling tower for plant	100 TR/60 TR	2
30	Cooling tower for jet vacuum	30 TR	1
31	Chilling plant	80 TR	2
32	Chiller in production plant	10 TR	2
33	DG set	100 KV	1
34	3 stage ventury scrubber	100 kg/hour	1
35	HCl Gas Generator	---	1
36	HDPF/PP Tank	5 KL	5
37	HDPF/PP Tank	10 KL	5

Comments:

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

B-3 Green belt area

	Total (Sq. meter)
Area in Sq. meter	962.49
% of total area	33.13%

Comments:

The condition shall be given that -

The PP shall develop green belt (962 Sq. metere 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.

C Employment generation

Total
20

D WATER

D-1 Source of Water Supply

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

- GIDC Supply

Status of permission from the concern authority.

- We have already obtain provisional copy of water supply letter from GIDC.

D-2 Water consumption (KLD)

Sr. No.	Particulars	Water Consumption (KL/Day)	Waste water Generation (KL/Day)	Remark
1.	Domestic	1.0	0.8	Send to ETP
2.	Gardening	2.0	0.0	Nil
3.	Industrial			
	RO System- 1	35.0 (30.67 Fresh + 4.33 Reuse RO-2)	30.0 (RO-1 Permeate send to 2nd pass RO System-2)	Send to second pass RO
			5.0 (RO-1 Rejected send to ETP)	Send to ETP
	RO System- 2	30.0 (RO-1 Permeate send to 2nd pass RO System-2)	25.67 (DM Water for Industrial Process Use)	Use in Process for DM Water
			4.33 (RO-2 Reject Return to RO System-1)	Return to RO System-1
a.	RO System	30.67	5.0	Send to ETP
	Process (DM	25.67	27.97	Send to ETP

	Water from RO System)			
b.	Washing	2.0	2.0	Send to ETP
c.	Boiler	10.0	2.0	Send to ETP
d.	Cooling	4.0	0.4	Send to ETP
e.	Scrubbing	2.0	2.0	Send to ETP
f.	R & D	0.2	0.2	Send to ETP
	Total (3)	48.87	39.57	
	Total (1+2+3)	51.87	40.37	

- Total Water Consumption: 51.87 KLPD (27.4 KLPD Fresh + 24.47 KLPD Reuse = 51.87 KLPD)

Comments:

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

D-3 Waste water generation (KLD)

Sr. No.	Particulars	Water Consumption (KL/Day)	Waste water Generation (KL/Day)	Remark
1.	Domestic	1.0	0.8	Send to ETP
2.	Gardening	2.0	0.0	Nil
3.	Industrial			
	RO System- 1	35.0 (30.67 Fresh + 4.33 Reuse RO-2)	30.0 (RO-1 Permeate send to 2nd pass RO System-2)	Send to second pass RO
			5.0 (RO-1 Rejected send to ETP)	Send to ETP
	RO System- 2	30.0 (RO-1 Permeate send to 2nd pass RO System-2)	25.67 (DM Water for Industrial Process Use)	Use in Process for DM Water
			4.33 (RO-2 Reject Return to RO System-1)	Return to RO System-1
a.	RO System	30.67	5.0	Send to ETP
	Process (DM Water from RO System)	25.67	27.97	Send to ETP
b.	Washing	2.0	2.0	Send to ETP
c.	Boiler	10.0	2.0	Send to ETP
d.	Cooling	4.0	0.4	Send to ETP
e.	Scrubbing	2.0	2.0	Send to ETP
f.	R & D	0.2	0.2	Send to ETP
	Total (3)	48.87	39.57	
	Total (1+2+3)	51.87	40.37	

- Total Effluent generation: 40.37 KLPD (1.6 KLPD Domestic Effluent + 39.57 KLPD Industrial Effluent = 40.37 KLPD)

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

Sr.No.	Products	Quantity in MT/Month	Water Consumption KL/Day	Waste Water Generation KL/Day	Water Reuse
1.	N Methyl O Phenylene diamine 2 HCL	35 MT/Month (Either Or)	4.17	5.4	
2.	4'-(bromomethyl)-[l,l'- biphenyl]-2-carboxylic acid methyl ester		5.83	7.22	
3.	Fosfomycin		0.00	0.00	
4.	Etodolac		5.19	21.33	
5.	Leflunomide		0.00	3.94	
6.	Levosulpiride		0.00	0.00	
7.	Ondansetron HCL		25.67	24.63	
8.	Pregabalin		18.97	27.97	
9.	Telmisartan		7.24	19.29	
10.	Teriflunomide		0.00	5.95	
11.	Benfotiamine		2.92	4.8	
12.	Famotidine		11.67	15.76	
13.	Losartan potassium		0.58	0.00	
14.	Metaxalone		7.0	10.51	
15.	P amino methyl benzoic acid (PAMBA)		4.67	15.31	
16.	Phenyl hydrazine HCl		7.18	26.74	
17.	Salbutamol		0.00	0.00	
18.	Loratadine		17.48	24.41	
19.	L Phenylephrine HCL		15.76	25.07	
20.	Clomiphene citrate		0.00	0.00	
21.	L Methyl Calcium Folate		0.00	0.00	
22.	Nicardipine HCL		0.00	0.00	
23.	Benidipine HCL		0.00	0.00	
24.	Clevidipine HCL		0.00	0.00	
25.	Terbutaline sulphate		12.05	15.90	
26.	Triethyl orthoformate		0.00	1.87	
27.	Triethyl Orthobenzoate		0.00	0.00	
28.	Trimethyl orthoacetate		0.00	0.00	
29.	Triethyl ortho propionate		0.00	0.00	
30.	Triethyl ortho valerate		0.00	0.00	
31.	Trimethyl orthobenzoate		0.00	0.00	
32.	Trimethyl ortho propionate		0.00	0.00	
33.	Trimethyl orthoformate		0.00	2.8	
34.	Trimethyl ortho valerate		0.00	0.00	
35.	Azilisartan		4.67	10.5	
36.	Candesartan		14.58	20.65	
37.	Irbesartan		10.15	10.88	
38.	Olmesartan Medoximil		4.62	4.52	
39.	Valsartan		2.04	3.36	
40.	Acebutolol HCL		0.61	2.7	
41.	Atenolol		8.8	9.0	
42.	Metoprolol Succinate		7.85	8.26	
43.	Nebivolol HCl		6.36	11.54	

	44.	Metformin Hydrochloride		1.21	1.23	
	45.	Canagliflozine		2.33	2.92	
	46.	Dapagliflozin		3.11	4.34	
	47.	Glipizide		12.46	12.80	
		Total	35 MT/Month (Either Or)	25.67 KLPD Max.	27.97 KLPD Max.	

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

- Not Applicable

Comments:

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

D-4	Mode of Disposal & Final meeting point

-

Domestic:	The domestic wastewater from industrial unit shall be segregated at source itself, and effluent shall be taken to ETP for the treatment.
Industrial:	Total generated waste water will be treated in ETP and finally send to In house MEE System/OR Advance Evaporation Technology for the final discharge then will be MEE/OR AET Condensate water reuse in our plant.

-

Clearly mention about final disposal

D-5	Treatment facilities

For Domestic waste water:

Capacity of STP: Not Applicable

- We will our domestic effluent treated in our ETP

For Industrial waste water: Treatment facility within premises with capacity

[In-house ETP (Primary, Secondary, Tertiary), MEE, Stripper, Spray Dryer, STP etc.

Treatment scheme including segregation at source. (Give Characteristics of each stream i.e. COD, BOD, TDS etc.) In case of stream segregation, Separate ETP (ETP-1, ETP-2….) for each stream shall be proposed.

- We will provide In-house ETP (Primary, Secondary, Tertiary) and MEE System/OR AET System in our unit.

ETP Capacity: 45 KLD
List of proposed ETP units

Sr. No.	Name of the Unit	Nos.	Capacity (KL)
1.	Collection Tank	1	45
2.	Solvent Stripper	1	40
3.	Neutralization Tank	1	40
4.	Primary Settling Tank	1	45

5.	Holding Tank	1	45
6.	MEE Condensate Storage Tank	1	40
7.	Sludge Drying Bed	2	20
8.	MEE System/OR Advance Evaporation Technology System	1	40 KL/D

Note: (In case of CETP discharge) :

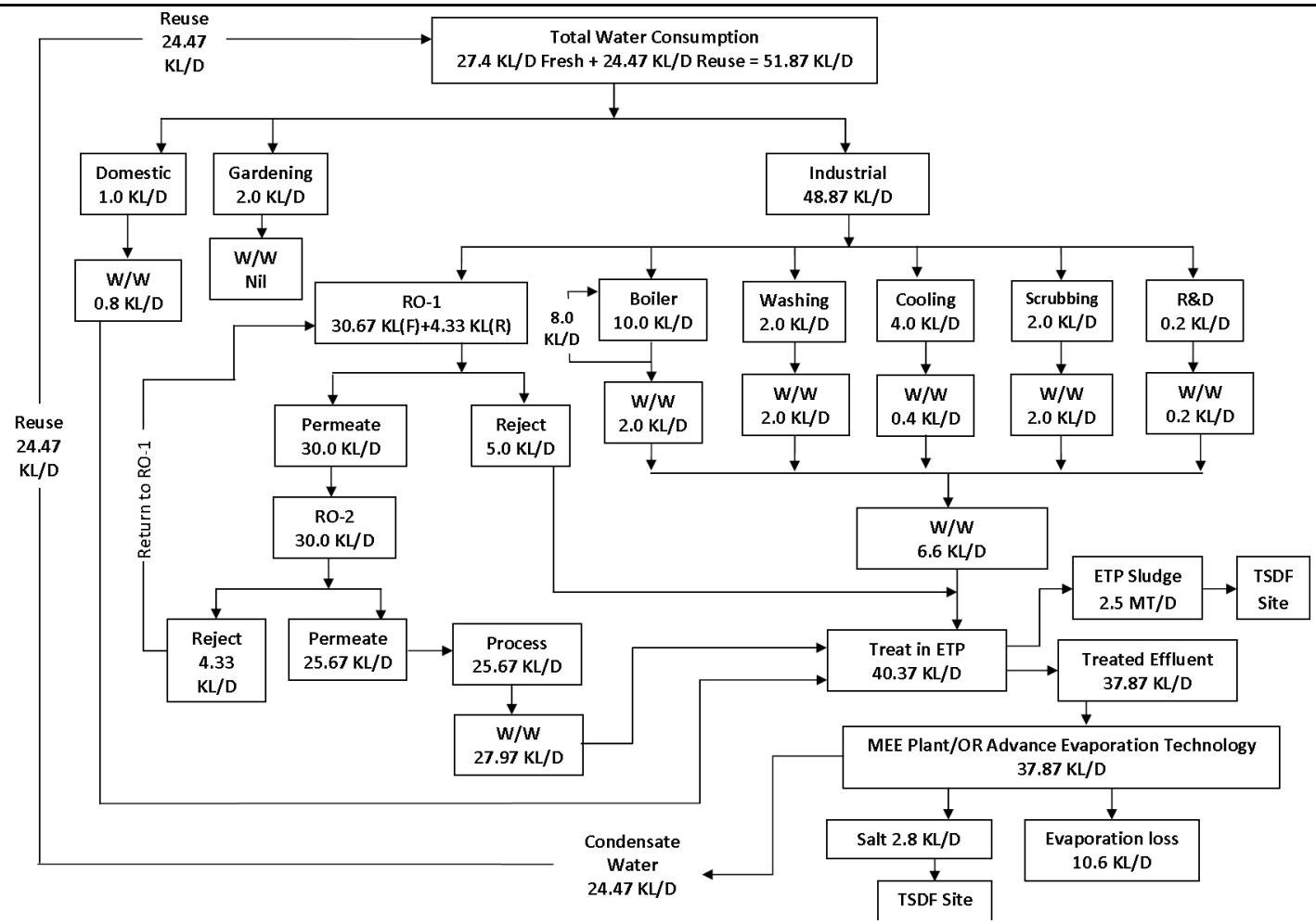
Management of waste water keeping in view direction under section 18 (1) (b) of the Water (Prevention and Control of Pollution) act, 1974 issued by CPCB regarding compliance of CETP.

- Not Applicable

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

- Sewage effluent will generate 0.8 KLPD & it will be send to ETP for the final treatment.
- Total Generation of Industrial effluent will be 39.57 KLPD (Process effluent 27.97 KLPD, Boiler blow Down 2.0 KLPD, washing effluent 2.0 KLPD, scrubbing effluent 2.0 KLPD, Cooling bleed off 0.4 KLPD and R & D 0.2 KLPD) waste water will be subjected to ETP and send to MEE System/OR Advance Evaporation Technology System for the final discharge and then will be reuse MEE/OR AET condensate water 24.47 KLPD in our plant.

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)
	➢ Not Applicable
	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 Applicable
D-7	Simplified water balance diagram with reuse / recycle of waste water



COMMENTS

1. The industrial effluent generation from the project shall not exceed 39.57 KLD.
2. Total industrial effluent shall be treated in ETP and then treated effluent shall be evaporated in in-house MEE. 24.47 KLD, MEE condensate shall be reused back in process within premises.
3. Unit shall send wastewater to MEE only after ensuring content of effluent for COD/VOC so as not to get air borne during evaporation in order to achieve no adverse impacts on Environment and Human Health.
4. Unit shall provide buffer water storage tank of adequate capacity for storage of treated waste water during any shut down of MEE.
5. Domestic wastewater generation shall not exceed 0.80 KL/day for proposed project and it shall be treated in ETP. It shall not be disposed off in soak pit and septic tank.
6. Unit shall provide ETP and MEE with adequate capacity.

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

Sr. No.	Type of fuel	Quantity of Fuel

1.	Natural Gas And or Bio coal/Briquettes	1000 SCM/Day And or 6.0 MT/Day
2.	Diesel	100 LTR/Day

It is estimated that the Electric power requirement for the proposed project will be 2000 KVA.

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)

Sr. No.	Source of emission With Capacity	Stack height (m)	Quantity of Fuel	Name of fuel	Permissible Limits	Air Pollution Control Equipment
1	Boiler (2 TPH)	33	Natural Gas And or Bio coal/ Briquettes	500 SCM/Day And or 3.0 MT/Day	PM: 150mg/Nm^3 SO2: 100 ppm NOx: 50 ppm	Multi Cyclone with Bag Filter
2	Thermic Fluid Heater (6,00,000 Kcal/Hr.)	33	Natural Gas And or Bio coal/ Briquettes	500 SCM/Day And or 3.0 MT/Day	PM SO2: 100 ppm NOx: 50 ppm	Multi Cyclone with Bag Filter
3	D.G. Set (1 X 100 KVA)	10	Diesel	100 liter/day	PM: 150mg/Nm^3 SO2: 100 ppm NOx: 50 ppm	Acoustic Enclosure

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

Sr. No.	Source of emission	Type of emission	Stack/Vent Height (meter)	Quantity in MT/Day	APCM
1.	Reaction vessels (Pregabalin)	HCL Gas	11	0.65	Caustic & Water Scrubber
2.	Reaction vessels (Pregabalin)	SO_2	11	0.58	Caustic & Water Scrubber

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 above and its sound management in HW matrix.

E-4	Fugitive emission details with its mitigation measures.

	• Powdered Raw materials charging will be done in closed system and in covered area. • All necessary safety precautions will be taken while charging of raw materials. • Raw materials and products will be stored in designated storage area as per its characteristics. • Reactor and solvent handling pumps will have mechanical seals to prevent leakages. • Reactors shall also be provided with breather valve to prevent losses. • Pucca flooring will be provided on the inner roads of the factory to control SPM concentration in ambient air. • The unit will developed Green Belt in the industrial premises as well will participate in greenbelt development program in nearby area. • All the raw materials will be pneumatically transfer to the reactor. • Care will be taken to store construction material properly to prevent fugitive emissions, if any. • Plantation will be done around the project area and along the roads. • Adequate ventilation will be provided. • Regular maintenance of valves, pumps 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 assembly with proper maintenance of pressure and temperature. • Periodic monitoring of work area will be carried out to check the fugitive emission as per the norms of Gujarat Factory Rules. • To eliminate chances of leakages from glands of pumps, mechanical seal will be provided at all solvent pumps. • Solvent recovery will not be less than 90% under any case. • Spent solvents will be distilled at atmospheric pressure and distillation facility shall include condensers with sufficient Heat Transfer Area and residence time so as to achieve more than 90% recovery. • 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 vents will be connected to a common carbon adsorbed for removing traces of solvent from vent gases. • Nomenclature and proper label pasted on them indicating name of solvent will be made on each of the storage unit. • Reactor and solvent handling pump will have proper seals to prevent leakages.
Comments for E2, E3 & E4:	3. The fuel to be used is approved fuel for the requirement of the heat energy and has been proposed the Air pollution Control measures so as to achieve the emission norms prescribed by the competent authorities. 4. The air pollution control measures, has been proposed by PP for checking flue gas emission, Process gas emission, fugitive gas emission, with adequate systems of reaction/ reaction condensers, D G set, 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 Transboundary Movement) Rules 2016. Note: ➢ Priorities for HW Management: Pre-processing, Co-Processing, Reuse/Recycle within premises, Sell out to actual users having Rule-9 permission, TSDF/CHWIH. ➢ Quantification of hazardous waste shall be based on mass balance and calculations shall be incorporated in EMP details separately. ➢ Disposal to scrap vendors/vendors/traders is not allowed
F-1	Hazardous waste management matrix

Sr. No.	Type/ Name of Hazardous Waste	Source of Generation	Category	Quantity in MT/Month	Hazardous Waste disposal/Management
1.	Process Residue	Process	28.1	50.65 MT/Month	Collection, Storage, Transportation & Disposal at TSDF/CHWIF site.
2.	Organic Residue			140.2 MT/Month	Collection, Storage, Transportation & Disposal at TSDF/CHWIF site.
3.	Inorganic Residue			62.78 MT/Month	Collection, Storage, Transportation & Disposal at TSDF/CHWIF site.
4.	Distillation Residue	Process	20.3	80.25 MT/Month	Collection, Storage, Transportation & Disposal at TSDF/CHWIF site.
5.	Activated Carbon	Process	28.3	12.25 MT/Month	Collection, Storage, Transportation & send to TSDF site.
6.	Spent Acid (HCl) (From Nebivolol HCl)	Process	Sch-II	410.20 MT/Month	Reused as raw material and / or sold to actual users Having permission of Rule-9 from SPCB/CPCB.
7.	Spent Acid (Acetic Acid) (From Depagliflozin)	Process	Sch-II	11.67 MT/Month	Reused as raw material and / or sold to actual users Having permission of Rule-9 from SPCB/CPCB.
8.	Spent Acid (Sulphuric Acid) (From Etodolac)	Process	Sch-II	23.80	Reused as raw material and / or sold to actual users Having permission of Rule-9 from SPCB/CPCB.
9.	ETP sludge & MEE Salt	ETP area & MEE System	35.3	159.0 MT/Month	Collection, Storage, Transportation & Disposal at TSDF.
10.	Hyflow	Process	28.3	1.40 MT/Month	Collection, Storage, Transportation & Disposal at TSDF.
11.	Date Expired product	Plant area	28.5	0.101 MT/Month	Collection, Storage, Transportation & Disposal at CHWIF.
12.	Use Oil	Plant area	5.1	0.15 MT/Month	Collection, Storage, Transportation, recycler /reuse as lubricant within premises.
13.	Discarded drums/Bags	Plant and packing	33.1	0.5 MT/Month	Collection, Storage, Transportation, Decontamination, reuse & send to the raw material supplier.
14.	Spent Solvent	Process	28.6	2430.45 MT/Month	Reused as raw material and / or sold to actual users Having permission of Rule-9 from SPCB/CPCB.

15.	Scrubbing Liquor	Scrubbing media	35.1	60.0 KL/Month	Collection, Storage, Treated in ETP then after discharge in our MEE System.
16.	Spent Catalyst	Process	28.2	0.5 MT/Month	Collection, Storage, Transportation & Disposal at TSDF/CHWIF.
17.	Ammonium Chloride (From Triethyl Ortho Acetate)	Process	Sch-II	17.50 MT/Month	Reused as raw material and / or sold to actual users Having permission of Rule-9 from SPCB/CPCB.
18.	Sodium Chloride (From Atenolol)	Process	Sch-II	8.17 MT/Month	Reused as raw material and / or sold to actual users Having permission of Rule-9 from SPCB/CPCB.
19.	Spent Hydrogen Peroxide (8-10%) (From Fosfomycin)	Process	Sch-II	14.42 MT/Month	Reused as raw material and / or sold to actual users Having permission of Rule-9 from SPCB/CPCB.
20.	Sodium Hydroxide Solution (4%) (From Losartan Potassium)	Process	Sch-II	17.50	Reused as raw material and / or sold to actual users Having permission of Rule-9 from SPCB/CPCB.
21.	Succinamide (By Product) (From Chlomifene Citrate)	Process	Sch-II	5.67 MT/Month	Sold to actual users Having permission of Rule-9 from SPCB/CPCB.
22.	DCU Urea (By Product) (From Nicardipine HCl)	Process	Sch-II	15.19 MT/Month	Sold to actual users Having permission of Rule-9 from SPCB/CPCB.
23.	Fly Ash	Boiler area	Non-Hazardous	18.0 MT/Month	Collection, Storage, Transportation & sold to brick manufacturer and Disposal at TSDF site.

Comments:

3) 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.
4) 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)

Details of Membership letter no. & Date with spare capacity of the Common Facility.

- We will apply for the membership certificate after obtaining EC.

F-3	Details of Non-Hazardous waste & its disposal (MSW and others)	

Sr.	Type/Name of Other	Specific Source of	Quantity	Management of Wastes

	no.	wastes	generation (Name of the Activity, Product etc.)	(MT/Annum)	
	1	Fly Ash	Boiler area	216 MT/Annum	Collection, Storage, Transportation & sold to brick manufacturer and Disposal at TSDF site.

Comments:

2) Management of Flyash storage and its disposal shall be carry out as per Flyash notification.

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

Sr. No.	Name of Product	Name of Solvent	Quantity (kg/batch)			Recovery %	Reuse/Sale out (kg/batch)	MT/M Input	MT/M Output
			In	Out	Loss %				
1	N Methyl Ortho phenylene diamino 2 HCL	Methanol	5000	4800	5	95.0	4800	125.00	120.00
		Dimethyl Formamide	5000	4850	4	96.0	4850	125.00	121.25
2	4'-(bromomethyl)-[l,l'- biphenyl]-2-carboxylic acid methyl ester	Pyridine	5000	4800	4	96.0	4800	175.00	168.00
		Toluene	5000	4800	4	96.0	4800	175.00	168.00
		Methanol	5000	4800	4	96.0	4800	175.00	168.00
3	Fosfomycin	Tertiary Butanol	300	250	5	84.0	250	105.00	87.50
		Toluene	400	350	5	87.0	350	140.00	122.50
4	Etodolac	Dimethyl acetamide	2500	2350	4	94.0	2350	97.22	91.39
		Methanol	5000	4800	4	96.0	4800	194.44	186.67
5	Leflunomide	Methanol	2500	2000	5	80.0	2000	175.00	140.00
		MDC	2500	2000	5	80.0	2000	175.00	140.00
6	Levosulpiride	Methanol	500	459.5	5	92.0	459.5	175.00	160.83
7	Ondasetron HCL	Acetone	5500	5150	5	94.0	5150	1925	1802.5
		MDC	5000	4800	4	96.0	4800	1750	1680
		Acetonitrile	100	85	5	85.0	85	35	29.75
		Toluene	500	450	5	90.0	450	175	157.50
8	Pregabalin	MDC	10500	9850	5	93.0	9850	918.75	861.88
		MTBE	800	780	2	97.0	780	70.00	68.25
		Ethyl acetate	4000	3950	1	98.0	3950	350.00	345.63

		Chloroform	6500	6300	2	97.0	6300	568.75	551.25
		Ethanol	150	130	5	85.0	130	13.13	11.38
		IPA	7000	6800	1	97.0	6800	612.50	595.00
9	Telmisartan	Methanol	10000	4800	5	49.0	4800	207.1	99.41
		Ethyl acetate	10000	9500	3	95.0	9500	207.10	196.75
		DMF	5000	4800	2	96.0	4800	103.55	99.41
10	Teriflunomide	Toluene	500	450	5	90.0	450	350.00	315.00
11	Benfotiamine	Methanol	250	200	5	80.0	200	87.50	70.00
12	Famotidine	Acetone	590	500	5	85.0	500	206.50	175
		Methanol	1000	970	2	97.0	970	350.00	339.50
13	Losartan potassium	Methanol	2500	1900	5	86.0	1900	87.50	66.50
		Toluene	3000	2900	2	96.5	2900	105.00	101.50
		Dimethyl Formamide	2500	2400	2	96.0	2400	87.50	84.00
		Methylene Dichloride	5000	4500	5	90.0	4500	175.00	157.50
14	Metaxalone	Toluene	2000	1950	2	97.5	1950	140.00	136.50
		Ethyl acetate	5000	4900	1	98.0	4900	350.00	343.00
15	P amino methyl benzoic acid (PAMBA)	Mono chlorobenzene	2500	2342	5	93.5	2342	175.00	163.94
		Ethanol	6000	5800	2	96.0	5800	420.00	406.00
16	Salbutamol	Methylene Di Chloride	400	300	5	77.0	300	140.00	105.00
		Ethyl acetate	400	300	5	77.0	300	140.00	105.00
17	Loratadine	MDC	2000	1750	5	87.0	1750	269.24	235.57
		Monoethylene glycol (MEG)	900	850	4	95.0	850	121.15	114.42
		Acetonitrile	700	665	4	95.0	665	94.23	12.12
		DMC chloride	700	650	3	94.0	650	13.46	87.50
		THF	500	450	3	94.0	450	67.31	60.58
18	L Phenylephrine HCL	Methanol	3100	2960	3	96.0	2960	271.25	259
		MDC	1200	1140	5	95	1140	105.00	99.75
		Iso propyl alcohol	2000	1900	5	95	1900	175.00	166.25
19	Chlomifene	Chloroform	150	100	5	85	100	105.00	70.00

	citrate	Acetone	150	100	5	85	100	105.00	70.00
20	L Methyl Calcium Folate	Ethanol	150	90	5	83	90	105.00	63.00
21	Nicardipine HCL	Chloroform	30	20	5	80	20	105.00	70.00
22	Benidipine HCL	MDC	150	100	5	85	100	105.00	70.00
23	Clevidipine HCL	Chloroform	150	100	5	85	100	105.00	70.00
24	Terbutaline sulphate	Methanol	3060	2960	4	96	2960	120.55	115.11
		MDC	1200	1140	5	95	1140	46.67	44.33
		Terybutyl amine	2400	2280	5	95	2280	3.50	93.33
		Acetone	2500	2400	4	96	2400	97.22	93.33
25	Triethyl ortho formate	Ethanol	1500	850	5	57	850	87.50	49.58
		Hexane	1500	1400	6	94	1400	87.50	81.67
26	Triethyl Orthobenzoate	Ethanol	2500	1750	5	70	1750	87.50	61.25
		Hexane	1500	1400	6	94	1400	52.50	49.00
27	Trimethyl orthoacetate	Methanol	2500	2400	6	96	2400	97.22	93.33
		Hexane	1500	1400	6	94	1400	37.50	35.00
28	Triethyl ortho propionate	Ethanol	2500	2400	6	96	2400	54.69	25.16
		Hexane	1500	1400	6	94	1400	32.81	30.63
29	Triethyl ortho valerate	Ethanol	2500	2350	6	94	2350	72.92	45.21
		Hexane	1500	1400	6	94	1400	43.75	40.83
30	Trimethyl orthobenzoate	Methanol	2500	1900	5	79	1900	102.94	78.24
		Hexane	1500	1400	6	94	1400	61.76	57.65
31	Trimethyl ortho propionate	Methanol	2500	2350	6	94	2350	72.92	45.21
		Hexane	1500	1400	6	94	1400	43.75	40.83
32	Trimethyl ortho formate	Methanol	1500	1050	5	77	1050	131.25	91.88
		Hexane	1500	1400	5	94	1400	131.25	122.50
33	Trimethyl ortho valerate	Methanol	2500	1850	5	75	1850	97.22	71.94
		Hexane	150	1400	5	94	1400	58.33	54.44

			0						
34	Triethyl ortho acetate	Ethanol	2500	2350	5	94	2350	46.05	15.66
		Hexane	1500	1400	5	94	1400	27.63	25.79
35	Azilisartan	Methanol	7	5.75	5	94	5.75	163.34	134.17
		Methylene Chloride	5	4.5	5	94	4.5	116.67	105.00
		Xylene	4	3.6	5	95	3.6	93.33	84.00
		Isopropyl Alcohol	3	2.75	6	94	2.75	70.00	64.17
36	Candesartan	Acetone	25.41	22.8	5	90	22.8	444.92	399.01
		Dimethyl Formamide	3.153	3.04	4	96	3.04	55.18	53.20
		Cyclohexane	9.243	8.92	4	96	8.92	161.75	156.10
		Dichloromethane	29.04	28.17	4	96	28.17	508.20	492.98
		Methanol	8.8	8.47	4	96	8.47	154.00	148.23
37	Irbesartan	DMF	3	2.85	5	95	2.85	105.00	99.75
		Toluene	3.5	3.33	4	96	3.33	122.50	116.55
		Ethyl acetate	3	2.85	5	95	2.85	105.00	99.75
		IPA	3	2.85	5	95	2.85	105.00	99.75
38	Olmesartan Medoximil	Ethyl acetate	900	843	6	94	843	226.62	212.27
		Acetone	500	472	5	95	472	125.90	118.85
39	Valsartan	O-Xylene	4500	4430	3	97	4430	276.32	272.01
		Methylene Chloride	3000	2930	3	97	2930	184.21	179.91
		DilPE	3500	3360	4	96	3360	214.91	206.32
		Ethyl Acetate	3000	2910	4	96	2910	184.21	178.68
		Methanol	500	470	6	94	470	30.70	28.86
40	Acebutolol HCL	Acetone	300	285	5	95	285	110.52	70
41	Metoprolol Succinate	Toluene	470	447	5	95	447	70.51	67.06
		Acetone	1740	1653	5	95	1653	261.04	247.99
42	Nebivolol HCl	EDC	302.38	296.3	4	96	296.3	5291.65	5185.25
		Hexane	115.84	110.51	5	95	110.51	2027.20	1933.93
		THF	112.51	109	4	96	109	1968.93	1907.50
		MDC	232.34	225.36	4	96	225.36	4065.95	3943.80
		DMSO	42.99	41.9	4	96	41.9	752.33	733.25

43	Metformin Hydrochloride	Xylene	1550	1500	1	99	1500	43.40	42.00
		Methanol	440	410	6	94	410	12.32	11.48
44	Canagliflozine	Ethyl Acetate	1200	1150	6	96	1150	84.00	80.50
		Heptane	500	475	5	95	475	35.00	33.25
		Methanol	1200	1150	4	96	1150	84.00	80.50
45	Dapagliflozin	Methanol	1200	1104	5	92	1104	140.00	128.80
		Ethyl Acetate	1200	1080	5	90	1080	140.00	126.00
46	Glipizide	Acetone	0.758	0.683	5	90	0.683	780.29	703.09

G-2 | Brief Note on LDAR proposed:

- To prevent losses of these solvents in atmosphere, following infrastructure shall be used in addition to LDAR program.
- Leak free pumps for transfer of solvents.
- MSW Gaskets in solvent pipelines to prevent leakage from flanges.
- Minimum number of flanges, joints and valves in pipelines.
- To eliminate chances of leakages from glands of pumps, mechanical seal will be provided at all solvent pumps.
- All the rotating equipments like pumps will be installed with Mechanical Seals to arrest to arrest any sort of emissions.
- Condenser and scrubber through hoods and ducts by induced draft, and control by scrubber / dust collector to be ensured.
- In case the small spillage or leakage observed, first pour the china clay (vermiculate) on material and collect the contaminated china clay (vermiculate) and send to ETP.
- If the spillage is of flammable liquid, switch off all the power supply in the area to prevent Electric spark.
- Flanges will be sealed so less loss will be there.

