Minutes of the 576th meeting of the State Level Expert Appraisal Committee held on 10th February 2023 through Video Conference (VC) on National Informatics Centre (NIC).

In the wake of recent crisis of COVID-19, 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 10/02/2023 at 13.30 hrs.

The 576th meeting of the State Level Expert Appraisal Committee (SEAC) was held online by Video conferencing on 10th February 2023 at 13.30 hrs. Following members joined the meeting:

1.	Shri Akshay Kumar Saxena, Chairman, SEAC
2.	Dr. S. C. Pant, Vice Chairman, SEAC
3.	Shri D. C. Chaudhari, Member, SEAC
4.	Shri J. K. Vyas, Member, SEAC
5.	Shri Anand Zinzala, Member, SEAC
6.	Shri B. M. Tailor, Member, SEAC

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

1.	SIA/GJ/IND3/402555/2022	**M/s. S D I Organics Pvt. Ltd.** Plot no. D-3/21/4, Dahej- 3, GIDC Dahej, Tal: Vagra, Dist: Bharuch	EC

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

Project status: **New**

1) Details of Application:

Type of application:	New
Proposal no.	SIA/GJ/89405/2022
Category of Project :	5 (f) – B1
Date of application: a) Date of submission of application b) Online accepted by SEAC	 13/12/2022 30/01/2023
Date of EDS by SEIAA	13/01/2023 17/01/2023

a) EDS Raised b) Reply by PP	
Date of EDS by SEAC a) EDS Raised b) Reply by PP	--
TOR No. & Date :	File No. SIA/GJ/89405/2022 dated 14th May, 2022.
Date and place of Public Hearing	Not applicable
Technical expert / Environmental Consultant :	M/s. Jyoti Om Chemical Research Centre Pvt. Ltd.
SEAC Meeting No. and Date:	--
ADS raised by SEAC meeting No & date :	--
Reply Submitted by PP dated:	--
Revised Consideration SEAC Meeting No. and Date:	--
Compliance of Existing EC & CCA as per MOEF&CC's OM dated: 08.06.2022	Not applicable. It is a new unit.

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

Sr. No.	Name of Products	MT/ Month	CAS No	End Use
1	**Nitration**	**250**	**--**	**--**
1.1	2-Chloro-5-Nitro Benzoic Acid **And/Or**		2516-96-3	Used in manufacturing of organic chemical synthesis, pharmaceuticals, dyestuff
1.2	2-Chloro-3-Nitro Benzoic Acid **And/Or**		3970-35-2	Used in manufacturing of organic chemical synthesis, pharmaceuticals, dyestuff
1.3	2-Chloro-3,5-Dinitro Benzoic Acid **And/Or**		2497-91-8	Used in manufacturing of organic chemical synthesis
1.4	4-Chloro-3-Nitro Benzoic Acid **And/Or**		96-99-1	Used in manufacturing of API
1.5	4-Chloro-3-Nitro-5-Chlorosulfonyl Benzoic Acid **And/Or**		22892-95-1	Used in manufacturing of API
1.6	4-Chloro-3,5-Dinitro Benzoic Acid **And/Or**		118-97-8	Used in manufacturing of organic chemical synthesis
1.7	4-Bromo-3-Nitro Benzoic Acid **And/Or**		6319-40-0	Used in manufacturing of API
1.8	4-Bromo-3,5-Dinitro Benzoic Acid **And/Or**		577-52-6	Used in manufacturing of API
1.9	2-Bromo-5-Nitro Benzoic Acid **And/Or**		943-14-6	Used in manufacturing of organic chemical synthesis
1.10	2-Bromo-3,5-Dinitro Benzoic		116529-60-	Used in manufacturing of organic

	Acid **And/Or**		3	chemical synthesis
1.11	Meta Nitro Benzoic Acid **And/Or**		121-92-6	Used in manufacturing of organic chemical synthesis
1.12	4-Methyl-3-Nitro Benzoic Acid **And/Or**		96-98-0	Used in manufacturing of organic chemical synthesis
1.13	1,5-Dinitro Naphthalene **And/Or**		605-71-0	Used in manufacturing of organic chemical synthesis
1.14	1,8-Dinitro Naphthalene **And/Or**		602-38-0	Used in manufacturing of organic chemical synthesis
1.15	4-Nitro Imidazole **And/Or**		3034-38-6	Used in manufacturing of API
1.16	3,5-Dinitro Benzoic Acid **And/Or**		99-34-3	Used in manufacturing of API
1.17	5-Nitro Isophthalic Acid **And/Or**		618-88-2	Used in manufacturing of API
1.18	4-Nitro Phthalic Acid **And/Or**		610-27-5	Used in manufacturing of organic chemical synthesis
1.19	3-Nitro Phthalic Acid **And/Or**		603-11-2	Used in manufacturing of API
1.20	2-Nitro Para Cresol **And/Or**		119-33-5	Used in manufacturing of Dyes
1.21	Meta Nitro benzaldehyde **And/Or**		99-66-1	Used in the synthesis of _ (API)
1.22	2,5-Dichloro-4-Nitro Aniline **And/Or**		6627-34-5	Used in manufacturing of Pigments
1.23	3,5-Dichloro-4-Nitro Aniline **And/Or**		6627-34-5	Used in manufacturing of Pigments
1.24	4,5-Dichloro-2-Nitro Acetanilide **And/Or**		6641-64-1	Used in manufacturing of organic chemical synthesis
1.25	Dinitro Toluic Acid **And/Or**		28169-46-2	Used in manufacturing of organic chemical synthesis
1.26	4 Chloro 3 Nitro Benzo Trifluoride **And/Or**		121-17-5	Used in manufacturing of organic chemical synthesis
1.27	4-Cyano-2-Nitro Phenol **And/Or**		3272-08-0	Used in manufacturing of Dyes
1.28	3-Methyl-2-Nitro Benzoic Acid **And/Or**		5437-38-7	Used in manufacturing of API
2	**Nucleophilic substitution Reaction**	**100**	**--**	**--**
2.1	5-Nitro Salicylic Acid **And/Or**		96-97-9	Used in manufacturing of organic chemical synthesis, pharmaceuticals, dyestuff
2.2	2-Amino-5-Nitro Benzoic Acid **And/Or**		616-79-5	Used in manufacturing of organic chemical synthesis
2.3	2-Amino-5-Nitro Benzophenone **And/Or**		1775-95-7	Used in manufacturing of organic chemical synthesis
2.4	2-Methoxy-5-Nitro Benzoic Acid **And/Or**		40751-89-1	Used in manufacturing of API
2.5	2-Methoxy-3,5-Dinitro Benzoic acid **And/Or**		6083-67-6	Used in manufacturing of API
2.6	3,5-Dinitro Salicylic Acid **And/Or**		609-99-4	Used in manufacturing of organic chemical synthesis
2.7	4-Amino-3-Nitro Benzoic Acid **And/Or**		1588-83-6	Used in manufacturing of Pigments
2.8	4-Methoxy-3-Nitro Benzoic Acid **And/Or**		89-41-8	Used in manufacturing of Pigments
2.9	4-Methoxy-3,5-Dinitro Benzoic Acid **And/Or**		16533-71-4	Used in manufacturing of Pigments