Monitoring of Solvent Losses

- 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 lossess.
- Periodic monitoring of work area will be carried our to check the fugitive emission.
- VOC detectors will be installed at various places to detect leak.

Preventive Maintenance Leakages

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

Sr. No.	Component	Preventive Maintenance Schedule
1	Pump seals with visible liquid dripping	Daily
2	Valves/Flanges	Quarterly
3	Compressor seal	Quarterly
4	Pressure relief devices	Yearly
5	Pipeline Thickness Testing	Yearly

Immediate Repair of devices in case of Leakages

A regular preventive schedule will be in place or rectify all gaskets and joints to ensure no fugitive emissions

shall take place.
Plant shall also have competent contractor team to handle leaked and can repair the same immediately
Standby equipments like pumps, valves etc shall be kept basis the critically and usage Plant shall also have access equipments like Boom lift to handle leakages at height immediately

G-3	VOC emission sources and its mitigation measures

- Due to Manufacturing process and solvent distillation and handling chances of VOC emissions. Entire process and material charging has been carried out in closed loop. Regular work place monitoring will be done. Standard SOP will be followed to handle powder and liquid raw materials.
- 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.
- 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

- All Chemicals will be stored in carboy/drum/barrels only, no tanks will be used.
- All Liquid materials will be stored in drums.
- All solid materials will be stored in bags.

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

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

Safety details of Hazardous Chemicals:

Sr. No.	Type of hazardous chemical	Safety measures
1.	Flammable	Storage in compatible storage unit with flame proof fitting, also provide fire fighting measures. Only trained person allowed handling. Safety Shower cum eye washer provided. Drums to be stored on pallet with the suitable trap. Cautionary notice boards will be displayed
2.	Corrosive	Storage in compatible storage unit with flame proof fitting, also provide fire fighting measures. Only trained person allowed handling. Safety Shower cum eye washer provided. Drums to be stored on pallet with the suitable trap. Cautionary notice boards will be displayed.

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: (Hydrogenation process, Nitration process, Chlorination process, Exothermic Reaction etc.)

1) Hydrogenation Process:
We will install such system for Hydrogenation and other hydrogen-handling processes involve a considerable amount of process equipment, instrumentation and piping components, such as reactors, catalyst feed vessels, spent catalyst filters, pumps, valves, pressure relief devices, pressure regulators and check valves. Many such systems, particularly those for hydrogenation of organic chemicals, are located inside a building. Such facilities must be designed with four levels of safeguards, namely: •A high degree of automation, with remote operations, interlocks and alarms to monitor process and environment.
2) Nitration process:
We will install proper high thickness reactors and addition ports for chlorine solutions, Atomization can make easy process for chlorine chemical use,also install proper SS heat exchangers with automatic temperature cutoff system to achieve proper reaction and timeline in heating and cooling scenario.
3) Chlorination process:
Chlorination reaction hazard when process time is delay,demixing are main criteria,so we already takes precautions and will install automatic timer for reaction and proper mixing of chemical during process.
4) Exothermic Reaction :
The heating and cooling system of the reactor is based on circulating heat transfer fluid with a high velocity and a large amount of pre-cooled water. While the high velocity ensures fast response to temperature changes, the reservoir with the pre-cooled water guarantees instantaneous cooling in case of a large exotherm or emergency.

H-3	Details of Fire Load Calculation

-

Total Plot Area:	2904.90
Area utilized for plant activity:	940.00
Area utilized for Hazardous Chemicals Storage:	110.00
Number of Floors:	G+2
Water requirement for firefighting in KLD :	3150 Lit./D
Water storage tank provided for firefighting in KLD:	200 KL
Details of Hydrant Pumps:	2 Nos. i. Hydrant Pump: 20 HP ii. Jockey Pump: 15 HP
Nearest Fire Station :	Gozaria Fire Station @4.1 KM
Applicability of Off Site Emergency Plan:	NA.

- **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:

- We will apply for Fire NOC after set up our propose plan.

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

-

Number of permanent Employee :	10
Number of Contractual person/Labour :	10
Area provided for OHC:	19.45 Sq.Mt.
Number of First Aid Boxes :	50 Nos.
Nearest General Hospital :	Arogya Nidhi Hospital @3.7 KM
Name of Antidotes to be store in plant :	We will store antidotes in our plant as per hazardous chemicals side effects.

Comments

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

- During the meeting dated 13-08-2021, 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 Trade Stone Enviro remained present during video conference meeting.
- Committee noted that this is a Greenfield project proposed for manufacturing of synthetic organic chemicals [API & API Intermediates] at GIDC Panoli. Total plot area is **2904.90 Sq. m.**
- Deliberation of Committee:
  - GIDC Plot allotment letter in the name of Industrial estate was submitted. Rent lease agreement was submitted.
  - Product profile with specific End-use of product.
  - Site Plan/ layout with fire plan & floor plans and provision of separate entry & exits, 6 m wide peripheral road, distillation area, OHC, tank farm, production areas, raw material & finished goods storage areas, ETP area, utility area, hazardous waste storage area, fresh & spent solvent storage areas, hazardous waste storage area, 33% greenbelt within premises, etc.
  - The domestic wastewater from industrial unit shall be segregated at source itself, and effluent shall be taken to ETP for the treatment
  - Total generated waste water will be treated in ETP and finally send to In house MEE System for the final discharge then will be MEE Condensate water reuse within premises.
  - Natural gas or Briquette or Bio coal is proposed as fuel in boiler and TFH.
  - Caustic & Water 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 Transboundary Movement) Rules 2016.

- 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 :
  - Land document was observed.

  - It was found that Industry is located in private industrial estate. Applicability of EC to this industrial estate was asked.

  - PP has obtained Plot on rent lease. GIDC Allotment letter was submitted which mentioned that plot is allotted for textile purpose.

- PP was asked to change the purpose of the plot from the GIDC.

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

  .1. Revise plot allotment letter from GIDC mentioning purpose of the plot.

- PP submitted reply of above query generated on SEAC VC meeting, through e-mail.
- This proposal is reconsidered in SEAC meeting dated **09.05.2022**. PP along with their technical expert/consultant, M/s. Trade Stone Enviro remains present in the meeting and made presentation before Committee.
- During meeting, Committee noted that PP submitted revised plot allotment letter for proposed project.
- Committee found reply submitted by PP was satisfactory.
- 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. Project proponent (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. 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].
7. All measures shall be taken to avoid soil and ground water contamination 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 maintain complete ZLD all the time and there shall be no drainage connection within premises and no waste water discharge outside premises by any means.
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 provide chlorine leakage control emergency kit and FRP hood with scrubber system for chlorine safety.

m. (1) Unit shall provide effective fire hydrants, water monitors & foam application system at solvent storage tank farm area. (2) Unit shall provide adequate safety system such as water sprinklers, water curtains, foam pouring system etc. to restrict cascade fire emergency in solvent tank farm.

n. Unit shall provide safety valve and rupture disk to Hydrogenation vessel.

WATER

11. Total water requirement for the project shall not exceed 51.87 KLD. Unit shall reuse 24.47 KLD of treated effluent within premises. Hence, fresh water requirement shall not exceed 27.40 KLD and it shall be met through GIDC supply only.
12. The industrial effluent generation from the project shall not exceed 39.57 KLD.
13. Total industrial effluent shall be treated in ETP and then treated effluent shall be evaporated in in-house MEE. 24.47 KLD, MEE condensate shall be reused back in process within premises.
14. Unit shall send wastewater to MEE only after ensuring content of effluent for COD/VOC so as not to get air borne during evaporation in order to achieve no adverse impacts on Environment and Human Health.
15. Unit shall provide buffer water storage tank of adequate capacity for storage of treated waste water during any shut down of MEE.
16. Domestic wastewater generation shall not exceed 0.80 KL/day for proposed project and it shall be treated in ETP. It shall not be disposed off in soak pit and septic tank.
17. Unit shall provide ETP and MEE with adequate capacity.
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, 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 Boilers, 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 work zone environment shall be monitored. The emission shall conform to the standards prescribed by the concerned authorities from time to time (e.g. Directors of Industrial Safety& Health). Following indicative guidelines shall also be followed to reduce the fugitive emission.
    - Internal roads shall be either concreted or asphalted or paved properly to reduce the fugitive emission during vehicular movement.
    - Air borne dust shall be controlled with water sprinklers at suitable locations in the plant.
    - A green belt shall be developed all around the plant boundary and also along the roads to mitigate fugitive & transport dust emission.
24. Regular monitoring of Volatile Organic Compounds (VOCs) shall be carried out in the work zone area and ambient air.
25. For control of fugitive emission, VOCs, following steps shall be followed :
    a. Closed handling and charging system shall be provided for chemicals.
    b. Reflux condenser shall be provided over Reactors / Vessels.
    c. Pumps shall be provided with mechanical seals to prevent leakages.
    d. Air borne dust at all transfers operations/ points shall be controlled either by spraying water or providing enclosures.
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 ground level concentration of PM10, PM2.5, SO2, NOx, HCl, 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. 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.
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 (962 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 [Providing Solar Street Light in nearest 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 Honourable 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

4.	SIA/GJ/IND2/223517/2021	**M/s. Shreeji World Incorporation** Survey No: 1677, Dhinoj , Ta- Chanasma, Dist - Patan	EC- Reconsideration

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

Project status: New

- Project proponent (PP) submitted online application vide no. SIA/GJ/IND2/223517/2021on dated 16/09/2021 for obtaining Environmental Clearance.
- Project proponent has submitted Form – 1, Pre-Feasibility Report & Environment Management Plan as per Notification issued by MoEF&CC vide S.O. 1223(E) dated 27th March, 2020 regarding consideration of proposals or activities in respect of Active Pharmaceuticals Ingredients (API) as B2 category.
- This is a new unit proposed for manufacturing of synthetic organic chemicals **[API and API Intermediates]** as tabulated below.

Sr. No.	List of Product	CAS No.	Production Capacity (MT/Month)
1.	ATORVASTATIN CALCIUM	134523-00-5	40.0
2.	4-CHLOROBUTYROYL CHLORIDE	4635-59-0	
3.	TRIFLUORO ACETYL L-LYSINE	10009-20-8	
4.	4-CHLORO-3-NITRO BENZOIC ACID	96-99-1	
5.	4-HYDROXY COUMARINS	1076-38-6	
6.	1-BOC PIPERAZINE	57260-71-6	

7.	N-ACETYL 4 (4-HYDROXYPHENYL) PIPERAZINE	67914-60-7	
8.	2 AMINO 4, 6 DICHLOROPHENOL	5930-28-9	
9.	CHLOROHEXIDINE BASE	55-56-1	
10.	FLUCONAZOLE	86386-73-4	
11.	TELMISARTAN	144701-48-4	
12.	META BROMO ANISOLE	2398-37-0	
13.	TRAMADOL	27203-92-5	
14.	4-(2-METHOXYETHYL) PHENOL	56718-71-9	
15.	METOPROLOL TARTRATE	37350-58-6	
16.	THEOBROMINE	83-67-0	
17.	((3S)-3-CYANO-2- (ETHOXY CARBONYL)-5-METHYL HEXANOIC ACID)	181289-37-2	
18.	R & D	--	0.1
Total			**40.1**

 # Brief Note of Product Profile:

- No of Manufacturing Plants:1 nos
- Brief Note regarding number of Products to be manufactured considering plant capacity: There will be not manufacture all products at the same time in Manufacturing Plant. Unit has sufficient area to manufacture 8 Nos. of product with production capacity 40.1 MT/Month.

Specific end-uses of the products:

Sr. No.	Name of the Product	CAS No.	Type/ Category of Product (API/ Intermediate)	In case of Intermediate stage of API			End-use/ Application of Product
				Stage i.e. n-1, n-2, etc.	Name of API in which Intermediate Used/ End use of said Intermediate	CAS no. (API)	
1.	ATORVASTATIN CALCIUM	134523-00-5	API	---	---	---	cholesterol and fats
2.	4-CHLOROBUTYROYL CHLORIDE	4635-59-0	API Intermediate	N – 2	Pyrazinamide	98-96-4	**Pyrazinamide** is a medication used to treat tuberculosis. For active tuberculosis, it is often used with rifampicin, isoniazid, and either streptomycin or ethambutol
3.	TRIFLUORO ACETYL L-LYSINE	10009-20-8	API Intermediate	N – 1	Lisinopril	83915 - 83-7	It's used to treat high blood pressure.

	4.	4-CHLORO-3-NITRO BENZOIC ACID	96-99-1	API Intermediate	N – 2	Mebendazole	31431 - 39-7	It is used to treat several types of worm infections
	5.	4-HYDROXY COUMARINS	1076-38-6	API Intermediate s	N – 2	Acenocoumarin	152-72-7	Anticoagulant
	6.	1-BOC PIPERAZINE	57260-71-6	API	---	---	---	Used to synthesize monosubstituted piperazine inter mediates of many bioactive molecules and piperazine containing drug substances, such as trazodone.
	7.	N-ACETYL 4 (4-HYDROXYPHENYL) PIPERAZINE	67914-60-7	API Intermediate	N – 1	Ketoconazole	65277 - 42-1	Antifungal
	8.	2 AMINO 4, 6 DICHLOROPHENOL	5930-28-9	API Intermediate	N – 2	Oxyclozanide	2277-92-1	anthelmintic
	9.	CHLOROHEXIDINE BASE	55-56-1	API	--	--	--	antimicrobial
	10.	FLUCONAZOLE	86386-73-4	API	--	--	--	It is used to treat serious fungal or yeast infections
	11.	TELMISARTAN	144701-48-4	API	--	--	--	It is used to lower high blood pressure
	12.	META BROMO ANISOLE	2398-37-0	API Intermediate	N – 1	Raloxifene	84449-90-1	**Raloxifene** is used by women to prevent and treat bone loss (osteoporosis) after menopause
	13.	TRAMADOL	27203-92-5	API	--	--	--	Painkiller
	14.	4-(2-METHOXYETHYL) PHENOL	56718-71-9	API Intermediate	N – 2	METOPROLOL TARTRATE	37350-58-6	By blocking catecholamine-induced increases in heart rate, in velocity and extent of myocardial contraction, and in blood pressure, **Lopressor** reduces the oxygen requirements of the heart at any given level of effort, thus making it useful in
	15.	METOPROLOL TARTRATE	37350-58-6	API	--	--	--	

							the long-term management of angina pectoris
16.	THEOBROMINE	83-67-0	API	--	--	--	**Theobromine** is used as a vasodilator (a blood vessel widener), as an aid in urination, and as a heart stimulant
17.	((3S)-3-CYANO-2-(ETHOXY CARBONYL)-5- METHYL HEXANOIC ACID)	134523-00-5	API Intermediate	N – 1	Pregabalin	148553-50-8	It is used to treat pain caused by nerve damage due to diabetes or shingles (herpes zoster) infection

- The project falls under Category B2 of project activity 5(f) as per the schedule of EIA Notification 2006 and amended time to time.
- PP submitted an undertaking ensuring proposed product profile is in line with MoEF&CC's Notification vide S.O. 1223 (E) dated 27/03/2020 in respect of Active Pharmaceutical Ingredients (API) as category B2 projects. Undertaking as proposal of said product are eligible to consider under B2 category as per the notification of MoEF&CC dated 27.03.2020
- The proposal was considered in the SEAC video conference meeting dated 28.09.2021.
- **N.B. Though the proposal was scheduled on Parivesh portal vide dated 28.09.2021, the proposal considered on 29.09.2021 due to time constraint.**
- During the meeting dated 25.03.2021, the project was appraised based on the information furnished in Form – 1, Pre-Feasibility Report, Environment Management Plan.
- Project proponent (PP) and their Technical Expert from M/s. Ashva Environment Consultancy remain present during video conference meeting.
- Committee noted that there is a discrepancy in distance of nearest habitat shown in Format and presentation. Upon asking regarding such misleading information, PP as well as their Consultant could not reply satisfactorily. PP has not submitted siting criteria in their presentation.
- Later on, PP submitted siting criteria. It was observed that District Highway is @ 19 meter away from the project boundary. Upon asking regarding the NOC from Highway Authority, PP ensured that they will submit the same.
- **After detailed discussion, it was decided to defer the proposal and consider the project for appraisal only after submission of NOC from the Highway Authority and ensuring siting criteria in line with the all Environmental parameters.**
- PP submitted reply of above query generated on SEAC VC meeting dated 29.09.2021, through e-mail.
- This proposal is reconsidered in SEAC meeting dated **21.01.2022**. PP along with their technical

expert/consultant, M/s. Ashva Environment Consultancy remains present in the meeting and made presentation before Committee.

- During meeting, Committee noted that PP presented letter from NHAI to District megistrate in place of NOC from NHAI to PP.
- Also Committee noted that PP has not presented Google image showing nearby Amravati River distance from proposed project boundary.
- Deliberation of Committee,
  - ✓ NA permission letter is in name of project proponent and hence Committee asked for submission of authenticated document for linkage between project proponent and World Corporation. Technical expert of PP could not able to explain properly.
  - ✓ Site Plan/ layout with fire plan & floor plans and provision of separate entry & exits, 6 m wide peripheral road, distillation area, OHC, tank farm, production areas, raw material & finished goods storage areas, ETP area, utility area, hazardous waste storage area, fresh & spent solvent storage areas, hazardous waste storage area, 33 % greenbelt within premises etc.
  - ✓ Source of water will be tanker supply.
  - ✓ Domestic Waste water will be treated in STP.
  - ✓ Total effluent will be segregated and high COD stream will be evaporated in MEE after ETP and solvent stripper. Low COD stream will be treated in ETP and then evaporated in MEE.
  - ✓ Natural gas is proposed as fuel in boiler and TFH.
  - ✓ Single Stage Scrubber system is proposed for control of process gas emission. Hence Committee insisted for provision of adequate two stage scrubber for each process reactor considering unit located outside notified area.
  - ✓ PP submitted hazardous waste matrix mentioning source of generation, quantity and Mode of disposal and committed to comply the Hazardous and Other Wastes (Management and Trans boundary Movement) Rules 2016.
  - ✓ Fire hydrant plan, fire load calculation, Water balance diagram, , storage of Hazardous chemicals and its safety and Area adequacy was discussed.
  - ✓ CER fund allocation, EMP, Green belt area was discussed. LDAR and solvent recovery also discussed.
  - ✓ Looking to risk assessment for bromine, chlorine and hydrogen storage is not presented by technical expert of PP, Committee insisted for submission of it.

- **After detailed discussion, Committee unanimously decided to consider the project in one of upcoming meeting after submission of following documents:**
    A. Submission of NOC letter from the Highway Authority to unit with mentioning its recommendation.
    B. Authenticated Google image showing nearby Amravati River distance from proposed project boundary.
    C. NA permission letter in name of proposed unit in place of personnel name.
    D. Revised process emission matrix with mentioning provision of adequate two stage scrubber for each process reactor considering unit located outside notified area.
    E. Details of Risk assessment of bromine, chlorine and hydrogen storage & its handling considering worst case scenario of any blast, leakage or fire and super impose of satellite image for dispersion model with mentioning its impact on surrounding village's residential habitat area and its mitigation measures. Also standard operating procedure (SOP) for handling and storage of bromine, chlorine and hydrogen storage and details of offsite emergency plan details considering population affected due to proposed Hazardous chemicals storage along with its remedial measures, considering project located outside notified area.
    F. Revised EMP with mentioning revised APCM cost and safety measures cost for storage and handling of bromine, chlorine and hydrogen.
- PP submitted reply of above query generated on SEAC VC meeting, through e-mail.
- This proposal is reconsidered in SEAC meeting dated **09.05.2022**. PP along with their technical expert/consultant, M/s. Ashwa Consultant remains present in the meeting and made presentation before Committee.
- During meeting, Committee noted that PP submitted NOC letter of NHAI with its recommendation, NA letter, revised process emission matrix, risk assessment for hazardous chemicals of project and revised EMP.
- Committee found reply submitted by PP was satisfactory.
- PP submitted revised salient features of water, air and hazardous waste management as under,

<table>
<tr><td>Sr. no.</td><td>Particulars</td><td>Details</td></tr>
<tr><td>A-1</td><td>Total cost of Proposed Project
(Rs. in Crores):

<table><tr><td>Total Project</td></tr><tr><td>7.0 Crores</td></tr></table>
Break-up of proposed project Cost:

<table><tr><td>Details</td><td>Project Cost</td></tr></table></td><td></td></tr>
</table>

			(Rs. In Crores)
		Land	1.5
		Building	1.2
		Machinery	3.8
		other	0.5
A-2	Details of Environmental Management Plan (EMP)		As below:

-

Sr. No	Unit	Detail	Capital Cost (Rs. In Crores)	Operating Cost (Rs. In Crores)	Maintenance Cost (Rs. In Crores)	Total Recurring Cost (Rs. In Crores)
1	Waste Water	Effluent treatment plant (ETP) consists of primary treatment units & STP & MEE	0.80	0.01	0.005	0.25
2	Air	Unit will use natural gas as fuel to avoid such flue gas emissions. • Adequate stack height for better dispersion of pollutants. • Adequate two Stage Scrubbing system attached to process vents	0.16	0.004	0.0025	0.035
3	Hazardous Management	Proper collection, Safe Handling, Storage within premises and disposal of waste at approved TSDF, re-cyclers, re-processors.	0.077	----	----	0.07
4	Fire & Safety	Fire Extinguisher & Fire Hydrant System	0.6383	0.02	0.05	0.149
5	AWH Monitoring	Regular monitoring of various environmental parameters will be carried out to check the effectiveness of the control system.	0.035	----	----	0.008
6.	Green Belt Development	2058 Sq. meter (33 %) of the plant area will be developed as greenbelt into premises.	0.021	----	----	0.006
7.	Occupational Health	Antidotes, Medical kits & PPEs etc	0.38	0.005	0.001	0.1
8.	CER Activity	Unit will provide fund 2% of total project cost to Environmental activities	0.14	----	----	----
Total			2.2513	0.039	0.0585	0.618

Comments:

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

A-3	Details of CER -

Unit will allocate fund for three years for following activities

- Project proponent will be carried out below mentioned proposed activities under corporate environment responsibility in nearby village having total budget of Rs. 14.0 Lakh for Three Years
- Dhinoj @ 1.7 KM in NW direction from the project site.
- Gorad @ 4.3 KM in NW direction from the project site.

Type of Activity	1st year (INR)	2nd year (INR)	3rd year (INR)
Provision of Roof top Solar Panel at School of villages Dhinoj & Gorad	14.0		
TOTAL	14.0		

B	Land / Plot ownership details: land Possession Document No. 7 (VF – 7) NA order No: 236/03/08/061/2020, Date: 02/11/2020
B-1	Plot area

Total Plot area
5995 Sq. m.

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

- Total Plot Area: 5995 Sq. m
- MFG Area (F.F): 570 Sq. m
- Raw materials Storage Area (F.F): 450 Sq. m
- PESO Area: 50 Sq. m
- Solvent Storage Area: 112 Sq. m

Area Statement

Area No.	Name of Area	Area Sq. m.
1.	OHC	35.0

2.	Admin	90
3.	Lab	90
4.	Drying And Packing Area	323
5.	Boiler	80
6.	Under Ground Water Tank	100
7.	DG Set	42
8.	Utility Area	49
9.	Finished Product Storage Area	351
10.	Cooling Tower	50
11.	Hazardous Chemical Storage Area	225
12.	Solvent Storage Area	112
13.	ETP & STP	130
14.	PESO Area	50
15.	Bromine Glass Bottle Storage Area	20
16.	Hydrogen Cylinder Storage Area	20
17.	Security Cabin	25
18.	MEE Area	80
19.	Green Belt Area	2058
20.	Open & Road Area	2065
Total		5995

Area Statement First Floor

Area No.	Name of Area	Area Sq. m.
1.	Manufacturing Plant	570
2.	Raw Material Storage Area	450

Comments:

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

B-3	Green belt area

	Total (Sq. meter)
Area in Sq. meter	*2058*
% of total area	*34.32 %*

Comments:

The condition shall be given that -

The PP shall develop green belt (2058 Sq. metere 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.

C — Employment generation

Total
40

-

D — WATER

D-1 — Source of Water Supply

- .Tanker Supply

Comments:

1) Prior permission from competent authority shall be obtained.

D-2 — Water consumption (KLD)

-

Category	Quantity KLD
(D) Domestic	4.0
(E) Gardening	3.0
(F) Industrial	
Process	25.0
Washing	4.0
Boiler	6.0
Cooling	3.0
Others (Scrubber)	2.0
Industrial Total	40.0
Grand Total (A+B+C)	47.0

-

Comments:

	The water consumption above is found to be calculated considering the worst-case scenario and in any case the water requirement shall not exceed the same.
D-3	Waste water generation (KLD)

-

Category	Waste water KLD
(C) Domestic	3.2
(D) Industrial	
Process	23.0
Washing	4.0
Boiler	0.6
Cooling	0.3
Others (Scrubber)	1.8
Total Industrial waste water	29.7
Total [A + B]	32.9

-

Comments:

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)

- 3.2 KLD Domestic Waste Water will be treated in STP It will be treated to in-house STP Plant & treated water will be reuse in gardening & toilet flushing/ washing.

Comments,

Domestic wastewater generation shall not exceed 3.20 KL/day for proposed project and it shall be treated in STP. It shall not be disposed off in soak pit and septic tank

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

-

Sr. no.	Quantity KLD	Facility
1	29.7 KLD Industrial	In House MEE & Stripper
2	3.2 KLD	STP
3		
4		
Total	32.9 KLD	

Total Effluent generation: 32.9 KLD

- 3.2 KLD effluent will generate as sewage effluent from Domestic activity. It will be treated to in-house STP Plant & treated water will be reuse in gardening & toilet flushing/ washing.
- Process effluent @ 23.0 KLD will be neutralized & then after sent to the solvent stripper for extraction of solvents from the effluent. Then after extracted effluent @ 22.0 KLD will be sent to in-

house MEE Plant. Mix solvent about 1.0 KLD extracted from Stripper.

- Utilities effluent (Boiler/Cooling tower, Washing, Scrubber Bleed liquor) @ 6.7 KLD will be treated to in-house ETP having primary treatment units. Then after primary treated effluent will be sent to in-house MEE Plant.
- Total 28.7 KLD effluent will be sent to in-house MEE plant from which 25.26 KLD MEE Condensate water will be reuse in the premises.
- There will no effluent discharge to outside of the premises. Hence unit will achieve Zero Liquid Discharge (ZLD) unit.

Comments:

1. The industrial effluent generation from the project shall not exceed 29.70 KLD.
2. 23 KLD industrial effluent from process shall be passed through solvent stripper and then treated effluent from solvent stripper along with 6.7 KLD, low Cod effluent shall be treated in ETP and then treated effluent shall be evaporated in in-house MEE. 25.26 KLD, MEE condensate shall be reused back in process within premises.
3. Unit shall send wastewater to MEE only after ensuring content of effluent for COD/VOC so as not to get air borne during evaporation in order to achieve no adverse impacts on Environment and Human Health.
4. Unit shall provide buffer water storage tank of adequate capacity for storage of treated waste water during any shut down of MEE.
5. Unit shall provide ETP and MEE with adequate capacity.

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

-

Sr. no.	Source of emission With Capacity	Stack Height (meter)	Type of Fuel	Quantity of Fuel MT/Day	Type of emissions i.e. Air Pollutants	Air Pollution Control Measures (APCM)
1	Boiler – 2 Nos. (1.0 TPH)	21	Natural Gas	2400 SCM/Day	Particular matter SO_2 NO_X	Adequate Stack Height
2	Thermic Fluid Heater (4 Lakh. K. Cal)	21				
2	DG Set (Capacity:	11	Diesel	11 Liter/hr.	Particular matter	Adequate Stack Height

		125 KVA)				SO_2 NO_X	

-

E-3	Process gas

-

Sr. no.	Specific Source of emission (Name of the Product & Process)	Type of emission	Stack/Vent Height (meter)	Air Pollution Control Measures (APCM)
1	Reaction Vessel from Product of 4 – Chloro butyroyl Chloride	SO_2	11	Two Stage Alkali Scrubber
2	Reaction Vessel from Product of 4 – Chloro – 3 Nitro Benzoic Acid	NOx	11	Two Stage Water + Alkali Scrubber
3	Reaction Vessel from Product of Fluconazole	HCl	11	Two Stage Water Scrubber
4	Reaction Vessel from Product of ((3S)-3-CYANO-2- (ETHOXY CARBONYL)-5-METHYL HEXANOIC ACID)	Hbr	11	Two Stage Alkali Scrubber

-

E-4	Fugitive emission details with its mitigation measures.

- Adequate ventilation will be provided.
- Regular maintenance of valves, pumps, flanges, joints and other equipment will be done to prevent leakages and thus minimizing the fugitive emissions.
- Periodic monitoring of work area will be carried out to check the fugitive emission.
- Close feeding system will be provided for centrifuges. Centrifuge and filtrate tank vents will be connected to vent chillers.
- Fugitive emission over reactors, formulation areas, centrifuges, chemical loading and transfer area will be collected through hoods and ducts by induced draft and controlled by scrubber.
- Dedicated scrubber will be provided are used for fugitive emissions to control

Comments for E2, E3 & E4:

5. 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.

6. 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, D G set, 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.	Particulars	Source of Generation	Category	Generation Qty. (Annum)	Hazardous Waste disposal/Management
1.	ETP Sludge	From Effluent treatment plant	35.3	119 MT	Collection, Storage, Transportation & Disposal at active TSDF site.
2.	MEE Salt	From MEE Plant	35.3	520 MT	Collection, Storage, Transportation & Disposal at active TSDF site.
3.	Used/ Spent Oil	From plant machineries as lubricant	5.1	0.3 KL	Collection, Storage, Transportation, Disposal by selling to GPCB/ MoEF approved recycler/ reuse as lubricant within premises.
4.	Discarded Containers/ Bags/ Barrels	From raw material storage area	33.1	15 MT	Collection, Storage, Transportation, Decontamination, Disposal by send to the authorized dealer.
5.	Spent Carbon/Catalyst/Hy – Flow	During manufacturing process	28.3	48 MT	Collection, Storage, Transportation & Disposal by send it for co-processing / disposal at active TSDF site.
6.	Spent Solvent	From distillation process/ Solvent recovery system	20.2	2296 MT	Collection, Storage & reuse in process again OR sell to authorized users having rule 9 permission
7.	Mix Solvent	From Stripper	20.2	360 MT	Collection, Storage & reuse in process again OR sell to authorized users having rule 9 permission.
8.	Distillation Residue	During distillation process	36.1	153 MT	Collection, Storage & disposal by send it to CHWIF site for incineration.

9.	Sodium Acetate	From process of product like 1 – BOC Piperazine	26.1	1750 MT	Collection, Storage, Transportation & Disposal by selling to authorized users having rule 9 permission.
10.	Organic Residue/Process Residue	During Manufacturing process	36.1	281 MT	Collection, Storage & disposal by send it to CHWIF site for incineration.
11.	Potassium Chloride (10%)	During manufacturing process of FLUCONAZOLE	26.1	339 MT	Collection, Storage, Transportation & Disposal by selling to authorized users having rule 9 permission.
12.	Potassium Iodide (10%)	During manufacturing process of FLUCONAZOLE	26.1	1511 MT	Collection, Storage, Transportation & Disposal by selling to authorized users having rule 9 permission.
13.	Spent Sulphuric Acid	During manufacturing process of 4-(2-METHOXYETHYL) PHENOL	26.1	591 MT	Collection, Storage, Transportation & Disposal by selling to authorized users having rule 9 permission.
14.	Acetic Acid	During manufacturing process of THEOBROMINE	26.1	640 MT	Collection, Storage, Transportation & Disposal by selling to authorized users having rule 9 permission.
15.	Inorganic residue	During manufacturing process of FLUCONAZOLE	28.1	2.5 MT	Collection, Storage, Transportation & Disposal at active TSDF site.
16.	Sodium Nitrite (10 – 15%)	From scrubber attached to reaction vessel	26.1	348 MT	Collection, Storage & send to ETP for further treatment.
17.	Dilute HCl (25 – 30%)	From scrubber attached to reaction vessel	26.1	568 MT	Collection, Storage & send to ETP for further treatment.
18.	Sodium Bi – Sulfite (30%)	From scrubber attached to reaction vessel	26.1	720 MT	Collection, Storage & send to ETP for further treatment.
19.	Sodium Bromide	From scrubber attached to reaction vessel	26.1	280 MT	Collection, Storage & send to ETP for further treatment.

Comments:

5) 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

1. Fly Ash generation will be ……MTPA: N.A
2. STP sludge generation will be 12.0 MTPA

Comments:

3) STP sludge shall be used as manure within premises

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

Name Of Product	Monthly quantity (MT)	Batch Size (Kg)	Name of Solvent	Use Qty. Kg/Batch	Recovery (Kg)
ATORVASTATIN CALCIUM	40	100	Toluene	100	97
	40	100	Methanol	130	124
	40	100	THF	40	38
	40	100	Cyclohexane	40	38
	40	100	IPA	120	114
	40	100	DIPE	40	37
TRIFLUORO ACETYL L-LYSINE	40	1	IPA	0.6295	0.598
4-HYDROXY COUMARINS	40	350	Toluene	1500	1455
1-BOC PIPERAZINE	40	135	Toluene	400	380
N-ACETYL 4 (4-HYDROXYPHENYL) PIPERAZINE	40	480	Toluene/IPA	1500	1455
2 AMINO 4, 6 DICHLOROPHENOL	40	80	MCB	200	195
CHLOROHEXIDINE BASE	40	400	Butanol	1170	1124
	40	400	Methanol	830	789
Fluconazole	40	200	Ethyl Acetate	100	95
	40	200	IPA	200	190
	40	200.00	DCM	100.00	96.00
	40	200.00	Toluene	100.00	97.00
	40	200	Dimethyl formamide	100	94
TELMISARTAN	40	222.2	Dimethyl formamide	200.2	194.19
	40	222.2	Acetone	100.3	95.28
	40	222.2	Methanol	300	285
	40	222.2	Acetic Acid	100	97
META BROMO	40	1	Toluene	1.73	1.65

ANISOLE	40	1	Methanol	0.328	0.312
TRAMADOL	40	270.00	Toluene	400.00	388.00
	40	270.00	Acetone	300.00	285.00
4-(2-METHOXYETHYL) PHENOL	40	100.00	1,2-Dichloromethane	100.00	96.00
	40	100.00	Methanol	80.00	76.00
	40	100.00	Toluene	100.00	97.00
METOPROLOL TARTRATE	40	220	IPA	140	133
	40	220	MONO ISOPROPYL	175	165
	40	220	Acetone	500	470

G-2 LDAR proposed:

LDAR Program

- ❑ Solvent losses monitoring
- ✓ In awarding, storage and consumption of solvents in various products shall be measured through Level Transmitters and Load cells weighing systems resp. The quantity at each stage shall be reconciled periodically to arrive atLosses.
- ✓ Batch outputs shall be monitored and reconciled with quantity of input raw materials added. Any variation beyond 5% shall be analyzed in detail and action plan shall be prepared to reduce thevariation.
- ✓ Workplace VOC monitoring through handheld VOC meter (photoionization detection (PID) sensor technology) shall be carried out at the shopfloor.
- ✓ Periodic Leakage Audit at Plant and PDCA approach to be followed for control ofleakages
- ❑ PreventiveMaintenance
- ✓ In order to prevent leakage from Pump, Seals, Valves etc, preventive maintenance shall be carried out periodically as per plan. In case of any recurring problem, action plan shall be prepared or frequency shall berevised.
- ❑ Immediate Corrections in case ofLeakages
- ✓ Plant shall have an internal competent team of Technicians and Engineers to handle different types of leakages round theclock.
- ✓ Plant shall also maintain adequate number of spares and consumables required

G-3 VOC emission sources and its mitigation measures

Measures for achieving maximum solvent recovery and minimize VOC generation:

No.	Emission Source	Probable Pollutant Emission	Control measures
1	Solvent Storage area	VOC *(Air Pollutant)*	Carry out work place area monitoring to find out concentration level in ambient air. Connected with vent condensers with child brine circulation. Close handling system. Provision of breather valve cum flame arrester

2	Solvent Recovery System	VOC *(Air Pollutant)*	Vacuum distillation Close handling system. There will be recovery of more than 95-98% solvent.
3	Solvents & Liquid raw material transferring to reactor	VOC, Acid fumes *(Air Pollutant)*	Feeding of Solvents & liquid raw materials will be carried out by closed pipeline and mechanical seal pump
4	Flange joints of pipeline, pump & motors	VOC *(Air Pollutant)*	Routine & periodic inspection to check leakage. Preventive maintenance,follow SOP for maintenance. Pumps & motors mechanical seal type. LDAR program will be followed.

Comments:

Comments:

3) 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.
4) 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	Acetic Acid	40 KL	1	Corrosive
2	HCl	30 KL	1	Corrosive
3	Acetic Anhydride	15 KL	1	Corrosive
4	Sulphuric Acid	50 KL	1	Toxic

Brief note on storage of Hazardous chemicals in Tanks

- There will be separate storage area for Liquid Materials.

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

Safety Measures for Drum Storage area:

- Some chemicals will be received at plant in drums by road truck and stored in a separate drum

storage area.

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

Safety details of Hazardous Chemicals:

Type of Hazardous Chemicals	Safety measures
PESO Tank	Safety Measures for PESO Underground storage tank farm: ✓ The underground vessels shall be placed within concrete or brick masonry pit with a gap of 1.0 meter between the walls of the pit and the vessel as well as in between the vessels. ✓ The underground vessels shall be installed on a firm foundation and firmly secured to the foundation so as to prevent movement of floatation. ✓ Class A Petroleum products will be received through road tanker and stored in u/g storage tank as per PESO Rule. ✓ Tank farm will be constructed as per explosive department requirement and separation distance will be maintained. ✓ The underground vessels covered by earth (Mound) shall be a designed to withstand external pressure due to load of the earth cover. o Provided with external anti-corrosive coating or cathodic protection to prevent corrosion ; o Covered by earth, sand or any other non-corrosive material free from abrasive particles likely to damage the anti-corrosive coating of the vessel-the thickness of the covering material above the top surface of the vessel shall not be less than 0.5 meter; o Having the discharge level of the safety relief valves at least 2 meters above the top surface of the vessel, but in any case not less than 3 meters from the ground level; o Fitted with the necessary piping's, fittings, valves and other mounting on top of vessel in such a manner that they can be operated and maintained without disturbing the earth cover. In case of above ground vessel with earth cover (mound), liquid outlet pipe at the bottom may be allowed provided the control valve and emergency valve of this line is just outside the earth cover for the purpose of operation and maintenance from outside. ✓ Static earthing provision will be made for road tanker as well as storage tank. ✓ Flame arrestor with breather valve will be provided on vent line. ✓ Road tanker unloading procedure will be prepared and implemented. ✓ Fire load calculation will be done and as per fire load hydrant system will be provided as per NFPA std. and fire

extinguishers will be provided as per fire load calculation.

- ✓ Spark arrestor will be provided to all vehicles in side premises
- ✓ Lightening arrestor will be provided on the top.
- ✓ Flame proof type equipment and lighting will be provided.
- ✓ Trained and experience operator will be employed for tank farm area.
- ✓ NFPA label (hazard identification) capacity and content will be displayed on tanks
- ✓ Solvents will be transferred by pump only in plant area and day tank will be provided. Overflow line will be return to the storage tank or Pump On-Off switch will be provided near day tank in plant.
- ✓ Jumpers will be provided on solvent handling pipe line flanges & Flexible SS hose will be used for road tanker unloading purpose and other temp. connection

PESO Area Storage & Handling Safety: (UNLOADING)

- ✓ Ensure that the transfer of petroleum takes place only through electrically continuous sound hose having oil tight couplings at both ends.
- ✓ Couplings of the hose at the discharge ends of the tank trucks as well as at the fill pipe end of the underground tank shall not be leaky.
- ✓ Unloading operations should not commence without ensuring earthing of the tanker body to a proper earthing point. For this purpose, a proper earthing point shall be provided near filling points.
- ✓ Before commencing unloading operations tanker should be parked in the retail outlet in such a manner that it can be taken out of the retail outlet immediately in case of emergency.
- ✓ Dip pipe of the underground tank shall not be kept open during unloading operations.
- ✓ The dealer, supervisors and pump attendants shall be trained in all aspects of safety in RO including the provisions of Petroleum Rules, 2002 in Chapter IV on Electric Installation, Rules 117 to 119,122,125 and conditions 6 to 12, 15,16,18 to 21of licence Form XIV for the RO's under the said Rules.
- ✓ Before starting unloading of petroleum, it must be ensured that at least a safe distance of 3 M is kept clear of any kind of movement of other vehicles that come for fuelling and that there is no source of any spark in the area. In case of retail outlets that are in congested areas operations of fuelling automobiles in the retail outlet may be discontinued.
- ✓ Do not use plastic hose pipes for unloading purposes.
- ✓ Do not use hose pipe fitted with metallic pipe (bent pipe) at the discharge end.
- ✓ Do not use Hose pipes not conforming to OISD 135.
- ✓ Proper tightening of hose connections using screwed/cam lock couplings.

	✓ Make sure that there shall be no collection of leaked petroleum through hose pipe connection at tanker discharge faucet end in the plastic bucket kept on the ground below. ✓ Provision of electrical earthing / bonding by means of flexible cable between tanker chassis and earth boss/fill pipe. ✓ Proper training to the retail outlet staff regarding hazards associated with the petroleum road tanker decantation operation in the retail outlets.
Non-PESO tank	Safety measures for Acid storage Tank: ✓ Storage tank will be stored away from the process plant. ✓ Tanker unloading procedure will be prepared and implemented. ✓ Caution note and emergency handling procedure will be displayed at unloading area and trained all operators. ✓ NFPA label will be provided. ✓ Required PPEs like full body protection PVC apron, Hand gloves, gumboot, Respiratory mask etc. will be provided to operator. ✓ Neutralizing agent will be kept ready for tackle any emergency spillage. ✓ Safety shower, eye wash with quenching unit will be provided in acid storage area. ✓ Material will be handled in close condition in pipe line. ✓ Dyke wall will be provided to all storage tanks, collection pit with valve provision. ✓ Double drain valve will provide. ✓ Level gauge will be provided on all storage tanks. ✓ Safety permit for loading unloading of hazardous material will be prepared and implemented. TREM CARD will be provided to all transporters and will be trained for transportation Emergency of Hazardous chemicals. ✓ Fire hydrant system with jockey pump as per TAC norms will be installed. Safety Measures of Non-PESO Tank ✓ Leakage / spillage mitigation plan ✓ Tank shall be rubber lined to prevent the corrosion ✓ Dyke wall shall be provided for containment ✓ Rubber type hand gloves and chemical splash goggles and full-face cartridge type mask and PVC apron shall be used while manual handling ✓ Lime shall be readily available during leak to neutralize the spill material ✓ Safety shower, eye wash with quenching unit will be provided in acid storage area. ✓ Material will be handled in close condition in pipe line. ✓ Double drain valve will provide. ✓ Level gauge will be provided on all storage tanks. ✓ Fire hydrant system with jockey pump as per TAC norms will be installed

Applicability of PESO: Will be obtained

Comments:

2. 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	✓ DCS (Distributed Control System) will be installed for handling of Hydrogenation Process. ✓ All electrical equipment shall be installed as per Hazardous Area Classification. ✓ Total enclosed process system. ✓ Instrument & Plant Air System. ✓ Nitrogen blanketing in Hydrogenation reactor. ✓ Safety valve and Rupture disc provided on reactor. ✓ Cooling, Chilling and alternate power arrangement have been made on reactor. ✓ Process area and Hydrogen cylinder bank shall be far away as per standards practice. ✓ PRV station with shut off valve, safety valve provision will be made for hydrogenation reaction safety. ✓ Standard Operating procedure shall be followed during operation of Hydrogen Gas charging in to reactor and after completion of reaction Nitrogen purging will be done. ✓ Flame arrestor will be provided on vent line of reactor and it will be extended above the roof level. ✓ Safe Catalyst charging method will be adopted. ✓ SOP will be prepared and operators will be trained for the same. ✓ Static earthing and electric earthing (Double) will be provided. ✓ Jumpers for static earthing on pipeline flanges of flammable chemical will be provided. ✓ Hydrogen gas detector will be installed for early detection of gas leak.
Nitration	✓ Nitration process will be done in closed S.S vessels. Nitration process will be carried out with adequate process control and instrumentation to provide inbuilt safety and process efficiency. For this purpose, DCS (Distributed Control System) will be provided in plant. ✓ DCS should have emergency shutdown button enclosed in a glass cabinet with break glass. ✓ Nitration process is exothermic reaction. In Nitration process, exothermic reaction is controlled by adequate dosing of reaction chemicals in a fixed time (not short duration) having adequate cooling water circulation in jacket of reaction vessels. Thus, any energy generated due to exothermic reaction is controlled by external cooling circulation and therefore vessels are not pressurized. ✓ Safety valve and Rupture Disc (Bursting Disc) is also been provided on reactor for zero process leakage to the atmosphere. Adequate pressure relief valve is provided for each vessels having pressure release capacity will be kept below -3 kg/cm2 than that of reaction

		vessels. ✓ The nitration reaction is controlled by systematic cooling design to withdraw the energy evolved.		
	Sulphonation / Chlorination (Thionyl Chloride)	✓ DCS (Distributed Control System) will be installed for handling of Hydrogenation Process. ✓ Total enclosed process system. ✓ Safety valve, rupture disk provided on reactor and pressure storage tanks. ✓ Static earthing and electric earthing (Double) will be provided. ✓ Jumpers for static earthing on pipeline flanges of flammable chemical provided. ✓ Flame proof light fitting installed where ever it is required. ✓ Scrubbers provided on all process vents Storage area is away from the process plant ✓ Fencing and caution notes and hazard identification boards displayed near storage area. ✓ Only authorized person are permitted in storage area. ✓ Safety permit for hazardous material loading unloading is prepared and implemented. ✓ Static earthing provision is made at all loading unloading points of flammable chemical storage area. ✓ Caution note, safety posters, stickers and emergency preparedness plan will be displayed. ✓ Emergency facilities and medical emergency facilities are available at site. ✓ Wind direction indicators to be provided. ✓ Emergency siren installed at main gate as well as in all plant. ✓ Training to be provided to all employees on chemical safety and process safety.		
	Bromination	✓ DCS (Distributed Control System) will be installed for handling of Brominaiton Process. ✓ All end nozzles in bromine charging hose will be blinded after use. ✓ Charging of bromine will be done when reactor is in vacuum and POP coated funnel will be used during charging. ✓ Excess bromine will be neutralize or discharged by adding Sodium Bisulfite. ✓ Make sure the absorber unit (scrubber) is working and capable of handling vented bromine fumes. ✓ Structure of bromine bottle area will be periodically inspected to ensure stability. ✓ Personnel employed with bromine handling are made aware of potential hazards of bromine and of appropriate first-aid measure. ✓ Exhaust hood connected with alkali scrubber and ventilation system will be available. Exhaust hood has been provided to maintain to concentration of bromine vapor well below PEL (Permissible Exposure Limit). ✓ Work instructions for bromine charging will be displayed in local language Gujarati/Hindi. ✓ Safety shower and eye-wash fountains will be available nearby		

	handling and charging facility. The location of such item will be inspected and tested at fixed interval to make sure that it is in good condition. ✓ Hypo solution, lime water slurry or soda ash solutions will be available so as to pour them over a liquid bromine spill on the floor. The bromine and neutralizer is then washed to the sump with cold water hose. ✓ Personal Hygiene – the following personal protective equipment will be used. ✓ Chemical safety goggles, face shields, SCBA sets, Aprons, rubber gloves, etc. ✓ Only trained employees handled bromine charging. Training will be given to employees for bromine handling and charging. ✓ Evacuate the area in down wind direction: ✓ For Bromine evacuate area in down wind direction up to 0.6 km (600 meter) in small spillage and in case of large spillage, evacuate the area in down wind direction 3.1 kms (3100 meters). ✓ In emergency situations resulting from vehicle accidents: ✓ Notify the local police, fire departments, emergency responders and the carrier. ✓ Isolate the area. ✓ Any person not dressed in proper protective clothing and not using an approved self-contained breathing apparatus should be kept a safe distance away. ✓ Call to the supplier. ✓ Seek immediate medical assistance for those injured and follow recommended first aid procedures.

H-3	Details of Fire Load Calculation

Total Plot Area:	5995 m^2
Area utilized for plant activity:	2767.0 m^2
Area utilized for Hazardous Chemicals Storage:	765.0 m^2
Number of Floors:	02
Water requirement for firefighting in KLD:	207.52 KL for 1.5 hr.
Water storage tank provided for firefighting in KLD:	350
Details of Hydrant Pumps:	90 HP (2 Nos.) Electric jockey pump

Nearest Fire Station:	Mehsana Fire Station (within 13 KM from Project Site)
Applicability of Off-Site Emergency Plan:	----

Comments:

2) 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 350 KL. SEAC found it as per the requirement.

H-4	Details of Fire NOC/Certificate:

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

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

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Number of permanent Employee:	40
Number of Contractual person/Labour:	12
Area provided for OHC:	35.0
Number of First Aid Boxes:	As per require
Nearest General Hospital:	General Hospital Mehsana @ 14 KM
Name of Antidotes to be store in plant:	As per require

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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. Project proponent (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 not dig bore well within premises without permission from CGWA for proposed project.
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. (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.

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. 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].
8. All measures shall be taken to avoid soil and ground water contamination within premises.
9. Leak Detection and Repair (LDAR) program shall be prepared and implemented as per the CPCB guidelines. LDAR Logbooks shall be maintained.
10. Unit shall start construction work as per guidelines published by state highway authority as mentioned in highway authority letter at proposed project area.
11. Unit shall maintain complete ZLD all the time and there shall be no drainage connection within premises and no waste water discharge outside premises by any means.
12. **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 water sprinkler in ammonia storage/cylinder area.

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

n. (1) Unit shall provide effective fire hydrants, water monitors & foam application system at solvent storage tank farm area. (2) Unit shall provide adequate safety system such as water sprinklers, water curtains, foam pouring system etc. to restrict cascade fire emergency in solvent tank farm.

o. Unit shall provide water sprinkler to ammonia storage/cylinder area.

p. Unit shall obtain all required permissions from the Narcotics Control Bureau for usage as raw material, storage and handling of Acetic Anhydride & any such chemicals.

q. Unit shall provide safety valve and rupture disk to Hydrogenation vessel.

WATER

13. Total water requirement for the project shall not exceed 47 KLD. Unit shall reuse 25.26 KLD of treated effluent within premises. Hence, fresh water requirement shall not exceed 21.74 KLD and it shall be met through tanker supply only.
14. The industrial effluent generation from the project shall not exceed 29.70 KLD.
15. 23 KLD industrial effluent from process shall be passed through solvent stripper and then treated effluent from solvent stripper along with 6.7 KLD,low Cod effluent shall be treated in ETP and then treated effluent shall be evaporated in in-house MEE. 25.26 KLD, MEE condensate shall be reused back in process within premises.
16. Unit shall send wastewater to MEE only after ensuring content of effluent for COD/VOC so as not to get air borne during evaporation in order to achieve no adverse impacts on Environment and Human Health.

17. Unit shall provide buffer water storage tank of adequate capacity for storage of treated waste water during any shut down of MEE.
18. Domestic wastewater generation shall not exceed 3.20 KL/day for proposed project and it shall be treated in STP. It shall not be disposed off in soak pit and septic tank.
19. Unit shall provide ETP and MEE with adequate capacity.
20. The unit shall provide metering facility at the inlet and outlet of ETP, MEE and maintain records for the same.
21. Proper logbooks of ETP, MEE, 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:

22. Unit shall not exceed fuel consumption for Boilers, 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 work zone environment shall be monitored. The emission shall conform to the standards prescribed by the concerned authorities from time to time (e.g. Directors of Industrial Safety& Health). Following indicative guidelines shall also be followed to reduce the fugitive emission.

.1.1. Internal roads shall be either concreted or asphalted or paved properly to reduce the fugitive emission during vehicular movement.

.1.2. Air borne dust shall be controlled with water sprinklers at suitable locations in the plant.

.1.3. 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 :
    e. Closed handling and charging system shall be provided for chemicals.
    f. Reflux condenser shall be provided over Reactors / Vessels.
    g. Pumps shall be provided with mechanical seals to prevent leakages.
    h. Air borne dust at all transfers operations/ points shall be controlled either by spraying water or providing enclosures.
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 ground level concentration of PM10, PM2.5, SO2, NOx, HCl,HBr , Cl2 and VOCs shall be carried out in the impact zone and its records shall be maintained. Ambient air quality levels shall not exceed the standards stipulated by the GPCB. If at any stage these levels are found to exceed the prescribed limits, necessary additional control measures shall be taken immediately. The location of the stations and frequency of monitoring shall be decided in consultation with the GPCB.