2.10	4-Amino-3,5-Dinitro Benzophenone **And/Or**		31431-19-3	Used in manufacturing of API
2.11	4-Amino-3-Nitro Benzophenone **And/Or**		31431-19-3	Used in manufacturing of API
2.12	4-Methylamino-3-Nitro Benzoic Acid **And/Or**		41263-74-5	Used in manufacturing of organic chemical synthesis
2.13	4-Phenoxy Benzoic Acid **And/Or**		2215-77-2	Used in manufacturing of API
2.14	3-Chloro Anthranilic Acid **And/Or**		6388-47-2	Used in manufacturing of organic chemical synthesis
2.15	2,5-Diamino Benzoic Acid **And/Or**		610-74-2	Used in manufacturing of organic chemical synthesis
2.16	ABAS : 2-Amino Benzoic Acid-5-Sulfonamide **And/Or**		137-65-5	Used in manufacturing of pigments
2.17	2 Hydroxy Phenyl Acetic Acid **And/Or**		614-75-5	Used in manufacturing of API
3	**Oxidation**	**250**	**-**	**--**
3.1	Ortho Chloro Benzoic Acid **And/Or**		118-91-2	Used in manufacturing of API
3.2	Para Chloro Benzoic Acid **And/Or**		74-11-3	Used in manufacturing of API
3.3	Para Nitro Benzoic Acid **And/Or**		62-23-7	Used in manufacturing of API
3.4	2,3-Dichloro Benzoic Acid **And/Or**		50-45-3	Used in manufacturing of API
3.5	2,4-Dichloro Benzoic Acid **And/Or**		50-80-0	Used in manufacturing of API
3.6	4-Bromo Benzoic Acid **And/Or**		586-76-5	Used in manufacturing of API
3.7	2-Bromo Benzoic Acid **And/Or**		88-65-3	Used in manufacturing of API
3.8	Meta Nitro Benzoic Acid **And/Or**		121-92-0	Used in manufacturing of Dyes
3.9	Ortho Nitro Benzoic Acid **And/Or**		552-16-9	Used in manufacturing of API
3.10	2-Chloro-4-Nitro Benzoic Acid **And/Or**		99-60-5	Used in manufacturing of API
3.11	4-Nitro-2-Sulpho Benzoic Acid Potassium Salt **And/Or**		5344-48-9	Used in manufacturing of API
3.12	Para Toluic Acid **And/Or**		99-94-5	Used in manufacturing high performance pigments
3.13	Ortho Toluic Acid **And/Or**		118-90-1	Used in manufacturing high performance pigments
3.14	Meta Toluic Acid **And/Or**		99-04-7	Used in manufacturing of API
3.15	3-Chloro Benzoic Acid **And/Or**		535-80-8	Used in manufacturing of API
3.16	3,4-Dichloro Benzoic Acid **And/Or**		51-44-5	Used in manufacturing of API
3.17	3,5-Dichloro Benzoic Acid **And/Or**		51-36-5	Used in manufacturing of API
3.18	2,5-Dichloro Benzoic Acid **And/Or**		50-79-3	Used in manufacturing of organic chemical synthesis
3.19	2,6-Dichloro Benzoic Acid **And/Or**		50-30-6	Used in manufacturing of API
3.20	Para Tert-Butyl Benzoic Acid **And/Or**		98-73-7	Used in manufacturing of organic chemical synthesis
3.21	3-Bromo Benzoic Acid **And/Or**		586-76-2	Used in manufacturing of API

3.22	2-Iodo Benzoic Acid **And/Or**		88-67-5	Used in manufacturing of API
3.23	3-Iodo Benzoic Acid **And/Or**		618-51-9	Used in manufacturing of organic chemical synthesis
3.24	4-Iodo Benzoic Acid **And/Or**		619-58-9	Used in manufacturing of API
3.25	2-Chloro-5-Iodo Benzoic Acid **And/Or**		19094-56-5	Used in manufacturing of API
4	**API**	**50**	**--**	**--**
4.1	Mefenemic Acid **And/Or**		61-68-7	Active Pharmaceuticals Intermediates
4.2	Mebendazole **And/Or**		31431-39-7	Active Pharmaceuticals Intermediates
4.3	Dabigatran **And/Or**		211915-06-9	Active Pharmaceuticals Intermediates
4.4	Procaine / Procaine HCl / Procaine Penicillin G **And/Or**		59-46-1/6130-64-9	Active Pharmaceuticals Intermediates
4.5	Benzocaine **And/Or**		94-09-7	Active Pharmaceuticals Intermediates
4.6	Lamotrigine **And/Or**		84057-84-1	Active Pharmaceuticals Intermediates
4.7	Frusemide / Furosemide **And/Or**		54-31-9	Active Pharmaceuticals Intermediates
4.8	Dinitro Toluamide (DOT) (3,5 Dinitro Toluamide) **And/Or**		148-01-6	Veterinary Active Pharmaceutical Intermediates
4.9	Albendazole **And/Or**		54965-21-8	Active Pharmaceuticals Intermediates
4.10	Febendazole **And/Or**		43210-67-9	Active Pharmaceuticals Intermediates
4.11	Metronidazole **And/Or**		443-48-1	Active Pharmaceuticals Intermediates
4.12	Metronidazole Benzoate **And/Or**		13182-89-3	Active Pharmaceuticals Intermediates
4.13	Tinidazole		19387-91-8	Active Pharmaceuticals Intermediates
4.14	Ornidazole **And/Or**		16773-42-5	Active Pharmaceuticals Intermediates
4.15	Capecitabine **And/Or**		154361-50-9	Active Pharmaceuticals Intermediates
4.16	Alendronate Sodium **And/Or**		121268-17-5	Active Pharmaceuticals Intermediates
4.17	Meprobamate **And/Or**		57-53-4	Active Pharmaceuticals Intermediates
4.18	5-Amino Salicylic Acid (Mesalamine) **And/Or**		89-57-6	Active Pharmaceuticals Intermediates
4.19	Diminazene Aceturate **And/Or**		908-54-3	Active Pharmaceuticals Intermediates
4.20	Iodixanol **And/Or**		92339-11-2	Active Pharmaceuticals Intermediates
5	**R&D**	**0.1**		
6	**Acetophenone Derivatives And/Or**	**70**		
6.1	Hydroxy Acetophenones		118-93-4	Used in manufacturing of organic chemical synthesis

6.2	Chloro Acetophenones		99-91-2	Used in manufacturing of API
6.3	Methyl Acetophenones		122-00-9	Used in manufacturing of API
6.4	Methoxy Acetophenones		579-74-8	Used in manufacturing of organic chemical synthesis
7	**Acetylation And/Or**	**70**		
7.1	2-Acetyl Amino Phenol		614-80-2	Used in manufacturing of API
7.2	2-Acetyl-4-Amino Benzoic Acid		43134-76-5	Used in manufacturing of pigments
8	**Acid Chloride Formation And/Or**	**70**		
8.1	2-Chloro Benzoyl Chloride		609-65-4	Used in manufacturing of API
8.2	4-Chloro Benzoyl Chloride		122-01-0	Synthetic organic chemicals
8.3	2,3-Dichloro Benzoyl Chloride		2905-60-4	Used in manufacturing of API
8.4	2,4-Dichloro Benzoyl Chloride		89-75-8	Synthetic organic chemicals
8.5	Ortho Bromo Benzoyl Chloride		586-75-4	Used in manufacturing of API
8.6	3-Chloro Benzoyl Chloride		618-46-2	Used in manufacturing of API for antacid
8.7	4-Methoxy Benzoyl Chloride		100-07-2	Used in manufacturing of API
8.8	3-Methoxy Benzoyl Chloride		1711-05-3	Used in manufacturing of API
9	**Ammonolysis And/Or**	**70**		
9.1	2-Chloro-5-Sulfamoyl Benzoic Acid		97-04-1	Used in manufacturing of API
9.2	4-Chloro-3-Sulfamoyl Benzoic Acid		1205-30-7	Used in manufacturing of API
9.3	4-Chloro-3-Nitro-5-Sulfamoyl Benzoic Acid		22892-96-2	Used in manufacturing of API
9.4	2,4-Dichloro-5-Sulfamoyl Benzoic Acid (Lasamide)		2736-23-4	Used in manufacturing of API
10	**Benzamide Derivatives And/Or**	**70**		
10.1	2-Chloro-5-Nitro Benzamide		16588-15-1	Used in manufacturing of API
10.2	2-Chloro Benzamide		609-66-5	Used in manufacturing of API
10.3	2-Methoxy-5-Nitro Benzamide		40751-89-1	Used in manufacturing of API
10.4	4-Chloro Benzamide		619-56-7	Used in manufacturing of API
10.5	4-Chloro-3-Nitro Benzamide		16588-06-0	Used in manufacturing of API
10.6	4-Methoxy-3-Nitro Benzamide		10397-58-7	Used in manufacturing of pigments
10.7	Para Nitro Benzamide		2835-68-9	Used in manufacturing of API
10.8	4-Bromo Benzamide		698-67-9	Used in manufacturing of API
10.9	2-Bromo Benzamide		4001-73-4	Used in manufacturing of API
10.10	Meta Nitro Benzamide		645-09-0	Used in manufacturing of API
10.11	4-Methyl-3-Nitro Benzamide		96-98-0	Used in manufacturing of organic chemical synthesis
10.12	2-Chloro Benzamide		609-66-5	Used in manufacturing of API
10.13	3-Chloro Benzamide		618-48-4	Use in manufacturing of API
10.14	4-Chloro Benzamide		619-56-7	Use in manufacturing of API
10.15	2,3-Dichloro Benzamide		5980-24-5	Used in manufacturing of API
10.16	2,4-Dichloro Benzamide		2447-79-2	Used in manufacturing of API
10.17	3,5 Dinitro Benzamide		121-81-3	Use in manufacturing of API
11	**Benzanilide Derivatives And/Or**	**70**		