HAZARDOUS / SOLID WASTES:

30. All the hazardous/ solid waste management shall be taken care as per the point no. 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. STP sludge shall be used as manure within premises for gardening purpose.
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 (2058 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 [Provision of Roof top Solar Panel at School of villages Dhinoj & Gorad] 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 Honourable 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

5.	SIA/GJ/IND2/46542/2018	**M/s. DCM Shriram Ltd. (Unit: Shriram Alkali & Chemicals)**	EC-Reconsideration

		Plot No. 749, GIDC Jhagadia, Taluka: Jhagadia, District: Bharuch, Gujarat	

- This proposal was reconsidered in SEAC meeting dated 09.05.2022.
- The Project Proponent (PP) of the project informed regarding remaining absent during meeting dated: 09.05.2022.
- PP have not informed regarding remaining absence during meeting and also not submitted e-mail for remaining absence during meeting.
- **After deliberation, SEAC unanimously decided to defer the proposal and consider the same in one of the upcoming meeting of SEAC.**

6.	SIA/GJ/IND2/57623/2019	**M/s. Alankar Industries.** Plot No. : - 3410, Phase No. IV, GIDC, Vatva, Ahmedabad, Gujarat.	Appraisal

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

Project status: **New**

- Project proponent (PP) has submitted online application vide no. SIA/GJ/IND2/57623/2019 on dated 27.10.2021 for obtaining Environmental Clearance.
- ToR issued by SEIAA vide letter dated 09.06.2020.
- Project proponent has submitted EIA Report prepared by M/s. B.S. RANA based on the TOR issued by SEIAA.
- This is a new unit proposed for manufacturing of synthetic organic chemicals as mentioned below:

Group	Sr No	Name of Product	CAS NO	Production MT/M	End use of product
A	1	6 NAPSA(70%)	96-93-5	50	Dyes and Dyes Intermediates
B	2	Dinitro Benzene	99-65-0	250	Dyes and Dyes Intermediates
	3	DEMAP	91-68-9		
	4	4 NADAPSA	88-63-1		
	5	4 Sulpho Anthralinic Acid	98-43-1		
	6	Resorcinol	108-46-3		
	7	Resist Salt	127-68-4.		
	8	Metalinic Acid	121-47-1		
	9	Aniline 2 4 DSA	137-51-9		
	10	Aniline 2,5 DSA	98-44-2		
	11	Copper Formazole	-		
	12	MAP	591-27-5		
	13	BDSA	117-61-3.		
	14	MUA	59690-88-9		

	15	6 CAPSA	28-23-3		
	16	MPD	108-45-2		
C	17	OBA-2 BT	61968-74-9	100	Whitening Agent in Textile ,Paper industries
	18	OBA-2 B	12224-02-1		
	19	OBA SI LIQUID	16470-24-9		
	20	OBA 4BB	4193-55-9		
	21	OBA BA	12768-92-2		
	22	OBA PC	3426-43-5		
	23	OBA MST	55585-28-9		
	24	OBA BSU	68971-49-3		
			Total	400	

 # Brief Note of Product Profile:

1. **No of Manufacturing Plants: 2 no.s**
2. **Brief Note regarding number of Products to be manufactured considering plant capacity: At time unit will be manufactured one product at time.**

- The project falls under B1 category of project activity 5(f) as per the schedule of EIA Notification 2006.
- PP was called for Video conference meeting for presentation on dated 27.12.2021.
- During the SEAC Video conference meeting dated 27.12.2021, 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.
- 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 PM_{10}, $PM_{2.5}$, SO_2, NOx, CO 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, technical expert of PP informed that they have not obtained QCI/NABET accreditation for preparation of EIA/EMP report but they have Honorable Gujarat High court stay order for preparation of EIA/EMP report. Looking to Honorable Gujarat High court stay

order presented by PP of year 2018, Committee asked for latest Honorable Gujarat High court stay order for preparation of EIA/EMP report which was not produced by technical expert of PP during meeting. Hence Committee insisted for latest Honorable Gujarat High court stay order for preparation of EIA/EMP report with mentioning validity period.

- 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:
  - ✓ Site Plan/ layout with fire plan & floor plans and provision of separate entry & exits, 6 m wide peripheral road, tank farm, production areas, ETP area, utility area, hazardous waste storage area, fresh & spent solvent storage areas, hazardous waste storage area, 33% greenbelt within premises etc.
  - ✓ Product profile with its end use discussed in depth.
  - ✓ Source of water will be GIDC.
  - ✓ Domestic Waste water will be treated in STP.
  - ✓ Industrial waste water will be treated in ETP and treated effluent will be sent to Common spray dryer of M/s. Umiya Enviro LLP. Looking to CMEE membership, Committee insisted for operational common spray dryer membership certificate with mentioning booked load and spare capacity of CMEE facility and is as per GPCB circular dated 08.01.2020 or copy of Consent to operate from GPCB obtained by common facility namely M/s. Umiya Enviro LLP
  - ✓ Natural gas as fuel will be used in boiler, HAG and TFH.
  - ✓ Two stage scrubbers as APCM proposed for each reactor 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. Looking to spray dryer salt and iron sludge generation quantity mentioned, Committee asked for clarify generation of spray dryer salt and iron sludge generation from which source with mass balance and its chemical reaction.
  - ✓ Fire hydrant plan, fire load calculation and Area adequacy was discussed.
  - ✓ Looking to ToR compliance regarding base line data for proposed project is not motioning details of VOC measurement , Committee insisted for readdress specific ToR No-37 with mentioning Baseline monitoring for VOC parameter in project area as well as study area along with other parameters and details of incremental GLC for each parameter. .

- ✓ EMP, Green belt, CER, LDAR, Baseline data etc. was discussed. Looking to layout plan and EMP, Committee insisted for submission of revised layout plan with mentioning adequate fire hydrant network system with water sprinkler in it, storage of raw material and finished goods area, Hazardous chemicals like oleum and other as per its type of hazard and with compatibility chart and also revised EMP with mentioning each sector adequate and brief details for EMS and revised cost for fire and safety including oleum and other Hazardous chemicals safety measures etc .

- ✓ Also technical expert of PP have not presented risk assessment for oleum and other Hazardous chemical storage and its handling, Committee insisted for risk assessment of oleum storage & its handling considering worst case scenario of any blast, leakage or fire and super impose of satellite image for dispersion model with mentioning its impact on surrounding village's residential habitat area and its mitigation measures. Also standard operating procedure (SOP) for handling and storage of oleum and emergency spare storage tank for oleum storage and details of offsite emergency plan details considering population affected due to proposed Hazardous chemicals storage along with its remedial measures.

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

1. Copy of latest Honorable Gujarat High court stay order for preparation of EIA/EMP report with mentioning validity period.
2. Revised layout plan with mentioning fire hydrant line with water sprinkler in specific area, Raw material storage of Hazardous chemicals specifically oleum storage details and solvent storage tank area, considering safety point of view and its type of Hazard with compatibility chart.
3. Submit operational membership certificate of CMEE membership certificate with mentioning booked load and spare capacity of CMEE facility and is as per GPCB circular dated 08.01.2020 for effluent disposal.
4. Clarification regarding generation of sprays dryer salt and iron sludge generation from which source with mass balance and its chemical reaction.
5. Readdress specific ToR No-37 with mentioning Baseline monitoring for VOC parameter in project area as well as study area along with other parameters and details of incremental GLC for each parameter.
6. Revised details of adequate number of fire extinguishers like foam trolley and foam with its capacity, PPE and revised EMP with mentioning cost for PPE and fire extinguishers and each sector adequate and brief details for EMS along with revised cost for fire and safety sector specifically for oleum and other hazardous chemical safety measures etc.
7. Risk assessment of oleum storage & its handling considering worst case scenario of any blast,

leakage or fire and super impose of satellite image for dispersion model with mentioning its impact on surrounding village's residential habitat area and its mitigation measures. Also standard operating procedure (SOP) for handling and storage of oleum and emergency spare storage tank for oleum storage and details of offsite emergency plan details considering population affected due to proposed Hazardous chemicals storage along with its remedial measures.

8. Submit project details in latest SEAC prescribed B1 project format in place of old prescribed format.

- PP submitted above query reply through PARIVESH portal for SEAC VC meeting dated 27.12.2021.
- This case was reconsidered in SEAC meeting dated **09.05.2022** and technical expert of PP, M/s. B.S. Rana and PP remain present during meeting.
- Committee noted that PP presented copy of latest Honorable Gujarat High court stay order for preparation of EIA report, revised layout plan and revised CMEE membership certificate, Clarification regarding generation of sprays dryer salt and iron sludge generation from which source, Readdress ToR no-37, risk assessment and fire safety details.
- Committee found reply submitted by PP was satisfactory.
- PP submitted revised salient features of water, air and hazardous waste management as under,

Sr. no.	Particulars	Details
A-1	Total cost of Proposed Project (Rs. in Crores): Total Project Cost: 4.9 Crores Break-up of proposed project Cost:	

Details	Project Cost (Rs. In Crores)
Land	1
Building	1.1
Plant and Machineries	1.6
Q.C Lab Setup	0.4
Environment Management System	0.7
Greenbelt Development	0.1
Total	4.9

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

Sr.	Unit	Detail	Capital	Operating	Maintenance	Total

No.			Cost (Rs. In Crores)	Cost (Rs. In Crores)	Cost (Rs. In Crores)	Recurring Cost (Rs. In Crores)
1	Waste Water	ETP	0.2	0.09	0.03	0.12
2	Air	APCM	0.1	0.07	0.02	0.09
3	Hazardous Management	Separate room, membership & Disposal	0.11	0.03	0.005	0.035
4	Fire & Safety	PPE / Fire Control system	0.19	0.01	0.005	0.015
5	AWH Monitoring	Stack monitoring /waste water analysis / Soil test / noise test	0.05	0.01	0.03	0.04
6	Green belt Development	Sample, fertilizer	0.03	0.02	0.01	0.03
7	Occupational Health	Equipment, Beds and Consulting	0.15	0.01	0.005	0.015
8	Process Control System	DCS System	0.09	0.03	0.01	0.04
9	CER Cost	Two nos of Percolation and 2 KW solar Panels	0.098	0.02	0.01	0.03
		Total	0.748	0.290	0.125	0.415

Summary

Cost of Project in Crores per Annum:	4.9 Crores
EMP Capital Cost in Crores per Annum and Percentage:	0.748 Crores
EMP Recurring Cost in Crores per Annum and Percentage:	0.415 Crores

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 Corporate Environmental Responsibility [CER].

% as per the OM	2 %
The proposed project of synthetic organic chemicals 2.0 % of the total proposed cost i.e 4.9 Cr will be 9.8 Lakhs subjected to CER.	9.8 Lakhs

Brief note on proposed activities for CER:

Sr. No.	Planned activities under CER per specific needs at nearest villages within study area	Budget (INR)				
		1st year	2nd Year	3rd Year	4rth Year	Total
		(21-22)	(22-23)	(23-24)	(24-25)	
1	Rain water harvesting system (Three nos of percolation well) + Solar Panels (6 KW) Village Vivekanand/Vinzol	2,45,000	2,45,000	2,45,000	2,45,000	9,80,000
	Total	2,45,000	2,45,000	2,45,000	2,45,000	9,80,000

B	Land / Plot ownership details:

1. Brief note regarding owner of the Land/Plot, Purpose of NA permission i.e. Industrial purpose etc.
2. In case of Rent/Lease, relevant documents with agreement with minimum 7 years from the date of their application.

	➢ Plot No. :- 3410, Phase No. IV, GIDC, Vatva, Ahmedabad, Gujarat, India. ➢ GIDC Possession letter is enclosed in EIA
B-1	Plot area Total Plot area: 1423.0 Sq. m.
B-2	Brief note on Area adequacy in line to proposed project activities: Unit will be adequate of proposed plot area with respect to plant machineries, EMS, Green belt, safety aspect, raw material & product storage area considering worst-case scenario.
B-3	Green belt area

Sr. No.	Details of Land	Area For Proposed Plant(m^2)	Area in %
1	Green Belt	475	33.38
2	Office	25	1.76
3	Production plant	184	12.93
4	Utility area	50	3.51
5	ETP	50	3.51
6	Storage Area	130	9.14
7	Tank Farm	60	4.22
8	Hazardous Waste Storage	40	2.81
9	OHC	20	1.41
10	Other	389	27.34
Total Area		1423.0	100

Comments:

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

	Total (Sq. meter)

	Area in Sq. meter	475 m^2
	% of total area	33.4 % of total area

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

Comments:

The condition shall be given that -

The PP shall develop green belt (475 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.

C — Employment generation

Total
15

In case of Indirect employment, Give details.

D — WATER

D-1 — Source of Water Supply

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

GIDC Supply

Status of permission from the concern authority.(GIDC, CGWA etc.)

GIDC Vatva

Comments:

Prior permission shall be obtained from respective department.

D-2 — Water consumption (KLD)

Category	Quantity KLD	Remarks
(G) Domestic	2.5	Fresh
(H) Gardening	3.0	1 KLD Fresh + 2 KLD recycled

(I) Industrial		
Process Including Scrubber	32.52	Fresh & Recycled
Washing	12.0	Recycled
Boiler	8.0	Fresh
Cooling	8.0	Fresh
Others	0.0	Fresh
Industrial Total	58.52	Fresh
Grand Total (A+B+C)	64.02	Fresh

Comments:

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

D-3

Waste water generation (KLD)

Category	Waste water KLD	Remarks
(E) Domestic	2.0	STP to Gardening
(F) Industrial		
Process Including Scrubber	43.117	Fresh & Recycled
Washing	12.0	Recycled
Boiler	2.0	Fresh
Cooling	0.0	---
Others	0.0	---
Total Industrial waste water	58.117	---
Total [A + B]	60.200	---

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

- Total effluent generation for proposed facility will be 60.200 KLD. Domestic waste water of 2.0 KLD will be discharge to STP to Gardening.
- 58.117 KLD Industrial wastewater will be treated in ETP.
- 58.117 m3/day treated wastewater shall be sent to RO system within premises.
- 33.0 m3/day RO permeate water shall be reused back in process & washing and 22.117 m3/day of RO reject water shall be sent to the common spray drying facility. 2.0 m3/day of domestic waste water shall be treated in STP and recycled for greenbelt development/

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).

D-4	Mode of Disposal & Final meeting point

-

Domestic:	STP to Gardening.
Industrial:	Sent to the Common Spray Dryer

-

Clearly mention about final disposal

- Total effluent generation for proposed facility will be 60.200 KLD. Domestic waste water of 2.0 KLD will be discharge to STP to Gardening.
- 58.117 KLD Industrial wastewater will be treated in ETP.
- 58.117 m3/day treated wastewater shall be sent to RO system within premises.
- 33.0 m3/day RO permeate water shall be reused back in process & washing and 22.117 m3/day of RO reject water shall be sent to the common spray drying facility. 2.0 m3/day of domestic waste water shall be treated in STP and recycled for greenbelt development

D-5	Mode of waste water Treatment

For Domestic waste water:

Capacity of STP: 3 KLD

For Industrial waste water: Treatment facility within premises with capacity

[In-house ETP (Primary, Secondary, Tertiary), MEE, Stripper, Spray Dryer, STP etc.

Treatment scheme including segregation at source. (Give Characteristics of each stream i.e. COD, BOD, TDS etc.) In case of stream segregation, Separate ETP (ETP-1, ETP-2….) for each stream shall be proposed.

- Primary Treatment , RO and Common Spray Drying
- Dilute stream and concentrated stream will be segregated. Dilute stream (i.e Boiler and Cooling Blow Down will be reused in washing activity)
- Concentrated waste water (Process water and washing water) will be evaporated after pH adjustment and passing through RO.

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

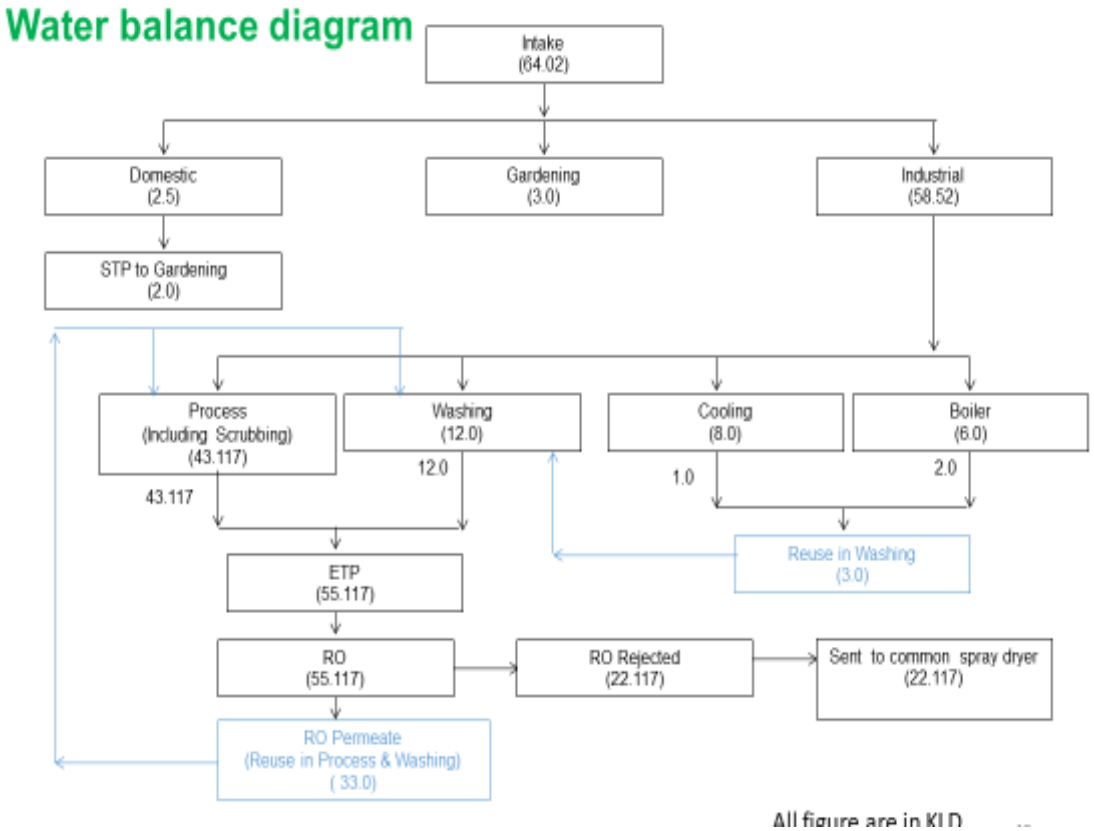
Pollution) act, 1974 issued by CPCB regarding compliance of CETP.

- Not Any

If ZLD, Brief note on adequacy of Zero Liquid Discharge (ZLD):

- 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)
	➢ Common Spray Drying facility, Umiya Enviro Project LLP
	Membership of Common facility (CF) mentioning total capacity, consented quantity, occupied capacity and spare capacity and norms of acceptance of effluent from member unit in-line with the direction given by GPCB vide Letter No. GPCB/P-1/8-G (5)/550706 dated 08/01/2020.
	➢ Common Spray Drying facility, Umiya Enviro Project LLP, As CF has obtaining CTE and CC&A is under process undertaking stating not started prodution activity till CF obtain CC&A of the Board.
D-7	Simplified water balance diagram with reuse / recycle of waste water (As below)



Comments,

1. The industrial effluent generation from the project shall not exceed 58.117 KLD.
2. 55.117 KLD, Industrial effluent from process and washing shall be treated in ETP followed by RO plant and then 22.117 KLD, RO reject shall be sent to common spray dryer facility of M/s. Umiya Enviro project LLP through GPS fitted tanker for evaporation. 33 KLD, RO permeate shall be reused back in process.
3. 3 KLD, boiler and cooling blow down shall be reused back for washing purpose within premises.
4. Unit shall send wastewater to common spray dryer facility only after ensuring content of effluent for COD/VOC so as not to get air borne during evaporation in order to achieve no adverse impacts on Environment and Human Health.
5. Domestic wastewater generation shall not exceed 2 KL/Day for proposed project and it shall be treated in STP. It shall not be disposed off through soak pit/ septic tank. Unit shall provide buffer water storage tank of adequate capacity for storage of treated waste water during rainy days.
6. Unit shall provide ETP and RO plant of adequate capacity.

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

The heat energy required calculated the based on moisture of raw materials and accordingly used fuel to achieve the goal. The fuel consumption is proposed based on the worst case scenario.

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)

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	IBR Boiler (600 kg/hr.) (No. 1)	30	Natural Gas	600 SCM/Day	PM/SO2/ NOx	Adequate Stack Height
2	HAG (500 kg/hr.)	30	Natural Gas	150 SCM/Day	PM/SO2/ NOx	Adequate Stack Height

		(No. 1)					
	3	TFH (4 lac k cal) (No. 3)	30	Natural Gas	200 SCM/Day	PM/SO2/ NOx	Adequate Stack Height
	4	DG Set (125 KVA Stand by) (No. 1)	12	LDO	6 Lit/hr.	PM/SO2/ NOx	Adequate Stack Height

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

Sr. no.	Specific Source of emission (Name of the Product & Process)	Type of emission	Stack/Vent Height (meter)	Air Pollution Control Measures (APCM)
1	Sulphonation Process Reactor	SO_2	30	Two stage water scrubber followed by Alkali Scrubber
2	Nitration Process Reactor	NO_2	30	Two stage water scrubber followed by Alkali Scrubber

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 above and its sound management in HW matrix.

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

E-4	Fugitive emission details with its mitigation measures.
F	Hazardous waste (As per the Hazardous and Other Wastes (Management and Transboundary Movement) Rules 2016. Note:

- Priorities for HW Management: Pre-processing, Co-Processing, Reuse/Recycle within premises, Sell out to actual users having Rule-9 permission, TSDF/CHWIH.
- Quantification of hazardous waste shall be based on mass balance and calculations shall be incorporated in EMP details separately.
- Disposal to scrap vendors/vendors/traders is not allowed

F-1 Hazardous waste management matrix

Sr. no.	Type/Name of Hazardous waste	Specific Source of generation (Name of the Activity, Product etc.)	Category and Schedule as per HW Rules.	Quantity (MT/Annum)	Management of HW
1	ETP Sludge	Treatment Plant	34.3	400	Collection, Storage Transportation And Disposal at TSDF site.
2	Empty Bags & liners	Raw Material	33.3	50	Collection, Storage Transportation And Reuse in plant or selling to registered vendors and partially reuse in plant
3	Used Oil	Plant Machinery	5.1	0.50	Collection, Storage, Transportation & disposal by selling to GPCB registered re processors/Reuse as lubricant in plant
4	Iron Sludge	Process Reduction	26.1	3675	Collection, Storage, Transportation & Disposal at TSDF.
5	Spent Acid	Process Sulphonation	D2 of Sch-II	762.886	Collection, Storage, Transportation & Disposal by selling to actual end users and partially reused in process
6	Gypsum	Process Sulphonation	26.10	1830	Collection, Storage, Transportation & disposal at Cement Industries or TSDF.
7	Sodium Bisulphite	Scrubber	D2 of Sch=II	58	Collection, Storage, Transportation & entire quantity will be utilized in process
8	Spent Carbon	Purification Process	D2 of Sch=I/28.3	120	Collection, Storage, Transportation & disposal at CHWIF
9	Scrubbing Media	Scrubbing System	-	270	Collection, Storage, Treatment in ETP in premises.

Note: Classify your Hazardous wastes and arrange group wise as per Hierarchy i.e. Reuse within premises, Reuse by units having Rule 9, Disposal to TSDF sites, Disposal to CHWIF etc.

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

Details of Membership letter no. & Date with spare capacity of the Common Facility.

- Membership TSDF/CHWIF will be obtained after getting environment Clearance

F-3	Details of Non-Hazardous waste & its disposal (FLY ASH, MSW and others)	

Sr. no.	Type/Name of Other wastes	Specific Source of generation (Name of the Activity, Product etc.)	Quantity (MT/Annum)	Management of Wastes
1	Fly Ash	Use of Fuel	100	Collection, Storage. Packing and sold to actual user of filling in low lying area to maintain level.
2	STP	STP as manure	0.03	Used as manure for greenbelt development or sold to actual users.
3	Stationery	Office Work	0.01	Actual user.

Comments:

Management of fly ash shall be disposed off as per Flyash Notification.

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

- Not Any

G-2	Brief Note on LDAR proposed:

- Not Applicable

G-3	VOC emission sources and its mitigation measures

- Not Applicable

H	HEALTH & SAFETY
H-1	Details regarding storage of Hazardous chemicals (For storage of Solvents and spent solvent tanks)

-

Sr. No	Name Of Chemical	Capacity Of Tank	Number Of Tanks	Hazardous Characteristics Of Chemical
1	65% &	30 KL	2 (1 W + 1 S)	Toxic, Corrosive
2	23 % Oleum	30 KL	1	
3	70% Sulphuric Acid	15 KL	1	Toxic, Corrosive
4	98 % Sulphuric Acid	15 KL	1	Toxic, Corrosive
5	Aniline	15 KL	1	Toxic, Flammable
6	Spent Acid	30 KL	2(1 W + 1 S)	Toxic, Corrosive

Brief note on storage of Hazardous chemicals in Tanks

- Storage area should be cool, dry, well ventilated, and clean and protected from external heat source. • It should be remote from elevators, gangways or ventilating systems. • Ventilation must be sufficient to prevent accumulation of vapour pockets. All fan switches should be outside the storage area. • The building for the storage should be entirely of noncombustible construction and separate from other building. In case the storage is not in a different building it should be ground floor with at least two exists opening outside and separated from other parts of the building by fire resisting walls and floors. • Keep "emergency kits' handy and in proper working condition to control leakage and train workers in their use. • Appropriate facility for absorption through caustic soda/lime/soda ash solutions should be established and maintained in the event of leakage. The containers should not be immersed in same absorption media. • Self-breathing apparatus, gas mask and 'emergency kits' should be located at strategic points under working condition and to be easily accessible in the event of emergency. • Appropriate minimum safety distances as stipulated in the above mentioned rules have to be maintained from buildings or group of buildings or adjacent property.

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

Safety details of Hazardous Chemicals:

- Applicability of PESO : NA

Comments:

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

and they will abide by the requisite legal compliances with reference to storage and safety. SEAC has taken note of it.

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

-

Type of Process	Safety measures including Automation
Sulphonation Nitration	Closed system, Rupture disc, Safety Valve, Chlorine leak Detector and Emergency Handling Kit, Use of PPE, provision of scrubber. • PLC based Temperature & Cooling control system

H-3	Details of Fire Load Calculation

Total Plot Area:	1423
Area utilized for plant activity:	195
Area utilized for Hazardous Chemicals Storage:	130
Number of Floors:	G + 2
Water requirement for firefighting in KLD :	8600
Water storage tank provided for firefighting in KLD:	100000
Details of Hydrant Pumps:	1.5 HP
Nearest Fire Station :	Jashodanagar Cross Road 2.5 Km
Applicability of Off Site Emergency Plan:	Yes

H-4	Details of Fire NOC/Certificate:

Fire NOC Obtain Before applying CC&A.

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

-

Number of permanent Employee :	8 Nos
Number of Contractual person/Labour :	7 Nos.
Area provided for OHC:	20 Sqm
Number of First Aid Boxes :	5 Nos.

Nearest General Hospital :	Vatva
Name of Antidotes to be store in plant :	Universal antidote" (2 parts activated charcoal, 1 part tannic acid, and 1 part magnesium oxide), Sodium Hydro-Carbonate (4% Conc.), Milk, Lime Juice, Milk of Magnesia, Excartic Acid- 5%, NovesineEye Drops, Dexona, Avil. Atropine, Dizepam, Vitamin K, Milk of magnesia 110ml, Methylene Blue 10ml

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

2. 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].**

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

4. The National Ambient Air Quality Emission Standards issued by the Ministry vide G. S. R. No. 826 (E) dated 16th November, 2009 shall be complied with.

5. National Emission Standards for Organic Chemicals Manufacturing Industry issued by the Ministry vide G. S. R. 608 (E) dated 21/07/2010 and amended from time to time shall be followed.

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

7. The project proponent must strictly adhere to the stipulations made by the Gujarat Pollution Control Board, State Government and/or any other statutory authority.

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

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

10. PP shall not manufacture more than one product from proposed product list, at a given point of time as

per details submitted by PP.

11. PP shall not commission production plant till Consent to operate (CTO) shall be obtained by common spray dryer facility of M/s. Umiya Enviro project LLP for effluent evaporation.

12. **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 never store drum/barrels/carboys of incompatible material/chemical together.

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

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

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

WATER

13. Total water requirement for the project shall not exceed 64.02 KLD. Unit shall recycle 36 KLD of treated

waste water and boiler condensate etc. within premises. Hence, fresh water requirement shall not exceed 28.02 KLD and it shall be met through GIDC supply only. Prior permission from concerned authority shall be obtained for withdrawal of water.

14. The industrial effluent generation from the project shall not exceed 58.117 KLD.

15. 55.117 KLD, Industrial effluent from process and washing shall be treated in ETP followed by RO plant and then 22.117 KLD, RO reject shall be sent to common spray dryer facility of M/s. Umiya Enviro project LLP through GPS fitted tanker for evaporation. 33 KLD, RO permeate shall be reused back in process.

16. 3 KLD, boiler and cooling blow down shall be reused back for washing purpose within premises.