11.1	4-Chloro-3-Nitro Benzanilide		41614-16-8	Used in manufacturing of Pigments
11.2	4-Methoxy-3-Nitro Benzanilide		97-32-5	Used in manufacturing of API
11.3	4-Methyl-3-Nitro Benzanilide		7356-11-8	Used in manufacturing of Pigments
11.4	4-Amino Benzanilide		782-45-6	Used in manufacturing of Pigments
12	**Benzonitrile Derivatives And/Or**	**70**		
12.1	2-Chloro Benzonitrile		873-32-5	Used in manufacturing of API
12.2	4-Chloro Benzonitrile		623-03-0	Used in manufacturing of API
12.3	4-Bromo Benzonitrile		623-00-7	Used in manufacturing of API
12.4	2-Bromo Benzonitrile		2042-37-7	Used in manufacturing of API
12.5	Para Nitro Benzonitrile		619-72-7	Used in manufacturing of API
12.6	4-Hydroxy Benzonitrile – 60% of 94.5		767-00-0	Used in manufacturing of organic chemical synthesis
13	**Bromination and Chlorination of Alcohols And/Or**	**70**	**--**	**--**
13.1	5-Bromo-2-Chloro Benzoic Acid		21739-92-4	Fine chemicals
13.2	Ethyl Bromide		74-96-4	Fine chemicals
13.3	n-Propyl Bromide		106-94-5	Fine chemicals
13.4	Iso Propyl Bromide		75-26-3	Fine chemicals
13.5	n-Butyl Bromide		109-65-9	Fine chemicals
13.6	Iso Butyl Bromide		78-77-3	Fine chemicals
13.7	Sec-Butyl Bromide		78-76-2	Fine chemicals
13.8	n-Hexyl Bromide		111-25-1	Fine chemicals
13.9	n-Heptyl Bromide		629-04-9	Fine chemicals
13.10	n-Octyl Bromide		111-83-1	Fine chemicals
13.11	n-Decyl Bromide		112-29-8	Fine chemicals
13.12	Lauryl Bromide		143-15-7	Fine chemicals
13.13	Cetyl Bromide		112-82-3	Fine chemicals
13.14	Myristyl Bromide		112-71-0	Fine chemicals
13.15	Stearyl Bromide		112-89-0	Fine chemicals
13.16	1,2-Dibromo Ethane		106-93-4	Fine chemicals
13.17	1,3-Dibromo Propane		109-64-8	Fine chemicals
13.18	1,4-Dibromo Butane		110-52-1	Fine chemicals
13.19	1,5-Dibromo pentane		111-24-0	Fine chemicals
13.20	1,6-Dibromo Hexane		629-03-8	Fine chemicals
13.21	1-Chloro-2-Ethyl Hexane		123-04-6	Fine chemicals
13.22	6-Chloro-1-Hexanol		2009-83-8	Fine chemicals
13.23	3-Chloro Propanol		627-30-5	Fine chemicals
13.24	1,6-Dichloro Hexane		2163-00-0	Fine chemicals
13.25	Cyclopropyl methyl Bromide		7051-34-5	Fine chemicals
13.26	Cyclopentyl Bromide		137-43-9	Fine chemicals
13.27	Cyclopentyl Chloride		930-28-9	Fine chemicals
13.28	6-Bromo Hexanol		4286-55-9	Fine chemicals
13.29	8-Bromo Octanol		50816-19-8	Fine chemicals
13.30	10-Bromo Decanol		53463-68-6	Use in manufacturing of Dyes
13.31	2-Bromo Propionic Acid		598-72-1	Fine chemicals
13.32	2-Bromo Propionyl Bromide		563-76-8	Fine chemicals