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

18. Domestic wastewater generation shall not exceed 2 KL/Day for proposed project and it shall be treated in STP. It shall not be disposed off through soak pit/ septic tank. Unit shall provide buffer water storage tank of adequate capacity for storage of treated waste water during rainy days.

19. Unit shall provide ETP and RO plant of adequate capacity.

20. The unit shall provide metering facility at the inlet and outlet of ETP and RO and maintain records for the same.

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

AIR:

22. Unit shall not exceed fuel consumption for Boiler, thermic fluid heater, HAG 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. PP shall use approved fuels only as fuel in boilers.

26. The fugitive emission in the work zone environment shall be monitored. The emission shall conform to

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

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

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

29. Regular monitoring of ground level concentration of PM10, PM2.5, SO2, NOx, HC, CO 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 [475 sq. Meter within Plant Premise i.e. 33 % of total plot area] as per the undertaking submitted before SEAC. Green belt shall be developed with native plant species that are significant and used for the pollution abatement as per the CPCB guidelines. It shall be implemented within 3 years of operation phase in consultation with GPCB.

OTHERS:

36. The project proponent shall carry out the activities (Provision of solar panels of 6 KW and rain water harvesting system(3 # of percolation well at Vinzol/ Vivekanand 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.

37. All the recommendations, mitigation measures, environmental protection measures and safeguards proposed in the EIA report of the project prepared by **M/s. B.S.Rana** 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:

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 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.

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

7.	SIA/GJ/IND2/59429/2020	**M/s. Aarti industries Limited (Unit IV)** Plot no. 41/2, GIDC Notified Industrial Estate, Jhagadia, Dist- Bharuch	EC-reconsideration

- This proposal was reconsidered in SEAC meeting dated 09.05.2022.
- The Project Proponent (PP) of the project informed regarding remaining absent during meeting dated: 09.05.2022 vide email and the reason of remaining **absent** is that their case is already heard by SEAC Committee members on dated 14.02.2022 meeting and this is duplicate entry generated by online Parivesh portal.

After deliberation, SEAC unanimously decided for not hearing this case as it is duplicate entry which is online generated by Parivesh portal.

8.	SIA/GJ/IND2/64595/2021	**M/s. Kay Pigments Plot No. C-255, GIDC Saykha, Taluka Vagra, District-Bharuch, Gujarat**	EC- Reconsideration

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
1.2. Proposal no.	SIA/GJ/IND2/64595/2021
1.3. Category of Project :	5 (f) – B1
1.4. Date of application :	29.01.2022
1.5. Documents Submitted by Project Proponent(PP)	EIA report, Form-2, EMP
1.6. TOR No. & Date :	SIA/GJ/84204/2021 dated

	04/05/2021
1.7. Technical expert / Environmental Consultant :	M/s. Envision Enviro Technologies Pvt. Ltd., Surat
1.8. SEAC Meeting No. and Date:	361st meeting dated 14.02.2022
1.9. Compliance of Existing EC & CCA	Not Applicable as fresh proposal

2) Project proponent has submitted EIA Report prepared by M/s. Envision Enviro Technologies Pvt. Ltd.; Surat based on the TOR issued by SEIAA.

3) This is a new unit for manufacturing of synthetic organic chemicals as mentioned below:

Sr. No.	Name of Product	CI No./ CAS No.	Quantity (MT/Month)	End use of Product
1	Pigment CPC Blue	-	300.0	Internal Consumption for the production of all product/sell to pigment & dyes manufacturer
2	Pigment Alpha Blue	Pigment Blue 15:0, 15:1,15:2	100.0	Master batch plastic manufacturers, paint industry & ink industry
3	Pigment Beta Blue	Pigment Blue 15:3, 15:4	100.0	Master batch plastic manufacturers, paint industry & ink industry
4	Reactive Turquoise Blue G	Reactive Blue 21	30.0	Textile, paper
5	Direct Turquoise Blue SBL	Direct Blue 86	30.0	Textile, paper
6	Pigment Epsilon Blue	Pigment epsilon 15.6	10.0	Paint industry & ink industry
7	Phthalimido CPC	68411-06-3	20.0	Additives for Pigment Blue 15:1, 15:2. Sell as well as captive
8	Monosulphonated CPC	28901-96-4	20.0	Additives for Pigment Blue 15:4. Sell as well as captive
		Total	610.0	

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

5) The proposal was considered in the SEAC video conference meeting dated 14.02.2022.

6) Project proponent (PP) and their Technical Expert remain present during video conference meeting.
7) 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.
8) 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 December-2019 to February-2020. Ambient Air Quality monitoring was carried out PM10, PM2.5, SOx, NOx, VOCs, HC, HCl and NH3 at Eight locations, including the project site. Values conform to the prescribed standards for Ambient Air Quality. The incremental Ground Level Concentration (GLC) has been computed using "AERMOD". Incremental GLC's for all parameters remain within 1 km from the project site. The resultant concentrations are within the NAAQS. The modelling study proved that the air emissions from the proposed plant would not affect the ambient air quality of the region in any significant manner. The ambient air quality around the proposed project site will remain within the National Ambient Air Quality Standards (NAAQS).
9) Risk assessment including prediction of the worst-case scenario and maximum credible accident scenarios has been carried out. The detailed proposed safeguard measures including On-Site / Off-Site Emergency Plan has been covered in the RA report.
10) 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.
11) **After detailed discussion, it was decided to consider the proposal only after submission of the following documents:**
    1. Revised Layout plan showing various components, location of plant machineries and other utilities.
    2. Provision of Sand Buckets, DCP type fire extinguishers and neutralizing agent in case leakage from Oleum 23% and Chloro Sulphonic Acid Tank.
    3. Provision of spare tank in case leakage from Oleum 23% and Chloro Sulphonic Acid Tank.
    4. Storage of Raw Materials as per compatibility chart.
12) PP submitted above query reply through PARIVESH portal for SEAC VC meeting dated 14.02.2022.
13) This case was reconsidered in SEAC meeting dated **09.05.2022** and technical expert of PP, M/s. Envision Enviro Technologies Pvt. Ltd and PP remain present during meeting.
14) Committee noted that PP presented revised layout plan, revised fire and safety details, details of provision of spare tank for oleum and storage of raw material as per compatibility chart.
15) Committee found reply submitted by PP was satisfactory.
16) PP submitted revised salient features of water, air and hazardous waste management as under,

Sr. no.	Particulars	Details

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

Total Project Cost
22.25 Crores

Break-up of proposed project Cost:

Sr. No	Description	Cost (Rs. in Lacs)
1	Land & Site Development	200.00
2	Building	175.00
3	Plant & Machinery	1,280.00
4	Environmental protection measures	529.20
5	Miscellaneous	40.80
	Total	2,225.0

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

S. No	Attribute	Detail	Capital Cost (Rs. In Crores)	Operating Cost (Rs. In Crores/ Annum)	Maintenance Cost (Rs. In Crores/ Annum)	Total Recurring Cost (Rs. In Crores/ Annum)
1	Air	Process & utility stacks	0.5000	0.1176	0.0216	0.1392
2	Water	ETP, STP, pipeline for effluent disposal in CETP, rain water harvesting	3.7496	0.7188	0.1272	0.8460
4	Hazardous Management	Disposal of waste to TSDF	0.0500	0.0204	0.0132	0.0336
5	AWH Monitoring	Monitoring cost for air, water & noise	-	0.2748	0.0504	0.3252
6	Fire & Safety	Fire hydrant, fire extinguishers	0.4150	0.0132	0.1092	0.1224
7	Ecology & Biodiversity	Greenbelt development, conservation of schedule-I fauna	0.0124	0.0024	0.0108	0.0132
8	Occupational Health	Medical check-up, provision of PPE's to workers	0.1150	0.0122	0.0916	0.1104
		Total [A]	4.8420	1.1594	0.4240	1.5900
		CER [B]	0.4500	-	-	-

Grand Total	5.2920	1.1594	0.4240	1.5900

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.

Summary

Cost of Project in Crores per Annum:	22.25
EMP Capital Cost in Crores per Annum and Percentage:	5.292 & 23.7%
EMP Recurring Cost in Crores per Annum and Percentage:	1.59 & 7.14 %

-

A-3 Details of Corporate Environmental Responsibility [CER]. (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
2%	0.45

Brief note on proposed activities:

Sr. No.	Area	CER –Proposed Planned Activities	Village	Year wise budget (INR in Lacs) for CER Activities			
				1st Year	2nd Year	3rd Year	Grand Total
1	Infrastructure	Contribution for Installation of RO plant for village (Rs. 5.5 Lac x 3 Nos.)	Kothia, Bhesram, Saykha,	5.5	5.5	5.5	16.5
		Solid waste Management: Organic Waste Converter (OWC) of 300 kg (Rs. 3.5 lacs) in villages and training to use it and behaviour change awareness Providing dust bins (Dry & Wet) for segregation of waste for Rs.	Kothia, Bhesram, Saykha,	4.3	4.3	4.3	12.9

			80,000/-					
	2	Health	Providing X ray machine in PHC of Rs. 2,85,000/-.	Bhesram, Kothia, Saykha,	0	2.85	0	2.85
			Donation of Fogging Machines in village (Four Units of Fogging Machines Rs. 25,000/- per unit.)		0.25	0.25	0.25	0.75
	3	Environment	Distribution of tree gaud, sapling and pots; plantation to outside of roads (Rs. 750 per sapling x 640)	Bhesram, Amleshwar, Saykha,	1.8	1.5	1.5	4.8
			Installation & maintenance of solar street light (Rs. 18,000 x 40 Nos.)	Bhesram, Amleshwar, Saykha,	3	2.7	1.5	7.2
			Year wise Total (INR in Lacs)		14.85	17.1	13.05	45

B	Land / Plot ownership details: GIDC/DEE(Road)/BRH/66 dated 27.02.2019
B-1	Plot area Proposed 3,081.06 m^2

B-2

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

- Company will store its raw material in Bags,Drums and Tanks.

Sr. no	Name of Chemical	Capacity of Tank (MT)	Number of Tank	Hazardous Characteristics of Chemical
Non PESO				
1	"Di chloro Tolune / O-Nitro Toluene "	20	1	Flammable
2	Spent Acid From Alpha Blue (25-30%)	20	1	Toxic and corrosive
3.	Suphuric Acid (70%)	20	1	Toxic and corrosive
4.	Chlorosulphuric Acid	5	2 (1 - Spare Tank)	Toxic and corrosive
5.	Oleum 23%	5	2 (1 - Spare Tank)	Toxic
6	Sulphuric Acid 98%	10	1	Toxic and corrosive
7	Ammonium Carbonate	12	1	Toxic and corrosive

- All other RM will be stored in Bags, Drums, Tanks.
- Company will provide 45 m^2 for storage of hazardous waste.
- Area proposed for ETP is 210 m^2.

Sr. No.	Particular	Storage Criteria considered MT/1 m^2)	Inventory Required (MT)	Area Required (m^2)	Area Available (m^2)	Storage on floor
1	Finished Product storage area(3 days inventory)	1	61.000	61	80	Ground floor
2	Raw material Storage area (3 days inventory)	1	88.929	98	140	G+1
3	Raw material Storage (3 days inventory)	2	36.550	18		
4	Tank storage (Non-PESO) - Storage at a	1	76.5	79	94	Ground floor

	time					
5	Hazardouse waste (90days for ETP sludge)	1	18	30	45	Ground floor

- Hence, adequate area will be available for the manufacturing of proposed products.

Comments:

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

B-3 Green belt area

	Total (Sq. meter)
Area in Sq. meter	1,017 m^2

Comments:

The condition shall be given that -

The PP shall develop green belt (1017 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.

C Employment generation

Proposed
100 nos.

D WATER

D-1 Source of Water Supply

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

	Source of Water will be GIDC Water Supply
	Status of permission from the concern authority.(GIDC, CGWA etc.) • Unit has permission of GIDC for 16 KL vide allotment letter no. GIDC/DM/CG/ Ank/ALT/224 dated 11/02/2016. Permission will be obtained for additional quantity.
D-2	Water consumption (KLD)

S. No.	Particular	Water Consumption (KL/d)	Source of Water
1	Domestic	5.0	Fresh
2	Gardening	4.0	Treated Sewage from STP
3	Industrial		
a	Process & Washing	62.3	Fresh
		83.7	ETP RO Permeate
		26.7	DM Permeate*
b	Boiler	42.4	DM Permeate*
c	Cooling	1.7	Fresh
d	Scrubber	14.0	Fresh
e	DM Plant	76.80	Fresh
	Total Industrial	238.50	
	Industrial Fresh Water	154.80	
	Industrial Recycled Water	83.70	
	Total Water Required	247.50	
	Total Fresh Water	159.80	
	Recycled Water	87.70	

*: Not considered in total water.

	Brief Note on worst case scenario for water consumption: ➢ Total Water Requirement of the proposed project will be 247.5 KLD, out of which Water Consumption for Process and washing will be 172.7 KLD. ➢ Water consumption for process and washing in worst case scenario will be 172.7 KLD individual production capacity is considered.
	-

Summary of water requirement	Quantity KLD	Remarks
Total water requirement for the project (A)	247.5	GIDC Water Supply Authority
Quantity to be recycled (B)	87.7	
Total fresh water requirement (C)	159.8	

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 Wastewater for Reuse with Quantity in KL/d	Application Area with Quantity in KL/d	Characteristics of Wastewater to be Reused	Remarks Regarding Feasibility to Reuse i.e.
From ETP RO – 83.7	To Process & Washing – 83.7	COD: <50 mg/L BOD: <10 mg/L TDS: <500 mg/L TSS: <10 mg/L	Matching input parameters for process & washing
From STP – 4.0	To greenbelt – 4.0	COD: <50 mg/L BOD: <10 mg/L TSS: <100 mg/L	Confirming PCB norms for on land irrigation

In case of no reuse/recycle of wastewater, Give brief note on justification as why no reuse/recycle.
Not applicable – Treated industrial effluent (83.7 KLD) will be reused back in process and washing after treatment in ETP and treated sewage water (4 KLD) will be reused for green belt development after treatment in STP.

D-3 Waste water generation (KLD)

S. No.	Particular	Wastewater Generation (KL/d)	Mode of Disposal
1	Domestic	4.0	To Gardening after treatment in STP
2	Industrial		
a	Process & Washing	101.4	30 KL/d RO reject to CETP, Saykha and 83.7 KL/d RO permeate to reuse in process after treatment in ETP followed by RO.
b	Boiler	2.4	
c	Cooling	0.2	
d	Other - DM Reject	7.7	
e	Other - Scrubber bleed from boiler & spray dryer	2.0	
f	Other - Scrubber bleed from CPC blue	20	Ammonium carbonate. 10 KL to reuse in process rest 10 KL - to be sold/ disposed as hazardous waste
g	Other - Scrubber bleed from Turquoise Blue G	0.7	HCl (12-15%) - By product to be sold / disposed as hazardous waste
	Total Industrial	134.4	
	Total	138.4	

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

- Total Waste Water Generation of the proposed project will be 138.4 KLD, out of which Waste Water Generation from Process will be 101.4 KLD. It will be treated in ETP followed by RO with other streams and RO permeate (83.7 KLD) will be reused in process and washing.

Brief justification in case of no process effluent generation or no industrial effluent generation or no high concentration effluent generation from proposed

	project (Whichever is applicable). ➢ Not Applicable.
D-4	Mode of Disposal & Final meeting point (Existing and Proposed)

Existing and Proposed

Domestic:	Domestic wastewater will be treated in STP and reused for gardening.
Industrial:	➢ RO Reject of 30 KL/d will be sent to CETP, Saykha for further treatment and 83.7 KL/d RO permeate will be process. ➢ Out of 20 KL/d of ammonium carbonate (scrubber bleed) 10 KL/d to be reused in process. 10 KL/d selling to actual reuser under Rule-9/Common Incineration/ Pre-processor/ Co-processor ➢ 0.7 KL/d of 12-15% HCl (scrubber bleed) selling to actual reuser under Rule-9/Common Incineration/ Pre-processor/ Co-processor.

-

Clearly mention about final disposal

D-5	Treatment facilities

For Domestic waste water:

Capacity of STP: 5 KLD

Reuse in gardening of treated sewage after treatment in STP.

Sr. No.	Parameters	STP Inlet	MBBR Inlet	STP Outlet
1	Flow (KL/d)	4.0	4.0	4.0
2	Design Flow (KL/d)	5.0	5.0	5.0
3	pH	6.5-8.5	6.5-8.5	6.5-8.5
4	TSS (mg/L)	200-300	30-45	<100
5	BOD (mg/L)	250-300	210-255	<10
6	COD (mg/L)	625-750	530-640	<50

For Industrial waste water: Treatment facility within premises with capacity

[In-house ETP (Primary, Secondary, Tertiary), MEE, Stripper, Spray Dryer, STP etc.

Treatment scheme including segregation at source. (Give Characteristics of each stream i.e. COD, BOD, TDS etc.) In case of stream segregation, Separate ETP (ETP-1, ETP-2….) for each stream shall be proposed.

- Capacity of ETP consisting of primary, secondary treatment : 113.7 KLD
- Capacity of RO: 113.7 KLD

Parameter	Unit	Low COD Effluent	After Primary Treatment	1st Stage Aeration	2nd Stage Aeration	After Tertiary Treatment + RO feed	RO permeate to Reuse in	RO reject to CETP as Concentrated Stream
Low COD Streams	KL/d	113.70	113.70	113.70	113.70	113.70	83.70	30.00
pH	--	6.5-8.5	6.5-8.5	6.5 - 8.5	6.5-8.5	6.5-8.5	6.5-8.5	6.5-8.5

COD	mg/L	4,500-5,000	4,050-4,500	970-1,080	95-110	<100	<50	<250
BOD (at 20°C)	mg/L	1,700-1,750	1,615-1,665	380-400	35-40	<30	<10	<100
TDS	mg/L	3,000-4,000	3,000-4,000	3,000-4,000	3,000-4,000	3,000-4,000	<500	9900-13,800
Suspended Solids	mg/L	400-500	<100	<100	<100	<50	<10	<100

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.

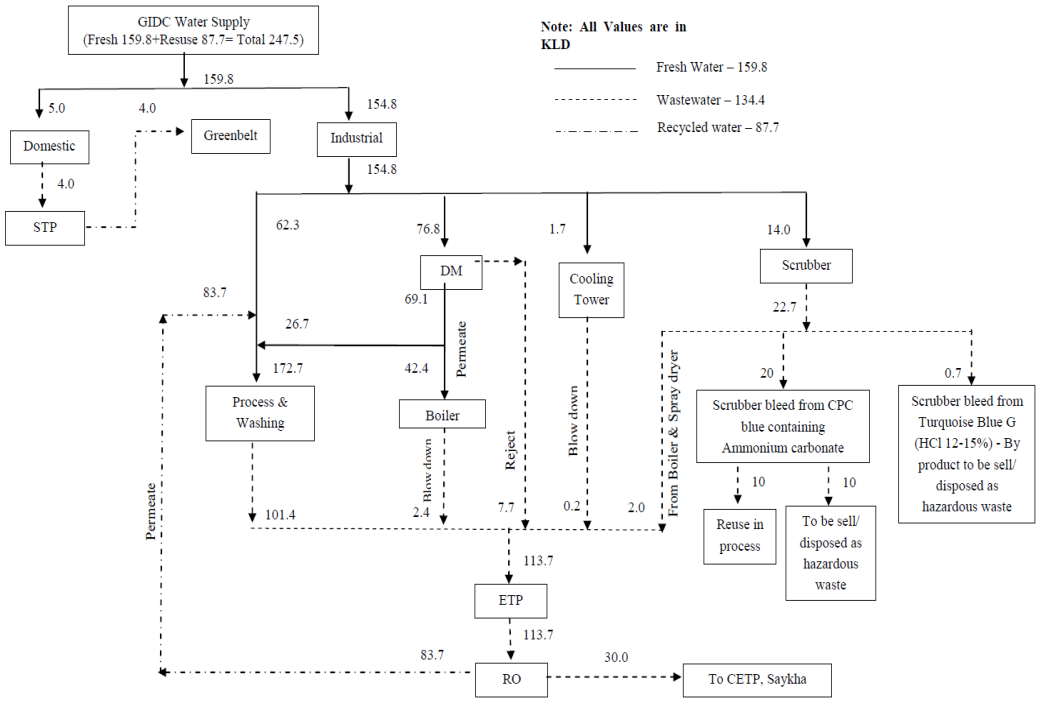
- Total 134.4 KLD industrial effluent will be generated. Out of which 101.4 KLD wastewater from process and washing, 2.4 KLD Boiler Blow down, 0.2 cooling tower blow down,7.7 KLD DM Reject, 2 KLD Scrubber bleed from boiler will be treated in ETP (113.7 KLD) followed by RO.
- RO Reject of 30 KL/d will be sent to CETP, Saykha for further treatment and 83.7 KL/d RO permeate will be process.
- Out of 20 KL/d of ammonium carbonate (scrubber bleed) 10 KL/d to be reused in process. 10 KL/d selling to actual reuser under Rule-9/Common Incineration/ Pre-processor/ Co-processor
- 0.7 KL/d of 12-15% HCl (scrubber bleed) selling to actual reuser under Rule-9/Common Incineration/ Pre-processor/ Co-processor.

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

- Not applicable

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)
	➢ CETP, Saykha
	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.
	➢ Membership of Saykha CETP has been obtained. ➢ GIDC/BRH/DEE/DRG/786 dated 16.12.2021.

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



Comments,

1. The industrial effluent generation from the project shall not exceed 134.40 KLD.

2. 113.70 KLD, Industrial effluent from process, utility and washing shall be treated in ETP followed by RO plant and then 30 KLD, RO reject shall be sent to CETP of GIDC Saykha for further treatment and disposal. 83.70 KLD, RO permeate shall be reused back in process.

3. 20.70 KLD of scrubber exhausting media from which 10 KLD of CPC blue process scrubber shall be reused back in process, 10 KLD from CPC blue process scrubber and 0.7 KLD from Turquise blue-G process scrubber shall be sold to end users having Rule-9 permission as per Hazardous waste Rules'2016.

4. Unit shall send wastewater to CETP of GIDC Saykha only after complying with inlet norms prescribed by GPCB and ensuring content of effluent for COD/VOC so as not to get air borne during evaporation in order to achieve no adverse impacts on Environment and Human Health.

5. Domestic wastewater generation shall not exceed 4 KL/Day for proposed project 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.

6. Unit shall provide ETP and RO plant of adequate capacity.

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

Sr. no.	Fuel Based Heat Energy	Proposed Fuel	Calorific Value	Working Hours (Worst Case)	Quantity of Fuel MT/Day
1	Boiler-1 (3 TPH)	Natural Gas or Imported Coal	Natural Gas-10,000 KJ/SCM & Imported Coal: 5,500 Kcal/kg	24 hr	1.85 or 7.80
2	Boiler-2 (0.8 TPH)	Natural Gas or Imported Coal			0.5 or 2.0
3	Boiler-3 (0.8 TPH)	Natural Gas or Imported Coal			0.5 or 2.0
4	TFH - 1 (10 lac kcal/h)	Natural Gas or Imported Coal			1.9 or 4.5
5	TFH - 2 (10 lac kcal/h)	Natural Gas or Imported Coal			1.9 or 4.5
6	Spin Flash Dryer for drying of product no. 1 (500 kg/h)	Imported Coal			10.9
7	Spin Flash Dryer for drying of product no. 2 (200 kg/h)	Imported Coal			3.5
8	Spin Flash Dryer for drying of product no. 3 (200 kg/h)	Imported Coal			2.7
9	Spray Dryer for drying of product no. 4 & 5 (100 L/h)	Natural Gas or Imported Coal			0.07 or 0.2

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)

Proposed

Sr. no.	Source of emission With Capacity	Stack Height (meter)	Type of Fuel	Quantity of Fuel	Type of emissions i.e. Air Pollutants	Air Pollution Control Measures (APCM)
1	Boiler-1 (3 TPH)	30	Natural Gas or Imported Coal	2,430 SCM/d or 7.80 MT/d	PM SO_2 NO_x	Adequate stack height or Cyclone Separator + Bag Filter + Water Scrubber + Adequate stack height
2	Boiler-2 (0.8 TPH)	30	Natural Gas or Imported Coal	650 SCM/d or 2.0 MT/d	PM SO_2 NO_x	Adequate stack height or Cyclone Separator + Water Scrubber + Adequate stack height
3	Boiler-3 (0.8 TPH)	30	Natural Gas or Imported Coal	650 SCM/d or 2.0 MT/d	PM SO_2 NO_x	Adequate stack height or Cyclone Separator + Water Scrubber + Adequate stack height
4	TFH - 1 (10 lac kcal/h)	30	Natural Gas or Imported Coal	2,500 SCM/d or 4.5 MT/d	PM SO_2 NO_x	Adequate stack height or Cyclone Separator + Bag Filter + Water Scrubber + Adequate stack height
5	TFH - 2 (10 lac kcal/h)	30	Natural Gas or Imported Coal	2,500 SCM/d or 4.5 MT/d	PM SO_2 NO_x	Adequate stack height or Cyclone Separator + Bag Filter + Water Scrubber + Adequate stack height
6	Spin Flash Dryer for drying of product no. 1 (500 kg/h)	30	Imported Coal	10.9 MT/d	PM SO_2 NO_x	Adequate stack height or Cyclone Separator + Bag Filter + Water Scrubber + Adequate stack height
7	Spin Flash Dryer for drying of product no. 2 (200 kg/h)	15	Imported Coal	3.5 MT/d	PM SO_2 NO_x	Cyclone Separator + Bag Filter + Water Scrubber + Adequate stack height
8	Spin Flash Dryer for drying of product no.	15	Imported Coal	2.7 MT/d	PM SO_2 NO_x	Cyclone Separator + Bag Filter + Water Scrubber + Adequate stack height

		3 (200 kg/h)					
	9	Spray Dryer for drying of product no. 4 & 5 (100 L/h)	15	Natural Gas or Imported Coal	92 SCM/d or 0.2 MT/d	PM SO_2 NO_x	Adequate stack height or Cyclone Separator + Water Scrubber + Adequate stack height

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

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	Reaction vessel used for manufacturing of product no. 1	NH_3	11	Two stage water scrubber followed by adequate stack height
2	Reaction vessel used for manufacturing of product no. 4	HCl SO_2	11	Two stage water scrubber followed by adequate stack height

-

Note:

- Details of gaseous raw materials used in proposed project
- None
- Estimation of process gas emission (Product wise and Total)

No.	Name of Reactor	Process gas	Quantity
1	Recator-1	Ammonia and carbon dioxide	Ammonia- 105 MT/Month & carbon dioxide- 195 MT/month
2	Reactor-2	SO_2 HCl gas	7.5 MT/month

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

No.	Name of Reactor	Process gas	Scrubbing Media	Quantity (KL/day)
1	Reactor-1	Ammonia and carbon dioxide	Water	10
2.	Reactor-2	SO_2 HCl gas	Water	0.42

- Yearly generation of all bleed liquors (MT/KL per Annum) as mentioned above and its sound management in HW matrix.