13.33	5-Bromo Valeric Acid		2067-33-6	Fine chemicals
13.34	2-Bromo Hexanoic Acid		616-05-7	Fine chemicals
13.35	Sodium-2-Bromo Propionate		56985-74-1	Fine chemicals
13.36	Ethyl-3-Bromo Propionate		539-74-2	Fine chemicals
13.37	Methyl-2-Bromo Butyrate		3196-15-4	Fine chemicals
13.38	Ethyl-2-Bromo Butyrate		533-68-6	Fine chemicals
13.39	Ethyl-4-Bromo Butyrate		2969-81-5	Fine chemicals
13.40	Methyl-2-Bromo Isobutyrate		23426-63-3	Fine chemicals
13.41	Ethyl-2-Bromo Isobutyrate		600-00-0	Fine chemicals
13.42	Isopropyl-2-Bromo Isobutyrate		51368-55-9	Fine chemicals
13.43	Ethyl-2-Bromo Valerate		615-83-8	Fine chemicals
13.44	Methyl-2-Bromo valerate		19129-92-1	Fine chemicals
13.45	Ethyl-5-Bromo Valerate		14660-52-7	Fine chemicals
13.46	Tert-Butyl-2-Bromo Isobutyrate		23877-12-5	Fine chemicals
13.47	Methyl-2-Bromo Caproate		5445-19-2	Fine chemicals
13.48	p-Bromo Toluene		106-38-7	Fine chemicals
14	**Chlorination And/Or**	**70**		
14.1	2-Chloro Benzaldehyde		89-98-5	Used in manufacturing of API
14.2	4-Chloro Benzaldehyde		104-88-1	Used in manufacturing of API
14.3	Meta Chloro Benzaldehyde		587-04-2	Used in manufacturing of API
14.4	Ortho Bromo Benzaldehyde		6630-33-7	Used in manufacturing of API
14.5	Meta Bromo Benzaldehyde		3132-99-8	Used in manufacturing of API
14.6	Para Bromo Benzaldehyde		1122-91-4	Used in manufacturing of API
14.7	5-Chloro Salicylic Acid		321-14-2	Used in manufacturing of organic chemical synthesis
15	**Chloro-Sulfonation And/Or**	**70**		
15.1	2-Chloro-5-Chlorosulfonyl Benzoic Acid		137-64-4	Used in manufacturing of API
15.2	4-Chloro-3-Chlorosulfonyl Benzoic Acid		2494-79-3	Used in manufacturing of API and Pigments
15.3	2,4-Dichloro-5-Sulfonyl Chloride Benzoic Acid		3740-18-9	Used in manufacturing of API
15.4	2-Chloro-5-Sulfonyl Benzoic Acid		109029-96-1	Used in manufacturing of API
16	**Condensation And/Or**	**70**		
16.1	Aceturic Acid		543-24-8	Used in manufacturing of API
17	**Cyanation And/Or**	**70**		
17.1	2,3-Dichloro Benzoyl Cyanide		77668-42-9	Use in manufacturing of Synthetic Compounds
18	**Esterification And/Or**	**70**		
18.1	Methyl-2-Chloro-5-Nitro Benzoate		6307-82-0	Used in manufacturing of organic chemical synthesis, Pharmaceuticals, and Dyestuff
18.2	Methyl-2-Chloro-3-Nitro Benzoate		53553-14-3	Used in manufacturing of organic chemical synthesis, Pharmaceuticals, and Dyestuff
18.3	Methyl-2-Chloro Benzoate		610-96-8	Used in manufacturing of API
18.4	Methyl-2-Chloro-3,5-Dinitro Benzoate		2213-79-8	Used in manufacturing of organic chemical synthesis

18.5	Methyl-4-Chloro-3-Nitro Benzoate		14719-83-6	Used in manufacturing of organic chemical synthesis, Pharmaceuticals, and Dyestuff
18.6	Methyl-4-Chloro-3,5-Dinitro Benzoate		2552-45-6	Used in manufacturing of organic chemical synthesis, Pharmaceuticals, and Dyestuff
18.7	Methyl-4-Nitro Benzoate		619-50-1	Used in manufacturing of API
18.8	Methyl-4-Methyl-3-Nitro Benzoate		7356-11-08	Used in manufacturing of organic chemical synthesis, Pharmaceuticals and Dyestuff
18.9	5-Nitro Isophthalic Acid Dimethyl Ester		13290-96-5	Used in manufacturing of API
18.10	Methyl Paraben		99-76-3	Used in manufacturing of Antimicrobial preservatives
18.11	Ethyl Paraben		120-47-8	Used in manufacturing of Antimicrobial preservatives
18.12	Propyl Paraben		94-13-3	Used in manufacturing of Antimicrobial preservatives
18.13	Butyl Paraben		94-26-8	Used in manufacturing of Antimicrobial preservatives
18.14	Iso Propyl Paraben		4191-73-5	Used in manufacturing of Antimicrobial preservatives
18.15	Iso Butyl Paraben		4247-02-03	Used in manufacturing of cosmetic product
18.16	Benzyl Paraben		94-18-8	Used in manufacturing of Antimicrobial preservatives
18.17	4-Ethoxy Benzoic Acid Methyl Ester		23676-08-6	Used in manufacturing of organic chemical synthesis
18.18	4-Ethoxy Benzoic Acid Ethyl Ester		23676-09-7	Used in manufacturing of organic chemical synthesis
18.19	4-Isopropoxy Benzoic Acid Methyl Ester		35826-59-6	Used in manufacturing of organic chemical synthesis
18.20	4-Isopropoxy Benzoic Acid Ethyl Ester		122488-52-2	Used in manufacturing of organic chemical synthesis
18.21	p-Anisic Acid Methyl Ester		121-98-2	Used in manufacturing of API
18.22	p-Anisic Acid Ethyl Ester		94-30-4	Used in manufacturing of API
18.23	o-Anisic Acid Methyl Ester		606-45-1	Used in manufacturing of Perfumery
18.24	o-Anisic Acid Ethyl Ester		7335-26-4	Used in manufacturing of Perfumery
18.25	o-Anisic Acid Phenyl Ester		10268-71-0	Used in manufacturing of API
18.26	2-Ethoxy Benzoic Acid Methyl Ester		3686-55-3	Used in manufacturing of organic chemical synthesis
18.27	2-Ethoxy Benzoic Acid Ethyl Ester		6290-24-0	Used in manufacturing of organic chemical synthesis
18.28	3-Hydroxy Benzoic Acid Methyl Ester		19438-10-9	Used in manufacturing of organic chemical synthesis
18.29	3-Chloro Salicylic Acid Methyl Ester		52159-67-8	Used in manufacturing of organic chemical synthesis
18.30	3-Chloro-2-Ethoxy Benzoic Acid Methyl Ester		99586-84-2	Used in manufacturing of organic chemical synthesis
18.31	4-Chloro Salicylic Acid Methyl Ester		22717-55-1	Used in manufacturing of organic chemical synthesis