No.	Name of Reactor	Process gas	Bleed liquor	Quantity (MT/Annum)
1	Reactor-1	Ammonia and carbon dioxide	Scrubber bleed containing Ammonium Carbonate	243
2.	Reactor-2	SO_2 HCl	Scrubber bleed	7200

			gas	containing HCl (12-15%)		

E-4	Fugitive emission details with its mitigation measures. • To control fugitive emissions in form of particulate matter following measures will be adopted to ensure compliance and further reductions wherever possible: • The coverage of greenbelt around the plant consisting of air pollution capturing species also acts as natural barrier to stop carrying of dust along with the wind current. • Manual handling of raw material shall be avoided as far as possible. • Proper ventilation shall be provided in storage area. • Good housekeeping shall be maintained in the plant. Comments for E2, E3 & E4: 7. 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. 8. 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, D G set, 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 Transboundary Movement) Rules 2016.
F-1	Hazardous waste management matrix

S. No.	Name of Waste	Category & Schedule	Source	Quantity (MT/Annum)	Mode of Disposal
Hazardous Waste					
1	Used/ Waste Oil	Schedule I Category 5.1	Plant Machinery	0.02	Collection, Storage, Transportation and sale to authorized registered recycler.
2	Chemical Sludge from wastewater treatment	Schedule I Category 35.3	ETP	71.50	Collection, Storage and disposal into TSDF site.
3	Empty barrels /containers/liners contaminated with hazardous chemicals	Schedule I Category 33.1	From raw material storage area	552.0	Collection, storage, transportation and sell to authorized decontamination facility

	/wastes				
4	Scrubber bleed from Turquoise Blue G containing HCl (12-15%)	-	From scrubber attached with reactor vessel of Reactive Turquoise Blue G	243	Collection, Storage, Transportation & disposal by selling to actual reusers Rule-9/Common Incineration/ Pre-processor/ Co-processor
5	Spent Solvent	Schedule I Category 26.4	From reactor vessel of Pigment CPC Blue and Pigment Beta Blue	12,006	Collection, Storage and reuse in process
6	Scrubber bleed containing Ammonium Carbonate	-	From reactor vessel of Pigment CPC Blue	3,600	Collection, Storage, Transportation & Sell to authorized recycler
				3,600	Collection, Storage, Transportation & disposal by selling to actual reusers Rule-9/Common Incineration/ Pre-processor/ Co-processor
7	Spent sulphuric acid (12 to 15%)	Schedule I Category 26.3	From reactor vessel of Pigment CPC Blue	9,000.00	Collection, Storage, Transportation to common MEE/ will be utilized to manufacture $MgSo_4$/ $FeSo_4$ within premises /coprocessing
8	Spent Sulphuric Acid (25-30%)	Schedule I Category 26.3	From reactor vessel of Pigment Alpha Blue	15,600.00	Maximum Reuse in CPC blue is 7200 MT/Annum. Otherwise Collection, Storage, Transportation & disposal by selling to actual reusers Rule-9/ will be utilized to manufacture $MgSo_4$/ $FeSo_4$ within premises /Common Incineration / In house ETP treatment/ Pre-processor/ Co-processor.
9	Spent sulphuric acid (7-30%)	Schedule I Category 26.3	From reactor vessel of Reactive Turquoise Blue G, Direct Turquoise Blue SBL, Monosulphonated CPC & Phthalimido CPC	12,477.60	Collection, Storage, Transportation & disposal by selling to actual reusers Rule-9/ will be utilized to manufacture $MgSo_4$/ $FeSo_4$ within premises /Common Incineration/ Pre-processor/ Co-processor

- Comments:

6) 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.
7) 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)

Details of Membership letter no. & Date with spare capacity of the Common Facility.

- Membership of TSDF will be obtained.

F-3	Details of Non-Hazardous waste & its disposal (MSW and others)	--

-

S. No.	Name of Waste	Category & Schedule	Source	Quantity (MT/Annum)	Mode of Disposal
10	Fly Ash	-	Boiler	986.00	Collection, Storage, Transportation & Sell to brick manufacturer.
11	STP Sludge	-	From STP	0.6	Used as manure within plant

- *Comments:*

4) Management of Flyash storage and its disposal shall be carry out as per Flyash notification.
5) STP sludge shall be used as manure within premises.

G	Solvent management, VOC emissions etc.

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

Name of Product	Solvent Required in Process (MT/Month)		Recovered (MT/Month)		% Recovery	Mode of Disposal	Loss (MT/Month)	Technique used
Pigment CPC Blue	DCT Dichloro Toluene /ONT O-Nitro Toluene	660.0	Recovered DCT Dichloro Toluene /ONT O-Nitro Toluene	654.0	99.1	Reuse in process	6.0	Vacuum distillation
Pigment Beta Blue	Butyl Alcohol	350.0	Recovered Butyl Alcohol	346.5	99.0	Reuse in next batch	3.5	Steam distillation/ azeotropi

	c
	For the proposed production only three different solvent will be used namely Di chloro Toluene, O-Nitro Toluene & Butyl Alcohol which shall be recovered and reused within process.
G-2	Brief Note on LDAR proposed:
ii	• Identify the volatile organic 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.
G-3	VOC emission sources and its mitigation measures
	The VOC emission in unit at different stages of solvent handling such as solvent storage, loading, unloading. The fugitive emissions of organic chemicals and VOCs mainly occur due to tank breathing losses, Leaking pipe fitting and valves, during maintenance operations. • The fugitive emissions in terms of handling losses are reduced by proper storage and handling. • Hazardous chemicals shall be stored as per standard criteria. • Periodically monitoring shall be carried out as per the monitoring plan. • Proper ventilation in storage & production area shall be provided and all materials shall be stored in suitable packing to prevent contamination of air due to particulates & volatile emissions from storage container & area. • Enclosed system & efficient procedures for materials charging shall be provided. SOP's for start-up, shut down, operation & maintenance shall be established & maintained in all relevant area of works.
H	SAFETY details
H-1	Details regarding storage of Hazardous chemicals (For tank storages only including spent acid and spent solvent tanks

Sr. no	Name of Chemical	Capacity of Tank (MT)	Number of Tank	Total Qty. to be store (MT)
Non PESO				
1	"Di chloro Tolune / O-Nitro Toluene "	20	1	20
2	Spent Acid From Alpha Blue (25-30%)	20	1	20
3.	Suphuric Acid (70%)	20	1	20
4.	Chlorosulphuric Acid	5	2 (1 -Spare Tank)	5

5.	Oleum 23%	5	2 (1 -Spare Tank)	5
6.	Sulphuric Acid 98%	10	1	10
7	Ammonium Carbonate	12	1	10

Brief note on storage of Hazardous chemicals in Tanks

- Non-PESO- 9. Nos

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

Safety Measures for Drum Storage area:

- ✓ Safety boards should be displayed
- ✓ Good ventilation must be provided.
- ✓ Provision of Neutralizing Agent
- ✓ Safety shower should be provided in the vicinity of storage and handling area.
- ✓ Electrical wiring should be made of acid-resistant insulation and encased in rigid metal or PVC conduits.
- ✓ Material of pumps, valves, pipes should be acid/corrosion proof.
- ✓ Level indicators & pressure relief valves should be provided
- ✓ Use dry chemical or carbon dioxide extinguishing equipment to combat the fire.
- ✓ Fire hydrant system shall be installed.
- ✓ Flame proof Electrical fittings shall be provided at flammable storage area.
- ✓ Stored away from the plant and safe distance shall be maintained.
- ✓ Fencing, caution note, hazardous identification board should be provided.
- ✓ Authorized person permitted in storage tank area and register will be maintained.

Safety details of Hazardous Chemicals:

Type of Hazardous Chemicals	Safety measures
Tank Farm Area	✓ Dyke will be provided to storage tank to collect leakage/spillage ✓ Overflow line will returned to the storage tank or pump on-off switch provide near day tank. ✓ Provision of Fire Extinguishers /fire fighting system. ✓ MSDS and SOP will be provided. ✓ Any accidentally spilled acid is to be collected in spill tanks and neutralized (Lime or soda ash) properly before disposal in the ETP. ✓ Static earthing will be provided ✓ Lightening arrestor. ✓ Trained and experience operators. ✓ NFPA label and content will displayed. ✓ Provision of wind sock to identify wind

			direction. ✓ Flameproof Electrical installation done. ✓ Prohibition of Unauthorized person. ✓ Tank, valve, pipeline will be checked and maintain, in good condition. ✓ Level indicator will be provided. ✓ Provision of Proper Ventilation and PPE ✓ SOP will be prepared and implemented for loading and unloading of chemicals. ✓ Spare tank for Oleum and Chlorosulphonic acid will be provided	
		Storage & handling of fuel, raw material, hazardous waste & products	• Paved surface with spillage collection shall be provided in: ✓ Chemical storage area ✓ Production area ✓ Hazardous waste storage area • Spillage shall be cleaned or neutralized with suitable media like Lime or soda ash, etc. • Ensure use of appropriate PPEs while cleaning spillages. • Spraying of chemicals to avoid odour. • Provision of proper ventilation in storage & production • Storage of materials shall in suitable packing to prevent contamination of air & volatile emissions. • Covering open area with either greenbelt or paved surface to avoid dust during transportation within plant. • Installation of PLC SCADA System. • Installation of smoke alarms/detectors • Use of high quality electrical items • Use of non sparking tools in highly flammable liquid storage area Provision of: • Fire Extinguishers/fire fighting system • Closed feed system • Displaying MSDS and SOP at appropriate place • Periodic Inspection of flanges/ ferrule joints • Acid proof flooring • Provision of earthing • Only trained and experience operators shall be allowed in tank farm area. • Avoid manual handling of hazardous waste, chemicals & acid. • Ensure use of appropriate PPEs • Provision of Close feed system.	
		Applicability of PESO: Not Applicable <u>Comments:</u> 3. 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, Sulphonation, Chlorination process, Bromination Reaction etc.)

Type of Process	Safety measures including Automation
Sulphonation Process	Sub-system is checked periodically Reaction column temperature data will be regularly monitored Provision of Temperature indicators. Cooled/Chilled water circulation arrangement to control exothermic reaction parameters PLC based SCADA process controls and operation of plant will be installed. SOP will be prepared and operators will be trained for the same.

H-3 Details of Fire Load Calculation

Total Plot Area:	3,081.06 m^2
Area utilized for plant activity:	4,525 m^2
Area utilized for Hazardous Chemicals Storage:	314 m^2
Number of Floors:	4
Water requirement for fire fighting in KLD :	15
Water storage tank provided for firefighting in KLD:	150 Underground Proposed
Details of Hydrant Pumps:	Yes, Main Electric pump - 1 No. 1620 LPM and 70 m head Diesel Driven pump - 1 No. 1620 LPM and 70 m head Jockey Pump - 1 No. 180 LPM and 70 m head
Nearest Fire Station :	SEZ Fire Station
Applicability of Off Site Emergency Plan:	Applicable

Comments:

3) 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 150 KL. SEAC found it as per the requirement.

<table>
<tr><td>H-4</td><td>Details of Fire NOC/Certificate:</td></tr>
<tr><td></td><td>For proposed unit, fire NOC shall be obtained.</td></tr>
<tr><td>H-5</td><td>Details of Occupational Health Centre (OHC):</td></tr>
<tr><td></td><td>
<table>
<tr><td>Number of permanent Employee :</td><td>100</td></tr>
<tr><td>Number of Contractual person/Labour :</td><td>00</td></tr>
<tr><td>Area provided for OHC:</td><td>30 m^2</td></tr>
<tr><td>Number of First Aid Boxes :</td><td>5</td></tr>
<tr><td>Nearest General Hospital :</td><td>Bharuch General Hospital – 19.7 km</td></tr>
<tr><td>Name of Antidotes to be store in plant :</td><td>Milk, Milk of Magnesia, lemon water, Ethanol, Pyridoxine</td></tr>
</table>
<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.
</td></tr>
</table>

17) 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:

<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. Project proponent (PP) shall submit six monthly compliance report of Environmental Clearance without fail and the same shall be critically assessed by the regulatory authority.

2. 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**].

3. PP shall obtain consent to operate for proposed project from GPCB after CETP of GIDC Saykha shall obtain consent to operate from GPCB for full-fledged capacity of CETP.

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. 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.

7. 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.

8. 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.

9. The project proponent must strictly adhere to the stipulations made by the Gujarat Pollution Control Board, State Government and/or any other statutory authority.

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

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

12. PP shall install Ammonical nitrogen meter and TOC meter at final out of ETP which is to be discharged into CETP of GIDC Saykha and regularly maintain record for the same.

13. **Safety & Health:**

    a) PP shall obtain PESO licence for hazardous chemicals of proposed project.

    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 a spare tank with emergency transfer system and bund/ dyke wall to Oleum storage tank.

    l) Unit shall provide water sprinkler to ammonia storage /cylinder area.

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

WATER

14. Total water requirement for the project shall not exceed 247.50 KLD. Unit shall recycle 87.70 KLD of treated waste water and boiler condensate etc. within premises. Hence, fresh water requirement shall not exceed 159.80 KLD and it shall be met through GIDC 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 134.40 KLD.

16. 113.70 KLD, Industrial effluent from process, utility and washing shall be treated in ETP followed by RO plant and then 30 KLD, RO reject shall be sent to CETP of GIDC Saykha for further treatment and disposal. 83.70 KLD, RO permeate shall be reused back in process.

17. 20.70 KLD of scrubber exhausting media from which 10 KLD of CPC blue process scrubber shall be reused back in process, 10 KLD from CPC blue process scrubber and 0.7 KLD from Turquise blue-G process scrubber shall be sold to end users having Rule-9 permission as per Hazardous waste Rules'2016.

18. Unit shall send wastewater to CETP of GIDC Saykha only after complying with inlet norms prescribed by GPCB and ensuring content of effluent for COD/VOC so as not to get air borne during evaporation in order to achieve no adverse impacts on Environment and Human Health.

19. Domestic wastewater generation shall not exceed 4 KL/Day for proposed project 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.

20. Unit shall provide ETP and RO plant of adequate capacity.

21. The unit shall provide metering facility at the inlet and outlet of ETP and RO and maintain records for the same.

22. Proper logbooks of ETP and RO; reuse/ recycle of treated/ untreated effluent; chemical consumption in effluent treatment; quantity & quality of treated effluent discharge to CETP; 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, thermic fluid heater, spray dryer 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. PP shall use approved fuels only as fuel in boilers.

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

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

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

29. 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.

30. Regular monitoring of ground level concentration of PM10, PM2.5, SO2, NOx, HC, CO, NH3 and VOCs shall be carried out in the impact zone and its records shall be maintained. Ambient air quality levels shall not exceed the standards stipulated by the GPCB. If at any stage these levels are found to exceed the prescribed limits, necessary additional control measures shall be taken immediately. The location of the stations and frequency of monitoring shall be decided in consultation with the GPCB.

HAZARDOUS / SOLID WASTES:

31. All the hazardous/ solid waste management shall be taken care as per the point no. 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 [1017 sq. Meter within Plant Premise i.e. 33 % of total plot area] as per the undertaking submitted before SEAC. Green belt shall be developed with native plant species that are significant and used for the pollution abatement as per the CPCB guidelines. It shall be implemented within 3 years of operation phase in consultation with GPCB.

OTHERS:

37. The project proponent shall carry out the activities (Contribution for Installation of RO plant for village, Solid waste Management, Organic Waste Converter (OWC) of 300 kg and providing dust bins Installation & maintenance of solar street light etc at Kothiya, Bherasam, Saykha and Amleshwar village) proposed under CER and it shall be part of the Environment Management Plan (EMP) as per the MoEF&CC's OM no. F. No. 22-65/2017-IA.III dated 30.09.2020. This shall be monitored and the monitoring report shall be submitted to the regional office of MoEF&CC as a part of half-yearly compliance report and to the District Collector. The monitoring report shall be posted on the website of the project proponent.

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

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 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.

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

9.	SIA/GJ/IND2/66459/2021	**M/s. Aarti Industries Limited** Block/Survey No.18 & 19, GIDC Notified Industrial Estate, PCPIR, Atali, Tal. Vagra, Dist. Bharuch-392130	Appraisal

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

Project status: **New**

- Project proponent (PP) submitted online applications vide no- SIA/GJ/IND2/66459/2021 on dated 29.10.2021 for obtaining Environmental Clearance (EC).
- The SEAC had recommended TOR to SEIAA and SEIAA issued TOR to PP vide their letter no.- SIA/GJ/83204/2021; 23.04.2021.
- Project proponent has submitted EIA Report prepared by M/s: ECO CHEM SALES & SERVICES, Surat based on the TOR issued by SEIAA.
- This is a new unit proposes for manufacturing of synthetic organic chemical plant as tabulated below:

S. No.	Product Name	CAS Number	Quantity (MTPA)	*End Use*
A	*Chloro Aromatics & their derivatives*			
1	6-Chloro-2-Nitro Toluene (6 CONT)	83-42-1	6000	*Speciality chemical intermediate & Veterinary drug intermediate*
2	4-Chloro-2-Nitro Toluene (4 CONT)	89-59-8		*Pharma intermediate*
3	3,5 Dichloro Benzoyl Chloride (3,5 DCBoC)	2905-62-6	2000	*Pharma intermediate*
4	3,4 Dichloro Benzotrifluoride (3,4 DCBTF)	328-84-7		*Dyes, Dye intermediates, Basic pharma intermediates*

5	3,4,5-Trichloro Benzo Trifluoride (3,4,5 TCBTF)	50594-82-6	1100	*Pharma Intermediate*
6	3,4 Dichloro Benzotrifluoride (3,4 DCBTF)	328-84-7	110	*Dyes, Dye intermediates, Basic pharma intermediates*
7	2,3 Dichloro Toluene (2,3 DCT)	32768-54-0	3000	*Pharma Intermediate*
8	2,4 Dichloro Toluene (2,4 DCT)	95-73-8		*Pharma Intermediate*
9	2,5 Dichloro Toluene (2,5 DCT)	19398-61-9		*Pharma Intermediate*
10	2,6 Dichloro Toluene (2,6 DCT)	118-69-4		*Pharma Intermediate*
11	Di Chloro Toluene Mixture (DCT Mixture)	Multiple		*Pharma intermediate*
12	Tri Chloro Toluene Mixture	Multiple	395	*Dyes, Dye intermediates,Basic pharma intermediates,*
				Pigments,Polymer
13	Ortho Chloro Toluene (OCT)	95-49-8	50000	*Pharma Intermediate , Dye and Dye intermediate*
14	Para Chloro Toluene (PCT)	106-43-4		*Speciality chemical intermediate & Venterinary drug intermediate*
15	Meta Chloro Toluene (MCT)	108-41-8		*Speciality chemical intermediate & Venterinary drug intermediate*
A	Chloro Aromatics & their derivatives	Total	62605	---
B	*Side Chain chlorinated aromatics & their derivatives*			
1	Benzyl Chloride (BC)	100-44-7	10000	*Pharma intermediate*
2	Benzal Chloride (BDC)	98-87-3		*Pharma intermediate*
3	Benzotrichloride (BTC)	98-07-7		*Pharma intermediate*
4	Para Chloro Benzyl Chloride (PCBC)	104-83-6	10000	*Pharma intermediate*
5	Para Chloro Benzal Chloride (PCBDC)	13940-94-8		*Pharma intermediate*
6	Para Chloro Benzotrichloride (PCBTC)	5216-25-1		*Pharma intermediate*
7	Ortho Chloro Benzyl Chloride (OCBC)	611-19-8	15000	*Cosmetics additives and pharma intermediate*
8	Ortho Chloro Benzal Chloride (OCBDC)	88-66-4		*Pharma intermediate*
9	Ortho Chloro Benzotrichloride (OCBTC)	2136-89-2		*Pharma intermediate*
10	2,4 Dichloro Benzotrichloride (2,4 DCBTC)	13014-18-1	4000	*Pharma intermediate*
11	Para Fluoro Benzotrichloride (PFBTC)	402-42-6		*Speciality chemicals intermediate*
12	Meta Fluoro Benzotrichloride (MFBTC)	401-77-4		*Speciality chemicals intermediate*
B	Side Chain chlorinated aromatics & their derivatives	Total	39000	---
C	*Aromatic Aldehydes, Acid Chlorides and Amides*			
1	Ortho Chloro Benzaldehyde (OCBAD)	89-98-5	5000	*Cosmetics additives and pharma intermediate*
2	Para Chloro Benzaldehyde (PCBAD)	104-88-1		*Pharma intermediate*

3	2,4 Dichloro Benzaldehyde (2,4 DCBAD)	874-42-0		*Pharma intermediate*
4	2,6 Dichloro Benzaldehyde (2,6 DCBAD)	83-38-5		*Pharma intermediate*
5	Benzoyl Chloride (BoC)	98-88-4	3000	*Pharma intermediate*
6	Para Chloro Benzoyl Chloride (PCBoC)	122-01-0		*Pharma intermediate*
7	Para Fluoro Benzoyl Chloride (PFBoC)	403-43-0		*Pharma intermediate*
8	2-Chlorobenzoyl Chloride (OCBoC)	609-65-4		*Pharma intermediate*
9	o-Chloro Benzamide (OCBAm)	609-66-5	3000	*Speciality chemicals intermediate , Pharma intermediate*
10	2,6 Difluoro Benzamide (2,6 DFBAm)	18063-03-01		*Speciality chemicals intermediate , Pharma intermediate*
11	2,3-Dichloro Benzoyl Chloride (2,3 DCBoC)	2905-60-4		*Pharma intermediate*
12	2,6-Dichloro Benzoyl Chloride (2,6 DCBoC)	4659-45-4		*Cosmetics additives and pharma intermediate*
13	o-Chloro Benzoic Acid (OCBA)	118-91-2		*Pharma intermediate*
14	2 Chloro 6 Fluoro Benzaldehyde (CFBAD)	387-45-1		*Pharma intermediate*
15	Co-product from C-14 2,6-Difluorobenzaldehyde	437-81-0	600	*Pharma intermediate*
C	Aromatic Aldehydes, Acid Chlorides and Amides	Total	11600	---
D	*Substituted Phenols*			
1	3-Methylphenol (M-Cresol)	108-39-4	6000	*Pharma intermediate*
2	2-Methylphenol (O-Cresol)	95-48-7	4000	*Pharma intermediate*
D	Substituted Phenols	Total	10000	--
E	*Derivatives of Diol, dione and aminophenols*			
1	Benzene-1,3-diol (Resorcinol)	108-46-3	6000	*Pharma intermediate*
2	3-Aminophenol (m-amino phenol)	591-27-5	1500	*Dyes &Dye intermediates*
3	Cyclohexane-1,3-dione (1,3 cyclohexanedione)	0504-02-09		*Pharma intermediate*
E	Derivatives of Diol, dione and aminophenols	Total	7500	--
F	*Aromatic Nitriles & their derivatives*			
1	Ortho Chloro Benzonitrile (OCBN)	873-32-5	7000	*Food chemicals, Veterinary intermediate & Pharma intermediates*
2	Para Chloro Benzonitrile (PCBN)	623-03-0		*Food chemicals, Veterinary intermediate & Pharma intermediates*
3	2,6 Dichloro Benzonitrile (26 DCBN)	1194-65-6		*Pharma intermediate*
F	Aromatic Nitriles & their derivatives	Total	7000	---

G	*Aromatic Amines & their derivatives*			
1	2,3,4 Trifluoro Aniline (2,3,4 TFA)	3862-73-5	5000	*Pharma intermediate*
2	2,4,5 Trifluoroaniline (2,4,5 TFA)	367-34-0		*Pharma intermediate*
3	4-Fluoroaniline (PFA)	371-40-4		*Pharma intermediate*
4	2-Fluoroaniline (OFA)	348-54-9		*Pharma intermediate*
5	2,4-Difluoroaniline (2,4 DFA)	367-25-9		*Dyes & Dye Intermediates, Basic Pharma Intermediates*
6	3-aminobenzotrifluoride (MABTF)	98-16-8	3000	*Dyes & Dye Intermediates, Basic Pharma Intermediates*
7	3-Chloro-2-Methylaniline (3-Chloro-o-toluidine) (3 COT)	87-60-5	5000	*Food chemicals & Pharma intermediates*
8	4,4'-Diaminodiphenylether (4,4 DADPE)	101-80-4	3000	*Polymer*
9	3,4'-Diaminodiphenylether (3,4 DADPE)	2657-87-6		*Polymer*
10	p-Phenylenediamine (PPDA)	106-50-3	5000	*Dye and Dye intermediate*
11	o-Phenylenediamine (OPDA)	95-54-5		*Dye and Dye intermediate*
G	Aromatic Amines & their derivatives	Total	21000	---
H	*Chlorofluoro Substituted Aromatics*			
1	2,4 Dichloro Fluorobenzene (2,4 DCFB)	1435-48-9	7500	*Pharma Intermediate*
2	2,6 Dichloro Fluorobenzene (2,6 DCFB)	05-05-2268		*Pharma Intermediate*
3	p-Chloro Fluoro Benzene (PCFB)	352-33-0		*Pharma Intermediate*
4	o-Chloro Fluoro Benzene (OCFB)	348-51-6		*Pharma Intermediate*
5	2,4 Dichloro Toluene (2,4 DCT)	95-73-8		*Dyes & Dye Intermediates, Basic Pharma Intermediates*
6	2,6 Dichloro Toluene (2,6 DCT)	118-69-4		*Pharma Intermediate*
H	Chlorofluoro Substituted Aromatics	Total	7500	---
	Synthetic Organic Chemicals (A to H): Total Capacity		166205 MTA	
I	*Calcium Chloride*			
1	Calcium Chloride (Solid)	10043-52-4	32000	*Oil Exploration and used for brine solution*
	Total Capacity		198205	---
	(A to H + I)		(166205 + 32000)	
J	*Co- Generation Power Plant*			
1	Co- Generation Power Plant (1 Nos.)		4.5 MW	*Captive Use*

- The project falls under Category B of project activity 5(f) as per the schedule of EIA Notification 2006.
- The presentation was considered in the video conference meeting dated 27.12.2021.
- During the video conference meeting dated 27.12.2021, the project was appraised based on the information furnished by technical expert of PP, M/s. Eco Chem Sales and Services. Project proponent

and technical expert of PP remains present during video conference 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 January 2021 to March 2021. Ambient Air Quality monitoring was carried out PM_{10}, $PM_{2.5}$, SO_2, NO_x, HCl, HF, Cl2, NH3 and VOCs, at eight locations, including the project site. Values conform to the prescribed standards for Ambient Air Quality. The incremental Ground Level Concentration (GLC) has been computed using AERMOD model. Incremental GLC's for all parameters remain within 500 m from the project site. 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 detailed proposed safeguard measures including On-Site / Off-Site Emergency Plan has been covered in the RA report.
- Upon asking regarding QCI/NABET accreditation, technical expert of PP informed that they have obtained QCI/NABET accreditation for preparation of EIA/EMP report.
- Looking to proposed site located in Atali village, Committee asked for proposed site in Notified area or not, technical expert of PP presented MoEf & CC Notification regarding proposed site survey number of Atali village located in PCPIR which is consider as Notified area. SEAC received representation from Mr. Digvijaysingh Rana of Atali village regarding construction activity, Committee asked for presentation of latest satellite image of proposed site, PP presented Google image showing no construction activity is going on in proposed site.
- Deliberation of the Committee:
  - ✓ Looking to product profile showing co-products, Committee insisted for revised product profile with discontinue co-product calcium chloride, 3,4 dichloro benzotrifluoride (3,4 DCBTF), Tri chloro Toluene Mixture and 2,6-Difluorobenzaldehyde from product profile and clarification regarding it as Hazardous waste or co-product with authenticated documents.
  - ✓ Site Plan/ layout with fire plan & floor plans and provision of separate entry & exits, adequate peripheral road, tank farm, production areas, raw material & finished goods storage areas, ETP area, utility area, hazardous waste storage area, fresh & spent solvent storage areas, hazardous waste storage area, 33% greenbelt within premises etc. Looking to layout plan, Committee insisted for revised layout plan with mentioning adequate size peripheral and internal road for easy movement of fire tender and emergency vehicle, storage of hazardous chemicals considering its type of hazard and as per compatibility chart , separate entry and exit etc.

- ✓ Product profile with its end use discussed in depth. Looking to production capacity of 1,98,205 MT/year of proposed plant, Committee asked for feasibility of how many products from each group will be manufactured along with details of production line in proposed site, details of plant machinery and inventory details with reactor capacity and batch size of each product with its proposed capacity details and adequacy of production plant and its raw material storage and finished good storage considering applicability of PESO and type of hazard etc.

- ✓ Source of water will be GIDC.

- ✓ Domestic Waste water will be treated in STP.

- ✓ Industrial waste water will be segregated and stream wise treated in ETP, RO, MEE and ATFD and treated effluent will be discharged into GIDC underground pipeline leading to Arabian sea. Looking to GIDC discharge leading to sea, Committee insisted for GIDC permission letter with mentioning quantity of effluent discharge permission of 1068 KLD into GIDC drainage leading to deep sea and latest status of GIDC underground drainage leading to deep sea with satellite image of ultimate discharge of effluent.

- ✓ Imported Coal as fuel will be used in 100 TPH IBR boiler and ESP with Lime addition along with coal (Dry Scrubber) & OCEMS as APCM and 85 meter stack height with it. Looking to proposal of steam, hydrogen and chlorine from nearby unit namely, M/s. GACL, Committee insisted for MoU with GACL with PP regarding procure steam, hydrogen and chlorine with its quantity and letter from M/s. GACL regarding they have surplus steam which is to be sell to PP through pipeline after full fillment of its production plant. Also Committee insisted for explanatory note in form of notarized undertaking regarding feasibility of reception of steam, hydrogen and chlorine through pipeline from GACL to proposed site with its authenticated drawing and distance of GACL from proposed site, legal aspect of supply of steam, hydrogen and chlorine through pipeline on continuous basis with time duration period for supply of it, How management of supply of steam, hydrogen and chlorine in case of emergency like damage in pipeline or shut down of plant along with responsibility of both unit or whom in case of violation of any legal court case or GPCB matter etc .

- ✓ Looking to huge amount of effluent disposal into sea, through GIDC pipeline, Committee insisted for explore possibility for reuse of treated waste water at maximum extent with proposal of multi stage RO plant and MEE plant instead of single stage RO plant

- ✓ Two stage scrubber as APCM proposed for each process reactor 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. Looking to spent solvent and recovered solvent quantity

mentioned 150 MT/Year and 12181 MT/Year for dyes intermediate products proposal , Committee asked for clarify generation of spent solvent and recovered solvent quantity mentioned 150 MT/Year and 12181 MT/Year for dyes intermediate products proposal with mass balance of effluent generation from each product and its chemical reaction.

- ✓ Fire hydrant plan, fire load calculation and Area adequacy was discussed.
- ✓ Looking to renewable energy details not presented even though large scale Greenfield project, Committee insisted for details of adoption of solar panel. Solar light, CFL lamps etc. for proposed project with its numbers and cost for project. .
- ✓ EMP, Green belt, CER, LDAR, Baseline data, Risk assessment etc. was discussed.

- Committee insisted for submission of following documents and revised EMP and CER details,
    1. Risk assessment for chlorine, toluene, benzene and hydrogen gas etc. storage with premises and also for reception of chlorine and hydrogen gas through pipeline in case of any leakage or blast considering its worst case scenario and super impose of satellite image for dispersion model with mentioning its impact on surrounding village's residential habitat area and its mitigation measures. Also standard operating procedure (SOP) for handling and storage of it and emergency spare storage tank for its storage and details of onsite and offsite emergency plan details considering population affected due to proposed Hazardous chemicals storage and reception of chorine and hydrogen gas through pipeline along with its remedial measures.
    2. Clarification regarding benzene storage in drum or storage tank and details of its storage considering worst case scenario for usage of it as raw material consumption.
    3. Details of provision of online detector system with SCADA control system for reception of hydrogen gas and chlorine gas through pipeline
    4. Looking to CER and EMP, Committee insisted for submission of revised concrete proposal for CER activity related to Environment field in place of general activity and also revised EMP with mentioning adequate fire and safety measures like online detector sensor, SCAD system etc. cost for reception of chlorine and hydrogen gas through pipeline, fire extinguisher like foam cost, fire hydrant network cost.
    5. Technical details regarding proposal of 100 TPH steam boiler purpose in plant area because of proposal of additional steam reception from nearby M/s. GACL, with justification regarding proposed project.

- **After detailed discussion, Committee unanimously decided to consider the project in one of**

upcoming meeting only after submission of following documents,

1. Revised product profile with discontinue co-product calcium chloride, 3,4 dichloro benzotrifluoride (3,4 DCBTF), Tri chloro Toluene Mixture and 2,6-Difluorobenzaldehyde from product profile and clarification regarding it as Hazardous waste or co-product with authenticated documents.
2. Revised layout plan with mentioning adequate size peripheral and internal road for easy movement of fire tender and emergency vehicle, storage of hazardous chemicals considering its type of hazard and as per compatibility chart , separate entry and exit etc and mentioning fire hydrant line with water sprinkler in specific area.
3. Feasibility of how many products from each group will be manufactured along with details of production line in proposed site, details of plant machinery and inventory details with reactor capacity and batch size of each product with its proposed capacity details and adequacy of production plant and its raw material storage and finished good storage considering applicability of PESO and type of hazard etc, looking to proposed production capacity of 1, 98,205 MT/year.
4. GIDC permission letter with mentioning quantity of effluent discharge permission of 1068 KLD into GIDC drainage leading to deep sea and latest status of GIDC underground drainage leading to deep sea with satellite image of ultimate discharge of effluent.
5. MoU with GACL with PP regarding procure steam, hydrogen and chlorine with its quantity and letter from M/s. GACL regarding having surplus steam after fulfillment of steam requirement of its plant which is to be sell to PP through pipeline.
6. Explanatory note in form of notarized undertaking regarding feasibility of reception of steam, hydrogen and chlorine through pipeline from GACL to proposed site with its authenticated drawing and distance of GACL from proposed site, legal aspect of supply of steam, hydrogen and chlorine through pipeline on continuous basis with time duration period for supply of it, How management of supply of steam, hydrogen and chlorine in case of emergency like damage in pipeline or shut down of plant along with responsibility of both unit or whom, in case of violation of any legal court case or GPCB matter etc .
7. Explore possibility for reuse of treated waste water at maximum extent with proposal of multi numbers RO plant and MEE plant instead of single stage RO plant and MEE.
8. Clarify generation of spent solvent and recovered solvent quantity mentioned 150 MT/Year and 12181 MT/Year for dyes intermediate products proposal with mass balance of effluent generation from each product and its chemical reaction, as recovered solvent generation quantity is not match with spent solvent generation quantity.
9. Details of adoption of solar panel, Solar light, CFL lamps etc for proposed project with its numbers and cost for adoption of it.
10. Risk assessment for chlorine, Toluene, Methanol, benzene and hydrogen gas etc. storage with premises and also for reception of chlorine and hydrogen gas through pipeline in case of any leakage or blast considering its worst case scenario and super impose of satellite image for dispersion model

with mentioning its impact on surrounding village's residential habitat area and its mitigation measures. Also standard operating procedure (SOP) for handling and storage of it and emergency spare storage tank for its storage and details of onsite and offsite emergency plan details considering population affected due to proposed Hazardous chemicals storage and reception of chorine and hydrogen gas through pipeline along with its remedial measures.

11. Clarification regarding benzene storage in drum or storage tank and details of its storage considering worst case scenario for usage of it as raw material consumption.
12. Details of provision of online detector system with SCADA control system for reception of hydrogen gas and chlorine gas through pipeline from M/s. GACL to proposed project site.
13. Revised concrete proposal for CER activity related to Environment field considering need base in surrounding villages in place of general activity and also revised EMP with mentioning adequate fire and safety measures like online detector sensor, SCAD system etc. cost for reception of chlorine and hydrogen gas through pipeline, fire extinguisher like foam cost, fire hydrant network cost.
14. Technical details regarding proposal of 100 TPH steam boiler purpose in production plant with steam requirement justification because of proposal of additional steam reception from nearby M/s. GACL, with justification regarding proposed project.

- PP submitted reply of above query of SEAC VC meeting dated 27.12.2021 in Parivesh portal.
- This case was reconsidered in SEAC meeting dated **09.05.2022** and technical expert of PP, M/s. Echo chem sales and service and PP remain present during meeting.
- Committee noted that PP presented product profile, revised layout plan, revised risk assessment, water balance diagram, Hazardous waste matrix, revised CER details, flue gas emission details etc,
- Looking to presented made by technical expert of PP seems inadequate and no proper clarification for technical details for water balance, by product and hazardous waste submit. Also Committee informed technical expert of PP regarding casual presentation prepared and presented by technical expert of PP and hence Committee insisted for submission of following details with documents and justification ,
    1. Clarification regarding calcium chloride, 3,4 dichloro benzotrifluoride (3,4 DCBTF), Tri chloro Toluene Mixture and 2,6-Difluorobenzaldehyde is as Hazardous waste or co-product with authenticated documents in place of simply mentioning it as product.
    2. GIDC permission letter with mentioning quantity of effluent discharge permission of 1068 KLD into GIDC drainage leading to deep sea in place of simply mentioning it is in process at GIDC authority.
    3. MoU in between GACL with PP regarding procure hydrogen and chlorine with its quantity which is to be sell to PP through pipeline with mentioning legal aspect on both side in place of simple letter of GACL regarding supply of hydrogen and nitrogen.
    4. Explore possibility for reuse of treated waste water at maximum extent with proposal of multi numbers RO plant and MEE plant instead of single stage RO plant and MEE with mentioning

comparative table of previous discharge and reuse of effluent and after explore reuse in maximum extent quantity of reuse of effluent and also mentioned by which advanced technology reuse of treated effluent rather than disposal to sea.

5. Details of adoption of solar panel, Solar light, CFL lamps etc for proposed project with its numbers and cost for adoption of it with adequate cost of each segment of roof top solar panel, solar lighting etc.
6. Adequate technical details for Risk assessment for chlorine, Toluene, Methanol, benzene and hydrogen gas etc. storage with premises and also for reception of chlorine and hydrogen gas through pipeline in case of any leakage or blast considering its worst case scenario and super impose of satellite image for dispersion model with mentioning its impact on surrounding village's residential habitat area and its mitigation measures. Also standard operating procedure (SOP) for handling and storage of it and emergency spare storage tank for its storage and details of onsite and offsite emergency plan details considering population affected due to proposed Hazardous chemicals storage and reception of chorine and hydrogen gas through pipeline along with its remedial measures.
7. Revised concrete proposal for CER activity related to Environment field considering need base activity in surrounding villages with mentioning CER activity will be carried out in which village with letter from villages gram panchayat regarding need based CER activity mentioned in Gram panchayat letter.

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

<table>
<tr><td>Sr. no.</td><td>Particulars</td><td>Details</td></tr>
<tr><td>A-1</td><td colspan="2">Total cost of proposed project (Rs. in Crores):
<table><tr><td>Total Project Cost</td></tr><tr><td>1272 Crores</td></tr></table>Break-up of proposed project cost:
<table><tr><td>Details</td><td>Project Cost (Rs. In Crores)</td></tr><tr><td>Land</td><td>13.48</td></tr><tr><td>Building</td><td>245.00</td></tr><tr><td>Plant & Machinery with DCS</td><td>986.00</td></tr><tr><td>Environment</td><td>27.52</td></tr></table></td></tr>
</table>

		management & Safety	
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	Water Pollution Management i.e. ETP/Fenton/RO/MEE/ STP. online meter (TOC, Flow, pH COD etc.), GIDC Membership & discharge expense, Environment Laboratory and its equipment etc.	12.00	2.47	0.13	2.60
2	Hazardous Management/ Solid waste	Solid and HW management (like Storage facility, TSDF Membership, E-waste/BMW/Fly ash/Batteries rule & disposal cost)	1.00	65.00	0	65.00
3	Air Pollution	Air pollution Management (ESP/Stack, Online CEMS, etc.), Ambient Air Monitoring Equipments/Weather Station etc.	2.00	0.51	0.03	0.54
4	Fire & Safety	Safety Equipment (*Fire Hydrant/ water system*, PPE, Fire extinguishers, ventilation, Occupational Health, First Aid etc.)	12.00	0.47	0.03	0.50
5	Green Belt Development	Green Belt/Tree plantation, saplings, maintenance	0.35	0.19	0.01	0.2

	nt					
6	Rain water Harvesting	Rain Water Harvesting	0.17	0.0095	0.0005	0.01
Total			27.52	-	-	68.85

Summary

Cost of Project in Crores per Annum:	1272.00
EMP Capital Cost in Crores per Annum and Percentage:	27.52 (2.16%)
EMP Recurring Cost in Crores per Annum and Percentage:	68.85 (5.41%)

A-3

Details of CER as per OM dated 01/05/2018

% as per the OM	Rs. in Crores
0.5%	Rs. 6.39 Cr.

In case of more than % as per the OM, mention the same. – Not applicable

Brief note on proposed activities for CER:

S. No.	CER Activities	Highlights of Activities	Location	Capital Cost					Recurring Cost					Total
				1st Year	2nd Year	3rd Year	4th Year	5th Year	1st Year	2nd Year	3rd Year	4th Year	5th Year	
1	Environment (Tree Plantation)	1, Land reformation for tree plantation 2, Fencing & Security infrastructure development 3, Tree plantation 4, Maintenance of plantation 5, Drip Irrigation	Atali, Koliyad, Vegni, Galenda, Kaladara, Bhesli, Khojbal, Nandida, Samatpore, Sambethi, Vav, Nadarkha, Kothiya	12	12	12	12	12	15	15	15	15	15	135

	Environment (Water Conservation Project)	1, Lake formation 2, Check Dam Formation 3, Khet Talavadi formation 4, Water recharge borewell 5, Maintenance of water bodies	Atali, Koliyad, Vegni, Galenda, Kaladara, Bhesli, Khojbal, Nandida, Samatpore, Sambethi, Vav, Nadarkha, Kothiya	64	60	60	60	60	20	20	20	20	20	404	
2	Health & Hygiene Project	1, Dental care through mobile van 2, Medical camps with appropriate treatments for all nearby villagers 3, Collobration with CHC/PHC for health infrastructure developments 4, Collobration with nearby hospitals JIA, Seva Rural for facility development 5, Hygiene	Atali, Koliyad, Vegni, Galenda, Kaladara, Bhesli, Khojbal, Nandida, Samatpore, Sambethi, Vav, Nadarkha, Kothiya	4	4	4	4	4	16	16	16	16	16	100	

		awareness for community through medical team 6, Swatch Bharat Abhiyan for community												
	Total			80	76	76	76	76	51	51	51	51	51	639

B	Land / Plot ownership details: The plot has been purchased by M/s. Aarti Industries Limited from GIDC Notified Industrial Estate, PCPIR, Atali. Land possession document are attached in EIA report
B-1	Plot area

Total Plot area
107365 m^2 (10.7365 Ha.)

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

Description	Area sq.m
Plant area	9490
Utility (DG set area, raw water tank, Fire tank, Trolley Area, Dispatch room, pump room, weighbridge etc)	8891
Boiler Area (Boiler house, Coal storage, DM Water tank)	3100
ETP Block/Area & Hazardous waste storage	5911
Canteen/Security/QC/Office/OHC /Watch tower etc	2886
PESO Tank Farm	3360
Storage/Tank Farms/ warehouses	5440
Open land + Road	21441
Greenbelt area	36107

	<table><tr><td>Parking area</td><td>10739</td></tr><tr><td>Total Plot Area</td><td>107365</td></tr></table> ● The unit will be manufacturing a maximum of 9 groups of products at a time. The raw materials will be procured on a campaign basis. ● The unit has storage area of 8800 m^2. This is sufficient to store all the raw materials required for the proposed project. ● Unit has proposed 6m, 9m &12m wide road for easily goods carrier movement also 10739 m^2 will be allotted as parking area. ● Separate entry & exit and adequate margin all-round the periphery for unobstructed easy movement of the emergency vehicle / fire tenders without reversing back is also taken care. Justification for adequate area Unit will be adequate of proposed plot area with respect to plant machineries, EMS, Green belt, safety aspect, raw material & product storage area considering worst case scenario.
B-3	Green belt area <table><tr><td></td><td>Total (Sq. meter)</td></tr><tr><td>Area in Sq. meter</td><td>36107</td></tr><tr><td>% of total area</td><td>33.6%</td></tr></table> In case of GREEN-BELT partly outside premises, give complete details like exact location (Lat-Long), Agreement/MoU with specific area etc.- Not Applicable
C	Employment generation <table><tr><td>Total</td></tr><tr><td>(Construction 400 + Operation 1000) = 1400</td></tr></table> In case of Indirect employment, Give details. - As mentioned above
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. Assurance letter for 5000 KLD water supply obtained from GIDC *vide* no. GIDC/DEE/WS/BRH/ dated, 06.08.2021
D-2	Water consumption (KLD)

S.No.	Particular	Total water consumption (KLD)	Remarks
A	Domestic	90	Fresh water
B	Industrial		
1)	Process	1412	Fresh water
2)	Washing	20	Fresh water
3)	Softener Plant and cooling tower	2123	Fresh water
4)	Cooling tower make up	655	Recycled from RO permeate
5)	DM plant to Boiler	1144	Fresh water
	Total (B)	5354	
C	Gardening	185 (95 KLD Fresh + 90 KLD Recycle from STP)	Fresh water & recycled from STP
Total (A+B+C)		5629	
Quantity recycled		745	Recycled from RO & STP
Total Fresh water		4884	From GIDC

Brief Note on worst case scenario for water consumption:

Summary of water requirement	Quantity KLD	Remarks
Total water requirement for the project (A)	5629	--
Quantity to be recycled (B)	745	Recycled from RO & STP
Total fresh water requirement (C)	4884	From GIDC
Ensure Total water requirement = Fresh water + Recycled water i.e. A = B + C		

Reuse/Recycle details (KLD) with feasibility

[Source of reuse & application area]

Source of waste water for reuse in KLD (From where it is coming)	Application area with quantity in KLD (Where it is used)	Characteristics of waste water to be reused (COD, BOD, TDS etc.)	Remarks regarding feasibility to reuse
Softener reject 40 KLD to RO Cooling blowdown 504 KLD to RO DM reject 104 KLD to RO Boiler blowdown 80 KLD to RO	655 KLD RO permeate reused in cooling tower.	PH: 7-8 COD: 50-70 mg/l BOD: 10-20 mg/l TDS: 70-100 mg/l	Feasible to reuse
Treated wastewater from STP 90 KLD	90 KLD (Treated STP sewage water) reused in gardening and cooling tower	pH:7-8 TSS: <20 mg/l BOD:< 10 mg/l	

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

- Not Applicable

D-3	Waste water generation (KLD)

Sr.N.	Particular	Proposed wastewater generation (KLD)	Effluent treatment and disposal/ Remarks (if any)
A	Domestic	90	Will be treated in STP recycled in gardening and Cooling tower
B	Industrial		
	Process	992	Effluent is segregated into 4 streams based on characteristics
			1. High COD, high TDS @100 KLD: Treatment through Fenton, MEE/ATFD followed by ETP
			2. High COD, low TDS @90 KLD : Treatment through Fenton, MEE/ATFD followed by ETP
			3. Low COD, high TDS @138 KLD : Treatment through MEE/ATFD followed by ETP
			4. low COD, low TDS @664 KLD : Treatment through ETP
	Washing	20	Sent to ETP for treatment

	Softener reject and cooling blowdown	544	40 KLD Softener reject+504 KLD Cooling blowdown sent to RO followed by tertiary treatment
	DM Reject	104	104 KLD sent to RO followed by tertiary treatment
	Boiler Blowdown	80	80 KLD sent to RO followed by tertiary treatment
Industrial Total (B)		1740	655 KLD RO permeate is recycled 1068 KLD discharge to GIDC drainage line +17 MEE salt will be sent to HW
Total A+B		1830	--
Discharge into GIDC Drain		1068	--
Total waste water recycled		745	Industrial 655 KLD+ Domestic 90 KLD

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

Group	Worst case Scenario (KLD)
A- Chloro Aromatics & their derivatives	49.98
B- Side Chain chlorinated aromatics & their derivatives	390.00
C- Aromatic Aldehydes, Acid Chlorides and Amides	169.25
D- Substituted Phenols	166.14
E- Derivatives of Diol, dione and aminophenols	81.91
F- Aromatic Nitriles & their derivatives	33.51
G- Aromatic Amines & their derivatives	101
H- Chlorofluoro Substituted Aromatics	0
I- Calcium Chloride	0
Total	991.79

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

- Not Applicable

D-4	Mode of Disposal & final meeting point.

Domestic:	90 KLD will be sent to STP and treated water from STP recycled for greenbelt, cooling tower and toilet flushing.
Industrial:	1068 KLD of treated waste water will be sent for deep sea disposal *via* GIDC underground drainage line.

-Clearly mention about final disposal

D-5	Treatment facilities

For Domestic waste water: Capacity of STP - 100 KLD

Name	Quantity (nos.)	Capacity each (KLD)
STP	1	100

For Industrial waste water: Treatment facility within premises with capacity:

[In-house ETP (Primary, Secondary, Tertiary), MEE, Stripper, Spray Dryer, STP etc.

Name	Quantity (Nos.)	Capacity (KLD)
ETP (Primary, secondary)	1	1100
ETP (Tertiary)	1	1200
MEE+ATFD (Process)	1	400
Utility R.O	1	800
STP	1	100
Additional Treatment facility for Water Conservation		
MEE + ATFD (Utility)	1	70
MEE+ATFD (Process)	1	100
RO	2	550 (*each*)

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.

Stream Characteristics:

Stream-1

Stream 1	Parameters	Before Fenton (feed to Fenton)	Before MEE (feed to MEE)	Feed to ETP (MEE condensate)
100 KLD High COD & High TDS	pH	2.5-3	7-8	7-8
	TSS in mg/l	200-300	90-120	60-90
	TDS in mg/l	20000-30000	21000-32000	500-700
	COD in mg/l	10000-25000	3000-7000	1000 -3000
	BOD in mg/l	4000 -9000	1000-3000	400 -800
	N-NH_3 in mg/l	150-200	50-60	30-50

Stream-2

Stream 2	Parameters	Before Fenton (feed to Fenton)	Before MEE (feed to MEE)	Feed to ETP (MEE condensate)
90 KLD High COD & Low TDS	pH	2.5-3	7-8	7-8
	TSS in mg/l	200-300	60-90	40-60
	TDS in mg/l	2000-2500	2100-2600	700-1000
	COD in mg/l	10000-25000	3000-7000	1000 -3000
	BOD in mg/l	1800-3000	1000-2000	400-700
	N-NH3 in mg/l	100-200	20-40	10-30

Stream 3

Stream 3	Parameters	Feed to MEE	Feed to ATFD	Feed to ETP (MEE

				condensate)
138 KLD low COD & high TDS	pH	7-8	7-8	7-8
	TSS in mg/l	200-300	100-200	10-20
	TDS in mg/l	50000-60000	300000-400000	500-600
	COD in mg/l	1200-2000	500-600	1000-1800
	BOD in mg/l	300-400	20-30	300-600
	$N\text{-}NH_3$ in mg/l	20-30	5-10	10-20

Stream-4

Stream 4	Parameters	Before ETP
664 KLD low COD, low TDS	pH	7-8
	TSS in mg/l	200-300
	TDS in mg/l	3000-5000
	COD in mg/l	2000-4000
	BOD in mg/l	800-1500
	$N\text{-}NH_3$ in mg/l	70-80

Composite Characteristics of all four Streams to ETP

Composite of all 4 process streams	Parameters	ETP Inlet (before primary treatment)	After primary treatment (before bio-reactor)	After bio-reactor (feed to tertiary treatment :ASF/PSF)	After tertiary treatment (Discharge to deep sea through GIDC Drainage Line)
Composite of all 4 STREAMS Stream 1 : 100 KLD + Stream 2 : 90 KLD + Stream 3 : 138 KLD + Stream 4 : 664 KLD =992 KLD	pH	5-6	7.5-8.5	6.9 -8.3	7.2-8.2
	TSS in mg/l	150-220	75-100	80-105	50-70
	COD in mg/l	1700-4200	1600-4000	150-210	140-200
	BOD in mg/l	700-1300	675-1275	20-30	18-28
	$N\text{-}NH_3$ in mg/l	55-65	45-55	10-20	10-20

Characteristics of Discharge Stream (1068 KLD)

Parameters	After tertiary treatment for discharge to deep sea through GIDC drainage line	GPCB discharge norms
pH	7.2-8.2	6.5 - 8.5
TSS in mg/l	50-70	100 mg/l
COD in mg/l	140-200	250 mg/l
BOD in mg/l	18-28	100 mg/l
$N\text{-}NH_3$ in mg/l	10-20	50 mg/l

Note: (In case of CETP discharge) :

Management of waste water keeping in view direction under section 18 (1) (b) of the Water

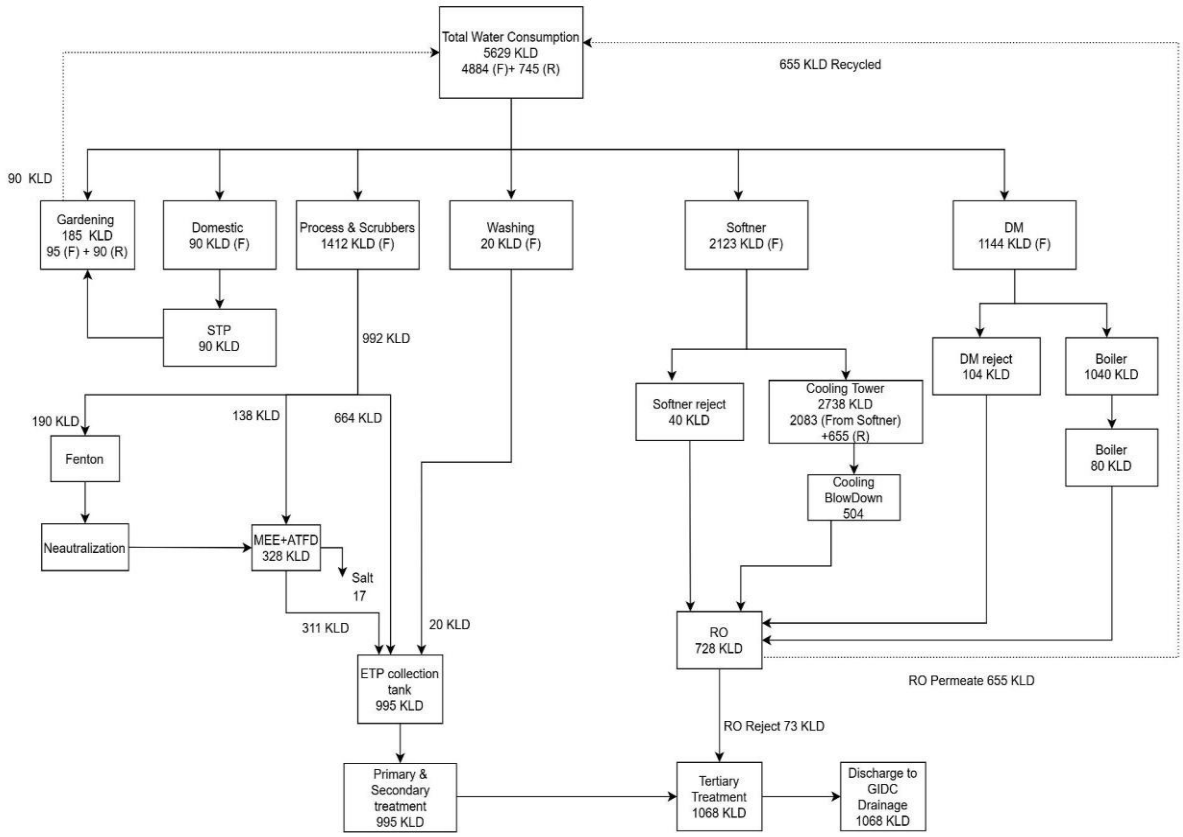
(Prevention and Control of Pollution) act, 1974 issued by CPCB regarding compliance of CETP.