18.32	4-Chloro-2-Methoxy Benzoic Acid Methyl Ester		78955-90-5	Used in manufacturing of organic chemical synthesis
18.33	4-Chloro-2-Ethoxy Benzoic Acid Methyl Ester		108282-38-8	Used in manufacturing of organic chemical synthesis
18.34	5-Chloro Salicylic Acid Methyl Ester		4068-78-4	Used in manufacturing of organic chemical synthesis
18.35	5-Chloro-2-Methoxy Benzoic Acid Methyl Ester		N.A	Use in manufacturing of Synthetic Compounds
18.36	Methyl Salicylate		119-36-8	Used in manufacturing of Perfumery
18.37	Ethyl Salicylate		118-61-6	Used in manufacturing of Perfumery
18.38	Phenyl Salicylate		118-55-8	Used in manufacturing of synthetic organic chemicals
18.39	Methyl-3-Methyl Salicylate		23287-26-5	Used in manufacturing of Perfumery
18.40	Methyl-4-Methyl Salicylate		4670-56-8	Used in manufacturing of Perfumery
18.41	Methyl-5-Methyl Salicylate		22717-57-3	Used in manufacturing of Perfumery
18.42	2,4-Dihydroxy Benzoic Acid Methyl Ester		2150-47-2	Used in manufacturing synthetic organic chemicals
18.43	2,6-Dihydroxy Benzoic Acid Methyl Ester		2150-45-0	Used in manufacturing of organic chemical synthesis
18.44	1-Hydroxy-2-Naphthoic Acid Phenyl Ester		132-54-7	Used in manufacturing of organic chemical synthesis
18.45	1-Methoxy-2-Naphthoic Acid Methyl Ester		6039-59-4	Used in manufacturing of organic chemical synthesis
18.46	1-Ethoxy-2-Naphthoic Acid Methyl Ester		N.A	Use in manufacturing of Synthetic Compounds
18.47	3-Amino Salicylic Acid Methyl Ester		35748-34-6	Used in manufacturing of organic chemical synthesis
18.48	4-Amino Salicylic Acid Methyl Ester		4136-97-4	Used in manufacturing of organic chemical synthesis
18.49	5-Amino Salicylic Acid Methyl Ester		42753-75-3	Used in manufacturing of organic chemical synthesis
19	**Ether Formation And/or**	**70**		
19.1	4-Ethoxy Benzoic Acid		619-86-3	Used in manufacturing of API
19.2	4-Methoxy Benzoic Acid / p-Anisic Acid		100-09-4	Used in manufacturing of API
19.3	2-Ethoxy Benzoic Acid		134-11-2	Used in manufacturing of API
19.4	2-Ethoxy Benzamide		938-73-8	Used in manufacturing of API
19.5	3-Chloro-2-Ethoxy Benzoic Acid			Used in manufacturing of API
19.6	4-Chloro-2-Methoxy Benzoic Acid		57479-70-6	Used in manufacturing of API
19.7	4-Chloro-2-Ethoxy Benzoic Acid		74-11-3	Used in manufacturing of API
19.8	5-Chloro-2-Methoxy Benzoic Acid Methyl Ester		33924-48-0	Used in manufacturing of API
19.9	5-Chloro-2-Ethoxy Benzoic Acid		62871-12-9	Used in manufacturing of API
19.10	2-Ethoxy Phenol		94-71-3	Used in manufacturing of Food Preservatives
19.11	1-Ethoxy-2-Naphthoic Acid		2224-00-2	Used in manufacturing of organic chemical synthesis
19.12	2-Methoxy Benzoic Acid / o-Anisic Acid		579-75-9	Used in manufacturing of API
19.13	3-Methoxy Benzoic Acid / m-		586-38-9	Used in manufacturing of API

	Anisic Acid			
19.14	3-Chloro-2-Methoxy Benzoic Acid Methyl Ester		92992-36-4	Used in manufacturing of API
19.15	3-Methoxy Phenol		150-19-6	Used in manufacturing of Food Preservatives
19.16	2,6-Dimethoxy Benzoic Acid		1466-76-8	Used in manufacturing of organic chemical synthesis
19.17	1-Methoxy-2-Naphthoic Acid		883-21-6	Used in manufacturing of organic chemical synthesis
20	**Friedel Craft's Reaction And/Or**	70		
20.1	2-Chloro-5-Nitro Benzophenone		34052-37-4	Used in manufacturing of Pigments
20.2	2-Chloro-3-Nitro Benzophenone		890098-19-8	Used in manufacturing of API
20.3	2-Chloro-3,5-Dinitro Benzophenone		2497-91-8	Used in manufacturing of organic chemical synthesis
20.4	4-Chloro-3-Nitro Benzophenone		56107-02-9	Active Pharmaceuticals Intermediates
20.5	4-Chloro-3,5-Dinitro Benzophenone		--	Used in manufacturing of organic chemical synthesis
20.6	Para Nitro Benzophenone		1144-74-7	Used in manufacturing of API
20.7	2,3-Dichloro Benzophenone		77008-58-3	Used in manufacturing of organic chemical synthesis
20.8	2,4-Dichloro Benzophenone		19811-05-3	Used in manufacturing of organic chemical synthesis
20.9	4-Bromo Benzophenone		90-90-4	Used in manufacturing of organic chemical synthesis
20.10	4-Bromo-3-Nitro Benzophenone		62100-13-4	Used in manufacturing of organic chemical synthesis
20.11	4-Bromo-3,5-Dinitro Benzophenone		577-52-6	Used in manufacturing of API
20.12	2-Bromo Benzophenone		13047-06-8	Used in manufacturing of organic chemical synthesis
20.13	2-Bromo-5-Nitro Benzophenone		183110-88-5	Used in manufacturing of organic chemical synthesis
20.14	2-Bromo-3,5-Dinitro Benzophenone		87424-32-6	Used in manufacturing of organic chemical synthesis
20.15	Meta Nitro Benzophenone		2243-80-3	Used in manufacturing of API
20.16	Ortho Nitro Benzophenone		2243-79-0	Used in manufacturing of API
20.17	4-Methyl-3-Nitro Benzophenone		71319-21-6	Used in manufacturing of organic chemical synthesis
20.18	Propiophenone		93-55-0	Used in manufacturing of API
21	**Hydrolysis And/Or**	**70**		
21.1	4-Isopropoxy Benzoic Acid		13205-46-4	Used in manufacturing of API
21.2	3-Chloro-2-Methoxy Benzoic Acid		3260-93-3	Used in manufacturing of API
21.3	5-Chloro-2-Methoxy Benzoic Acid		3438-16-2	Use in manufacturing of Synthetic Compounds
22	**Kolbe Schmitt Reaction And/Or**	**70**		