- Not Applicable

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

- Not Applicable

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)
	• Not Applicable
	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 Applicable
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:

S. No.	Name	Requirement	Source
1	Natural gas for Thermic Fluid Heater	600 Nm^3/hr	GSPC
2	HSD for D.G Set	3000 ltr./hr	Local Market
3	Coal for Boiler	600 MT/Day	Imported
4	Steam	100 TPH	Captive

**Note: Natural gas will be used based on its availability*

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)

S. No.	Stack attached to	Stack ht. m	Fuel	APCM	Type of emission
1.	Thermic Fluid Heater (2 x 20 Lakh Kcal/hr.)	30	Natural Gas	NA	PM SO_x NO_x
2.	Boiler (1 x 100 TPH)	85	Coal	ESP with Lime addition along with coal (Dry Scrubber) & OCEMS	
3.	D.G Set (5 x 2000 kVA)	11	HSD	NA	

Note: Natural gas will be used based on its availability

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

S. No.	Stack attached to	No. of stacks	Stack ht. 'm'	Dia. 'mm'	APCM	Parameter
1	Group B (Photo Chlorination)	1	15	550	2 stage water scrubber	Cl_2
						HCl
2		1	15	550	2 Stage Water Scrubber	Cl_2
						HCl
3	Group A (Chlorination)	1	15	800	2 stage water scrubber	Cl_2
						HCl
4	Group A (Chlorination)	1	15	800	2 stage water scrubbers	HCl, SO_2
5		1			1 Stage water scrubber (KOH Solution)	HF
6	Group H (Denitrochlorination)	1	15	800	3 stage scrubber	Cl_2
7	Group C (Hydrolysis)	1	15	800	Water Scrubber	HCl
8	$CaCl_2$ dryer vent with wet scrubber	1	20	1800	Cyclone separator & wet scrubber	PM
9	$CaCl_2$ Plant	1	15	800	Water scrubber	HCl
10	Group F (Ammoxidation)	1	15	800	Water Scrubber	NH_3

Note: Scrubber bleed is considered along with process waste water

Details of gaseous raw materials used in proposed project:

Group Name	Product Name	Gaseous Raw material MT/M	
		Name	Qty
A	A1- 6 CONT & 4 CONT	Chlorine	16000.000
	A3- 35 DCBoC	--	--
	A4- 3,4-dichloroBenzotrifluoride	Chlorine	2446.660

		A5- 3,4,5 TCBTF	Chlorine	5097
			HF	1393
			--	--
		A6,7,8,9,10- 2,3- DCT, 24 DCT, 25 DCT,26DCT	Chlorine	7073.50
		A11,12,13,14- OCT,PCT,MCT		62307.69
	B	B1-BC	Chlorine	6922.220
		B2- BDC		10888.89
		B3- BTC		13455.556
		B4- PCBC		4900
		B5- PCBDC		8070
		B6- PCBTC		10290
		B7- OCBC		7077.778
		B8- OCBDC		11656.667
		B9- OCBTC		14863.33
		B10-2,4-DCBTC		10740
		B11- PFBTC		13308
		B12- MFBTC		13308
	C	C1- OCBAD	--	--
		C2- PCBAD		
		C3- 2,4 DCBAD		
		C4- 2,6 DCBAD		
		C5- BoC		
		C6- PCBoC		
		C7- PFBoC	--	--
		C8- OCBoC	--	--
		C9- OCBAm	--	--
		C10- 26DFBAm		
		C11- CFBAD	--	--
		C12- 2,3 DCBoC	--	--
		C13- 2,6 DCBoC	--	--
		C14- OCBA	Oxygen	26.34
	D	D1- M cresol R2	--	--
		D2- O Cresol R3	--	--
	E	E1- Resornical	--	--
		E2- M amino phenol		

	E3- 1,2 Cyclohexanedione		
F	F1- OCBN	NH_3	80.09973
		Oxygen	226.16300
	F2- PCBN	NH_3	80.09973
		Oxygen	226.16300
	F3- 2,6 DCBN	NH_3	64.05743
		Oxygen	180.868
G	G1- 2,3,4 TFA	H_2	18.25
	G2- 2,4,5 TFA		20.83
	G3- PFA		24.58
	G4- OFA		24.58
	G5- 2,4 DFA		19.58
	G6- MABTF		18.5
	G7- 3 COT		20.57
	G8- 4,4 DADPE		21.9
	G9- 3,4 DADPE		21.09
	G10- PPDA		47.92
	G11- OPDA		47.92
H	H1- 2,4 DCB	Chlorine	363.506
		--	--
	H2- 2,6 DCFB	Chlorine	322.468
		--	--
	H3- PCFB	Chlorine	407.31
		--	--
	H4- OCFB	Chlorine	407.346
		--	--
	H5- 2,4 DCT	Chlorine	337.5
		--	--
	H6- 2,6 DCT	Chlorine	330.9
		--	--
I	$CaCl_2$	--	--

- Estimation of process gas emission (Product wise and Total): As mentioned in air emission matrix table above
- Requirement of the scrubbing media (KL per Day) considering solubility (Product wise and Total): As given below

Group Name	Product Name	Scrubbing media (KLD)	
		Name	Qty
A	A1- 6 CONT & 4 CONT	Water	41.034
		10% NaOH	2.745

		solution	
	A3- 35 DCBoC	Water	3.011
		SO_2	2.262
		NaOH	1.980
	A4- 3,4-dichloroBenzotrifluoride	Water	2.934
		10% NaOH solution	0.00784
	A5- 3,4,5 TCBTF	Water	5.220
		10% NaOH solution	0.165
		KOH	3.793
	A6,7,8,9,10- 2,3- DCT, 24 DCT, 25 DCT,26DCT	Water	8.484
	A11,12,13,14- OCT,PCT,MCT		7.474
B	B1-BC	Water	8.311
	B2- BDC		13.063
	B3- BTC		16.169
	B4- PCBC		5.884
	B5- PCBDC		9.695
	B6- PCBTC		12.361
	B7- OCBC		8.499
	B8- OCBDC		14.004
	B9- OCBTC		17.855
	B10-2,4-DCBTC		12.892
	B11- PFBTC		15.971
	B12- MFBTC		15.971
C	C1- OCBAD	--	--
	C2- PCBAD		
	C3- 2,4 DCBAD		
	C4- 2,6 DCBAD		
	C5- BoC		
	C6- PCBoC		
	C7- PFBoC	Water	2.160
	C8- OCBoC		7.785
	C9- OCBAm	--	--
	C10- 26DFBAm		
	C11- CFBAD	--	--
	C12- 2,3 DCBoC	Water	8.300
	C13- 2,6 DCBoC		6.777
	C14- OCBA	--	--
D	D1- M cresol R2	--	--
	D2- O Cresol R3	--	--
E	E1- Resornical	--	--
	E2- M amino phenol		

	E3- 1,2 Cyclohexanedione		
F	F1- OCBN	Water	3.203
	F2- PCBN		3.203
	F3- 2,6 DCBN		2.562
G	G1- 2,3,4 TFA	--	--
	G2- 2,4,5 TFA		
	G3- PFA		
	G4- OFA		
	G5- 2,4 DFA		
	G6- MABTF		
	G7- 3 COT		
	G8- 4,4 DADPE		
	G9- 3,4 DADPE		
	G10- PPDA		
	G11- OPDA		
H	H1- 2,4 DCB	Water	8.127
		NaOH	3.186
	H2- 2,6 DCFB	Water	2.060
		NaOH	0.807
	H3- PCFB	Water	2.170
		NaOH	0.850
	H4- OCFB	Water	2.168
		NaOH	0.850
	H5- 2,4 DCT	Water	1.758
		NaOH	0.786
	H6- 2,6 DCT	Water	1.757
		NaOH	0.786
I	$CaCl_2$	$CaCl_2$	83.041

- Yearly generation of all bleed liquors (MT/KL per Annum) as mentioned above and its sound management in HW matrix: Bleed liquor is considered in Hazardous waste Management matrix

E-4

Fugitive emission details with its mitigation measures:

Sr. No.	Source	Control Measures
1.	Pump handling odorous chemicals and pressured gases	Use of mechanical seals of pumps and compressor. All pipeline and pipe fitting shall be well maintain, wear and tear shall be attended promptly.

2.	At reactor during charging of liquid and solids chemicals	Liquid raw material will be charged by pumping and closed loop.
3.	Pressure release valve emission from pipeline	For highly pressurized lines, vent lines of PRVs to air pollution control device in case of toxic gases.
4.	Release from sampling lines	Using a close loop sampling system.
5.	Emission from bulk storage tank during unloading	Breather valve, PSVs, Rupture disc will be provided. Vapour recovery system will be installed for process and storage vent tank.
6.	Leak from valves, flanges, plugs and instrument connection.	Welded pipes will be used wherever feasible. Suitable gasket material to be used. Suitable gland packing will be used in valves. Periodic inspection and maintenance of pipes and pipe fittings.
7.	Chemical vapours from wet cake in filtration and drying area	Filtration will be done out in Agitated Neutch filter. Transfer and drying of wet-cake done in system shall be adopted, worker shall be provided PPEs, fume extraction system shall be provided, whenever require.
8.	Warehouse storing drums and bags	Spillages shall be strictly prevented by providing dip pans, proper handling equipment, minimum manual operation, local exhaust and roof top ventilators. Spill control procedures and equipment shall be provided.

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: Mentioned in below table. - Quantification of hazardous waste shall be based on mass balance and calculations shall be incorporated in EMP details separately. Noted - Disposal to scrap vendors/vendors/traders is not allowed: Noted
F-1	Hazardous waste management matrix

S. No.	Name of waste	Source of generation (Plant/Group)	Category	Quantity (MTPA)	Disposal Method
1	ETP Waste	ETP	I-35.3	6000	Collection, Storage, Transportation, disposal to TSDF.
2	Discarded containers/Plastic waste/ drums/carboys	Packing material	I-33.1	500	Collection, Storage, Decontamination, and Disposal by sold to authorize recyclers/ Contaminated waste sent to TSDF site/ Co processing.
3	Distillation Residue	Process	I-26.1	27349	Collection, Storage, transportation, disposal at CHWIF/Co-processing/incineration
4	Used oil	Maintenance of Machineries and equipment	I-5.1	50	Collection, Storage, Transportation, Disposal by selling to registered recyclers /p Co processors/ Incineration.

5	MEE + ATFD salt	Waste water treatment	I-35.3	5100	Collection, Storage, transportation, disposal Landfilling / Incineration/ Co processing
6	$CaCl_2$ Silica sludge	Process	I-35.3	2662	Collection, Storage, Transportation, disposal to TSDF.
7	Off-specification product	Process	I-26.1	25	Collection, Storage, transportation, disposal to disposal by Co-processing/Incineration.
8	Non- recyclable plastic waste & PPE's	Process waste	I-33.1	200	Collection, Storage, Transportation, disposal to co-processing/TSDF.
9	Spent Carbon	From ETP	I-36.2	60	Collection, Storage, transportation sent for co-processing /incineration
10	Spent Catalyst	Process	I-26.5	505	Collection, Storage, Decontamination, Disposal by sold to authorize vendor/ TSDF
11	Recovered Solvent	Process	I-26.4	12181.3	Collection, Storage Recovered and recycled in house processes
12	Spent Solvent	Process	I-26.4	150	Collection, Storage, Transportation, Disposal by selling to registered recyclers / Co processors/ Incineration
13	Hydrochloric acid	Process waste from Group A,B,C,H products	B15 of Schedule II	168368	Collection, Storage, Transportation & reuse manufacturing of in-house $CaCl_2$ plant or Will be sold to market as per Rule 9 of Hazardous and Other wastes (Management & Transboundary Movement) Rules 2016
14	Calcium chloride solution	From Calcium Chloride plant	--	106666	Will be sold to market as per Rule 9 of Hazardous and Other wastes (Management & Transboundary Movement) Rules 2016
15	Nitrosyl Sulphuric Acid (NSA)	Process waste from Group H products	B15 of Schedule II	9168	
16	Sulphuric acid	Process waste from Group C & D products	B15 of Schedule II	36156	
17	Sodium Hypochlorite (NaOCl)	Process waste from Group A & H products	B15 of Schedule II	19501	

18	Potassium chloride solution	Process waste from Group A & C products	B2 of Schedule II	28010	
19	Sodium Sulphite (Na_2SO_3)	Process waste from Group A products	C-32	5629	
20	Ammonium Bisulfate	Process waste from Group E products	B2 of Schedul e II	13200	
21	Ammonia Solution	Process waste from Group F products	B2 of Schedul e II	1153	
22	MS rings sludge	Process waste from Group A products	26.5	4121	Collection, Storage, Decontamination, Disposal by sold to TSDF site/Recycler

F-2	Membership details of TSDF, CHWIF etc. (For HW management) Yes, we have obtained membership for CHWIF & TSDF from BEIL Infrastructure Limited, Ankleshwar & Dahej respectively.

Details of Membership letter no. & Date with spare capacity of the Common Facility.

- BEIL/ANK/2021 dtd. 23/03/2021 for disposal of Incinerable/ Co-processing & Landfilling waste.
- Spare capacity of Landfilling site is 0844187 MT out of 1400000 MT

F-3	Details of Non-Hazardous waste & its disposal (MSW and others) As given below

S. No.	Name of Waste	Source of generation (Plant/Group)	Quantity (MTPA)	Disposal Method
1	Office Waste	Admin/ Office	30	Collection, Storage, Transportation Registered recyclers
2	Insulation	Plant and	150	Collection, Storage, Transportation disposal

	Waste/ Thermocol	machinery		by at TSDF Site.
3	E-waste/Electrical waste	Plant and machinery	25	Collection, Storage, Transportation, Disposal by selling to authorized recyclers
4	Battery waste	Plant and machinery	200 Nos.	Collection, Storage, Transportation, Disposal by selling to authorized recyclers
5	Bio-medical waste	Occupational health center	1	Collection, Storage, Transportation , Disposal to CBWTF-Incineration
6	Glass	Plant/lab/ Buildings	15	Collection, Storage, Transportation , disposal/sold to scrap processors
7	STP Waste (Sludge)	STP	50	Collection, Storage, Transportation disposal as manure.
8	Fly Ash	Boiler	18000	Collection, Storage, Transportation to Brick manufacturer, road construction/ Co Processing/ Low lying areas

Fly ash will be sold to M/s Mamta brick and cement articles and MoU for the same has been obtained dated 26.07.2021.

G	Solvent management VOC emissions etc. Solvent will be recovered through solvent recovery system
G-1	Brief Note on types of solvents, Details of Solvent recovery, % recovery, reuse of recovered Solvents etc.

Name of the Group	Name of Product	Name of the solvent	Fresh Quantity MT/M	Recovered Quantity MT/M	Total Quantity required MT/M	% Recovery
A3	3-5 dichloro benzoyl chloride	Toluene	16.88	827.45	844.33	98.00
C14	2-Chloro-6-fluorobenzaldehye	Sulfolane	161.50	4563.50	4725.00	96.50
D1	3-Methylphenol (M-cresol)	Benzene	3.20	156.35	159.55	98.01

D2	2-Methylphenol (O-cresol)		2.13	104.23	106.36	98.01
G2	2,4,5 trifluoroaniline	Methanol	16.67	816.67	833.34	98.00
G5	2,4-difluoroaniline		20.54	1006.13	1026.67	98.00
G7	3-chloro-2-methylaniline		35.29	1728.83	1764.12	98.00
G8,	4,4'-diaminodiphenylether	Dimethylacet amide (DMAc)	22.05	1079.28	1101.33	97.90
G9	3,4'-diaminodiphenylether		22.05	1079.28	1101.33	97.90
G10	PPDA		8.37	409.79	418.17	98.00
G10	OPDA		8.37	409.79	418.17	98.00

G-2	Brief Note on LDAR proposed:

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

1. Identification of volatile chemicals which may contribute in VOCs:

   In the proposed plant there are various chemicals which may contribute in VOCs as provided in Table in G-1 section above:

2. Identification of all the probable sources of leakage; Such as valves, pumps and connectors

List of the sources of probable leakages is as follows.

- Valves/Flanges
- Pump glands handling above chemicals
- Open vents from the tank top
- Pump seals
- Compressor seals
- Pressure relief devices
- Process drains
- LPDs (Low Point Drains)
- HPVs (High Point Vents)

3. *Selection of appropriate method for leak detection.*

Considering the nature of the chemical; appropriate method shall be selected for leak detection of individual chemicals from the list given below:

- Visual check
- LEL meter
- VOC meter

Methods for rectification of identified leaks:
For all identified leaks, closure shall be ensured with the help of maintenance department and records for the same shall be maintained.
VOC and Controls:-

- To prevent losses of these solvents in atmosphere, following infrastructure shall be used in addition to LDAR program.
- Leak Free Pumps for transfer of solvents.
- MSW Gaskets in solvent pipelines to prevent leakage from flanges.
- Unloading of solvents from Tanker to Storage Tank through appropriate Transferring system.
- Condenser and scrubber system with proper cooling arrangement.
- Closed loop sampling for sampling of Relative materials.

Monitoring of Solvent Losses:-

- In storage and consumption of solvents in various products will be measured through Level transmitters and load cells weighing systems resp. The quantity at each stage will be reconciled periodically to arrive at losses.
- Batch output will be monitored and reconciled with quantity of input raw materials added.
- Workplace VOC monitoring will be carried out at the shop floor.
- Periodic Leakage Audit at Plant.

G-3	VOC emission sources and its mitigation measures

Sr. No.	Source	Waste Type /Pollution	Control Measures
Fugitive Emission			
1.	Pump handling odorous chemicals and pressured gases	Air Pollutant (VOC)	Use of mechanical seals of pumps and compressor. All pipeline and pipe fitting shall be well maintain, wear and tear shall be attended promptly.
2.	At reactor during charging of liquid and solids chemicals	Air Pollutant (VOC)	Liquid raw material will be charged by pumping and closed loop.
3.	Pressure release valve emission from pipeline	Air Pollutant (VOC)	For highly pressurized lines, vent lines of PRVs to air pollution control device in case of toxic gases.
4.	Release from sampling lines	Air Pollutant (VOC)	Using a close loop sampling system.
5.	Emission from bulk storage tank during	Air Pollutant (VOC)	Breather valve, PSVs, Rupture disc will be provided.

	unloading		Vapour recovery system will be installed for process and storage vent tank.
6.	Leak from valves, flanges, plugs and instrument connection.	Air Pollutant (VOC)	Welded pipes will be used wherever feasible. Suitable gasket material to be used. Suitable gland packing will be used in valves. Periodic inspection and maintenance of pipes and pipe fittings.
7.	Chemical vapours from wet cake in filtration and drying area	Air Pollutant (VOC)	Filtration will be done out in Agitated Neutch filter. Transfer and drying of wet-cake done in system shall be adopted, worker shall be provided PPEs, fume extraction system shall be provided, whenever require.
8.	Warehouse storing drums and bags	Air Pollutant (VOC)	Spillages shall be strictly prevented by providing dip pans, proper handling equipment, minimum manual operation, local exhaust and roof top ventilators. Spill control procedures and equipment shall be provided.

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

S.No.	Name of Hazardous Chemical	Capacity of Storage Tank (KL*) each	Number of storage tanks (In Nos.)	Hazardous Characteristics of Chemical
1	Aqueous Ammonia	200 KL	1	Corrosive & Toxic
2	Methanol	300 KL	1	Corrosive & Toxic
3	Sulphuric acid	1000 KL	1	
4	Toluene	300 KL 500 KL 200 KL	3	Corrosive & Toxic
5	Ethyl Acetate	30 KL	1	Corrosive & Toxic
6	Fresh Benzene	200 litr	1	Flammable
7	Recycled Benzene	5 KL	1	Flammable

8	Chlorine	Through pipeline from adjacent industry	--	Toxic
9	Hydrogen		--	Flammable

Brief checking schedule/maintenance Schedule for Pump, Control valves, Air Instrument system and Instrument will be prepared:

- Checking schedule/maintenance Schedule for Pump, Control valves, Air Instrument system and Instrument will be prepared
- Testing, inspection and certification will be carried out for all pressure vessels, lifting tackles and storage tanks as per Factories Act.
- Calibration will be carried out to maintain the flow indicator.
- Mechanical sealed pumps will be used to avoid and reduce leakages and fugitive emissions.
- Double mechanical seals will be provided for agitators
- Dyke wall will be provided for each tank.
- Secondary control will be provided for material transfer in the form of leakage collection tray.
- Alarm system will be provided for deviation of temperature, Pressure and level in storage tanks.
- Cooling arrangement will be provided for storage tank in case of fire/Heat.
- Double earthing system/Earthing grid will be provided for tanks.
- Safety system like Emergency Shut Down (ESD') switches will be provided for proper functioning.
- Sprinkler system, gas/fire detectors and Remote operated valves (ROV) will be provided as safety system.
- Lightening protection systems will be provided to cover tank farm.
- Wind socks at various locations to know the direction of wind in case of a leak or fire.

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

- Store in designated ventilated godown, availability of safety showers, provision of dust mask, face shield and eye goggles.
- Sprinklers System, Safety Showers will be provided.

Safety details of Hazardous Chemicals:

Type of Hazardous	Safety measures

Chemicals	
Flammable & Explosive Solvents	● Separate Isolated Storage Area will be constructed as per explosive department requirement and separation distance will be maintained, accordingly. ● Workers and Operators handling such materials will be trained for the hazards (fire/explosion, health, and chemical reactivity) associated with them. ● Lightening arrestor will be provided on the top of tallest structure. ● NFPA label (hazard identification) capacity and content will be displayed on respective barrels. ● Every time it will be ensured that barrels are cleaned and no chemicals are as a residue to avoid mixing and causing explosion or any mishap ● While decanting chemicals proper earthing arrangement will be ensured to avoid static charge ● Good housekeeping will be maintained. ● Work Instructions shall be prepared and followed. ● Proper health and safety rules for the same shall be followed. ● Hazardous Solvents shall be received through truck in barrels and stored in storage area as per safety rules and guidelines. ● Proper ventilation will be provided in storage room. ● Proper label and identification board /stickers will be provided in the storage area. ● Area shall be marked as “Hazardous Chemical Storage”, “No Smoking”, “Hot work Restricted”. No cell phones ● Fire hydrant monitors, Flame detectors, Temperature actuated heat detectors with alarms, automatic sprinkler systems etc. shall be installed in storage area, if required. ● Materials will be stored as per its compatibility study and separate area will be made for flammable, corrosive and toxic chemical storage. ● Comp ability chart of chemicals stored will be displayed in storage area. ● MSDS of chemicals stored will be available in storage area
For Toxic chemicals	● Storage area should be cool, dry, well ventilated, and clean and protected from external heat source. ● It should be remote from elevators, gangways or ventilating systems. ● Ventilation must be sufficient to prevent accumulation of vapour pockets. All fan switches should be outside the storage area. ● The building for the storage should be entirely of non-combustible construction and separate from other building. In case the storage is not in a different building it should be ground floor with at least two exists opening outside and separated from other parts of the building by fire resisting walls and floors. ● Keep "emergency kits' handy and in proper working condition to control leakage and train workers in their use. ● Appropriate facility for absorption through caustic soda/lime/soda ash solutions should be established and maintained in the event of leakage. The containers should not be immersed in same absorption media. ● Self-breathing apparatus, gas mask and 'emergency kits' should

	be located at strategic points under working condition and to be easily accessible in the event of emergency. ● Appropriate minimum safety distances as stipulated in the above mentioned rules have to be maintained from buildings or group of buildings or adjacent property.

 Applicability of PESO : Yes, PESO approval will be obtained before commissioning of the project.

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
Chlorination	● DCS control system. ● Chlorine gas leakage detection sensors ● Suitable MOC selection ● 2 Stage scrubber ● Closed loop system with high alarm alert. ● High pressure and high temperature interlock to cut off steam.
Fluorination	● In case of skin contact: Fluorine hydrolyzes very rapidly yielding hydrofluoric acid so that skin burns are like that from exposure to HF. Flush affected area with copious amounts of water for 5 minutes. Remove contaminated clothing as rapidly as possible. Apply 2.5% calcium gluconate gel to the affected area and continue to apply every 15 minutes while seeking immediate medical attention. ● In case of eye contact: Fluorine is corrosive and irritating to the eyes. Flush contaminated eye(s) immediately with copious quantities of water. Continue for a minimum of 30 minutes. Seek medical attention immediately. ● In case of inhalation: Even very low concentrations may irritate the respiratory tract and brief exposure to 50 ppm can be intolerable. High concentrations can cause severe damage to the respiratory system and can be fatal. PROMPT MEDICAL ATTENTION IS NECESSARY IN ALL CASES OF OVEREXPOSURE. Conscious persons should be assisted to an area with fresh, uncontaminated air. ● In case of ingestion: Not a likely route of exposure
Hydrolysis	● DCS control system. ● Suitable MOC selection ● 2 Stage scrubber ● Closed loop system with high alarm alert. ● high pressure and high temperature interlock to cut off steam.
Ammoxidation	● DCS control system.

	● Ammonia gas leakage detection sensors ● Suitable MOC selection ● 2 Stage scrubber ● Closed loop system with high alarm alert. ● high pressure and high temperature interlock to cut off steam.
Hydrogenation	● DCS control system. ● Hydrogen gas leakage detection sensors ● Hydrogen gas venting system ● Suitable MOC selection ● Closed loop system with high alarm alert. ● high pressure and high temperature interlock to cut off steam
Denitrochlorination	● DCS control system. ● chlorine gas leakage detection sensors ● Suitable MOC selection ● 2 Stage scrubber ● Closed loop system with high alarm alert. ● high pressure and high temperature interlock to cut off steam.

H-3	Details of Fire Load Calculation

-

Total Plot Area:	107365 m^2
Area utilized for plant activity:	39078 m^2
Area utilized for Hazardous Chemicals Storage:	3360 m^2
Number of Floors:	G + 04
Water requirement for firefighting in KLD :	1820 m^3
Water storage tank provided for firefighting in KLD:	3000 m^3
Details of Hydrant Pumps:	2 Nos. of Electrical pumps (410 m^3/hr capacity)
Nearest Fire Station:	SEZ Fire Station, Dahej
Applicability of Off Site Emergency Plan:	Yes

H-4	Details of Fire NOC/Certificate: Proposed is Greenfield project fire NOC/Certificate will be obtained after getting environmental clearance for the project.

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

Number of permanent Employee :	1
Number of Contractual	1

<table>
<tr><td>person/Labour :</td><td></td></tr>
<tr><td>Area provided for OHC:</td><td>200 m^2</td></tr>
<tr><td>Number of First Aid Boxes :</td><td>20</td></tr>
<tr><td>Nearest General Hospital :</td><td>Welfare Hospital, Bharuch & Reliance Hospital, Dahej</td></tr>
<tr><td>Name of Antidotes to be store in plant :</td><td>
<table>
<tr><th>Chemical</th><th>Antidote / Medical Treatment</th></tr>
<tr><td>Toluene</td><td>● Wash the affected skin with plenty of water.
● Administer Oxygen or shift to fresh air.
● Diazepam 0.1 mg / kg. (iv), bed rest.
● Don’t apply Epinephrine, Ifridin etc. Don’t apply milk, vegetable oil or alcohol.
● Give Diazepam0.1 mg/kg (iv)slowly through injection, bed rest.
● Diazem – 1 mg/kg. (Intravenous),Epencephala, Ephedrine</td></tr>
<tr><td>Methanol.</td><td>● Ethanol (30% solution from inside, 5% solution from outside i.e. by intravenous injection), Epicake Syrup.
● In case of acidosis give Sodium bicarbonate.
● In case of delirium give Diazepam 10 mg. by intravenous injection.
● Folinic acid (Leucovorin), 1 mg/kg, iv, 4 hourly.
● Other are activated charcoal with sorbitol
● Caffeine
● Calcium Gluconate
● Oxygen</td></tr>
<tr><td>Chlorine</td><td>● Deriphylline Inj., Phenobarbitone Inj., Phenobarbitone Tab.</td></tr>
</table>
</td></tr>
</table>

- **<u>After detailed discussion, Committee unanimously decided to consider the project in one of upcoming meeting only after submission of following documents,</u>**

1. Clarification regarding calcium chloride, 3,4 dichloro benzotrifluoride (3,4 DCBTF), Tri chloro Toluene Mixture and 2,6-Difluorobenzaldehyde is as Hazardous waste or co-product with

authenticated documents in place of simply mentioning it as product.

2. GIDC permission letter with mentioning quantity of effluent discharge permission of 1068 KLD into GIDC drainage leading to deep sea in place of simply mentioning it is in process at GIDC authority.
3. MoU in between GACL with PP regarding procure hydrogen and chlorine with its quantity which is to be sell to PP through pipeline with mentioning legal aspect on both side in place of simple letter of GACL regarding supply of hydrogen and nitrogen.
4. Explore possibility for reuse of treated waste water at maximum extent with proposal of multi numbers RO plant and MEE plant instead of single stage RO plant and MEE with mentioning comparative table of previous discharge and reuse of effluent and after explore reuse in maximum extent quantity of reuse of effluent and also mentioned by which advanced technology reuse of treated effluent rather than disposal to sea.
5. Details of adoption of solar panel, Solar light, CFL lamps etc for proposed project with its numbers and cost for adoption of it with adequate cost of each segment of roof top solar panel, solar lighting etc.
6. Adequate technical details for Risk assessment for chlorine, Toluene, Methanol, benzene and hydrogen gas etc. storage with premises and also for reception of chlorine and hydrogen gas through pipeline in case of any leakage or blast considering its worst case scenario and super impose of satellite image for dispersion model with mentioning its impact on surrounding village's residential habitat area and its mitigation measures. Also standard operating procedure (SOP) for handling and storage of it and emergency spare storage tank for its storage and details of onsite and offsite emergency plan details considering population affected due to proposed Hazardous chemicals storage and reception of chorine and hydrogen gas through pipeline along with its remedial measures.
7. Revised concrete proposal for CER activity related to Environment field considering need base activity in surrounding villages with mentioning CER activity will be carried out in which village with letter from villages gram panchayat regarding need based CER activity mentioned in Gram panchayat letter.

10	SIA/GJ/IND2/66745/2017	**M/s. Mahalaxmi Industries** Plot No: 96, GIDC-Gozaria, Tal. & Dist. Mehsana- 382825, Gujarat.	EC –Reconsideration

- This proposal was reconsidered in SEAC meeting dated 09.05.2022.
- The Project Proponent (PP) of the project informed regarding remaining absent during meeting dated: 09.05.2022 vide email and the reason of remaining **absent** is that their case is already heard by SEAC

Committee members on dated 11.03.2022 meeting and this is duplicate entry generated by online Parivesh portal.

After deliberation, SEAC unanimously decided for not hearing this case as it is duplicate entry which is online generated by Parivesh portal.

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

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Minutes approved by:

1.	Shri Akshay Kumar Saxena, Chairman, SEAC	
2.	Dr. S. C. Pant, Vice Chairman, SEAC	
3.	Dr. M. N. Patel, Member, SEAC	
4.	Shri D. C. Chaudhari, Member, SEAC	
5.	Shri J. K. Vyas, Member, SEAC	
6.	Shri Anand Zinzala, Member, SEAC	
7.	Shri B. M. Tailor, Member, SEAC	
8	Shri A. V. Shah, Secretary, SEAC	