22.1	Para Hydroxy Benzoic Acid		99-96-7	Used in manufacturing of API
22.2	3-Methyl Salicylic Acid		83-40-9	Used in manufacturing of enzymes
22.3	4-Methyl Salicylic Acid		50-85-1	Used in manufacturing of enzymes
22.4	5-Methyl Salicylic Acid		89-56-5	Used in manufacturing of enzymes
22.5	2,4-Dihydroxy Benzoic Acid		89-86-1	Used in manufacturing of API
22.6	2,6-Dihydroxy Benzoic Acid		303-07-1	Used in manufacturing of API
22.7	3-Chloro Salicylic Acid		1829-32-9	Used in manufacturing of organic chemical synthesis
22.8	4-Chloro Salicylic Acid		5106-98-9	Used in manufacturing of organic chemical synthesis
22.9	5-Chloro Salicylic Acid		321-14-2	Used in manufacturing of organic chemical synthesis
22.10	1-Hydroxy-2-Naphthoic Acid		86-48-6	Used in manufacturing of organic chemical synthesis.
22.11	4-Amino Salicylic Acid		65-49-6	Used in manufacturing of API
23	**Neutralization And/Or**	**70**		
23.1	Sodium Methyl Paraben		5026-62-0	Used for manufacturing cosmetics
23.2	Sodium Ethyl Paraben		35285-68-8	Used for manufacturing cosmetics
23.3	Sodium Propyl Paraben		35285-69-9	Used for manufacturing cosmetics
23.4	Sodium Butyl Paraben		36457-20-2	Used for manufacturing cosmetics
23.5	Sodium Iso Propyl Paraben		35285-69-9	Used for manufacturing cosmetics
23.6	Sodium Iso Butyl Paraben		84930-15-4	Used for manufacturing cosmetics
23.7	Sodium Benzyl Paraben		94-18-8	Used in manufacturing of Antibacterial Preservatives
23.8	Meta Nitro Benzoic Acid Sodium Salt		827-95-2	Used in manufacturing of organic chemical synthesis
23.9	Para Nitro Benzoic Acid Sodium Salt		62-23-7	Used in manufacturing of Folic acid
24	**Reduction And/Or**	**70**		
24.1	2-Chloro-3-Amino Benzoic Acid		108679-71-6	Used in manufacturing of API for Oncology
24.2	2-Chloro-5-Amino Benzoic acid		89-54-3	Used in manufacturing of organic chemical synthesis
24.3	2-Chloro-5-Amino Benzamide		62802-42-0	Used in manufacturing of organic chemical synthesis
24.4	2-Chloro-3,5-Diamino Benzoic Acid		3970-35-2	Used in manufacturing of organic chemical synthesis, Pharmaceuticals, and Dyestuff
24.5	2-Methoxy-5-Amino Benzoic Acid		3403-47-2	Used in manufacturing of organic chemical synthesis
24.6	2-Methoxy-5-Amino Benzamide		22961-58-6	Used in manufacturing of organic chemical synthesis
24.7	3,5-Diamino Salicylic Acid		112725-89-0	Used in manufacturing of organic chemical synthesis
24.8	3,4-Diamino Benzoic Acid		619-05-6	Used in manufacturing of organic chemical synthesis
24.9	4-Chloro-3-Amino Benzoic acid		2840-28-0	Used in manufacturing of Mebendazole
24.10	4-Chloro-3-Amino Benzamide		2486-71-7	Used in manufacturing of organic chemical synthesis
24.11	4-Methoxy-3-Amino Benzoic		2840-26-8	Used in manufacturing of pigments

	Acid			
24.12	4-Methoxy-3-Amino Benzamide		17481-27-5	Used in manufacturing of pigments
24.13	4-Methoxy-3-Amino Benzanilide		120-35-4	Used in manufacturing of API
24.14	3,4-Diamino Benzophenone		39070-63-8	Use in manufacturing of Synthetic Compounds
24.15	Methyl-4-Amino Benzoate		619-45-4	Used in manufacturing of API
24.16	Para Amino Benzoic Acid		150-13-0	Used in manufacturing of API for Pain reliver
24.17	Para Amino Benzamide		2835-68-9	Used for API veterinary drug
24.18	4-Bromo-3-Amino Benzoic Acid		2840-29-1	Used in manufacturing of organic chemical synthesis
24.19	2-Bromo-5-Amino Benzoic acid		2840-02-0	Used in manufacturing of organic chemical synthesis
24.20	Meta Amino Benzoic Acid		99-05-8	Used in manufacturing of Hyper tension
24.21	Meta Amino Benzamide		3544-24-9	Used in manufacturing of pigments
24.22	Ortho Amino Benzoic Acid		118-92-3	Used in manufacturing of migraine
24.23	2-Chloro-4-Amino Benzoic Acid		2457-76-3	Used in manufacturing of API
24.24	4-Methyl-3-Amino Benzoic Acid		2458-12-0	Used in manufacturing of API
24.25	4-Methyl-3-Amino Benzamide		19406-86-1	Used in manufacturing of organic chemical synthesis
24.26	4-Methyl-3-Amino Benzanilide		--	Use in manufacturing of Synthetic Compounds
24.27	3,5-Diamino Benzoic Acid		535-87-5	Used in manufacturing of organic chemical synthesis
24.28	5-Amino Isophthalic Acid		99-31-0	Used in manufacturing of pigments
24.29	3-Amino-4-Methoxy Acetanilide		6375-47-9	Used in manufacturing of pigments
24.30	Meta Phenoxy Benzyl Alcohol		13826-35-2	Used in manufacturing of API
24.31	Ortho Cumidine		643-28-7	Used in manufacturing of pigments
24.32	Para Cumidine		99-88-7	Used in manufacturing of pigments
24.33	Ortho Toluidine		95-53-4	Used in manufacturing of pigments
24.34	4-Amino Benzonitrile		873-74-5	Used in manufacturing of organic chemical synthesis
24.35	4-Amino Acetanilide-2-Sulphonic Acid		88-64-2	Used in manufacturing of organic chemical synthesis
24.36	5-Amino Isophthalic Acid Dimethyl Ester		99-27-4	Used in manufacturing of pigments
25	**Miscellaneous**	**70**		
25.1	4-Thiocyno-2-Nitro Aniline		54029-45-7	Used in manufacturing of API
25.2	4-[N-(2-Methoxy Benzoyl)Sulfomoyl] Benzoyl Chloride		816431-72-8	Used in manufacturing of organic chemical synthesis
	Total	**720.1**		

 # Brief Note of Product Profile:

1. No of Manufacturing Plants: 4
2. Brief Note regarding number of Products to be manufactured considering plant capacity: 15 numbers of products can be manufactured at a time in each plant

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

4) The proposal was considered in the SEAC video conference meeting dated 10.02.2023.
5) Project proponent (PP) and their Technical Expert M/s Jyoti Om Chemical Research Centre Pvt. Ltd. remain present during video conference meeting.
6) Committee deliberated on Product profile, Layout plan, Storage details, Process safety, Fire safety, water balance & waste water management, Flue gas and process gas emission & Air Pollution Control System, Hazardous waste matrix, EMP, CER, Green belt, etc.
7) The baseline environmental quality has been assessed for various components of the environment viz. air, noise, water, biological and socioeconomic aspect. The baseline environmental study has been conducted for the study area of 10 km radial distance from project site for the period December-2019 to February-2022. Ambient Air Quality monitoring was carried out PM10, PM2.5, SOx, NOx, VOCs, CO and HCl at Eight locations, including the project site. Values conform to the prescribed standards for Ambient Air Quality. The incremental Ground Level Concentration (GLC) has been computed using "AERMOD". Incremental GLC's for all parameters remain within 500 m from the project site. The resultant concentrations are within the NAAQS. The modelling study proved that the air emissions from the proposed plant would not affect the ambient air quality of the region in any significant manner. The ambient air quality around the proposed project site will remain within the National Ambient Air Quality Standards (NAAQS).
8) Risk assessment including prediction of the worst-case scenario and maximum credible accident scenarios has been carried out. The detailed proposed safeguard measures including On-Site / Off-Site Emergency Plan has been covered in the RA report.
9) Since the proposed project is located in notified industrial area, public consultation is not required as per paragraph 7(i) (III) (I) (b) of the Environment Impact Assessment Notification 2006.
10) Later on PP submitted the following details through email dated: 16.02.2023
    - ✓ Revised water balance for proposed project.
    - ✓ Provision of spare tank of ethylene oxide and chloro sulfonic acid
    - ✓ Safety measures for hydrogenation process.
    - ✓ SOP for cyanide handling.
11) Comitee found the compliance of ToRs, presentation and submission of PP satisfactory.
12) PP presented details of pollution load/ environmental impacts of the project including Water, Air and Hazardous waste management.

<table>
<tr><th>Sr. no.</th><th>Particulars</th><th>Details</th></tr>
<tr><td>1</td><td>Total cost of Proposed Project
(Rs. in Crores):
<table><tr><th>Total Project Cost</th></tr><tr><td>100.47</td></tr></table>
Break-up of proposed project Cost:</td><td></td></tr>
</table>

Details	Project Cost(Rs. In Crores)
Land	25
Building	
Machinery	60
Env. & Safety	12.47
Miscellaneous	3
Total	**100.47**

-

2 **Land / Plot ownership details:**

(Linking between Land ownership and PP is required.)

a) **GIDC Plot Allotment letter/ NA documents:** Plot is already allotted to SDI Organics Pvt. Ltd. vide GIDC/RM-II/ANK/1440 dated 18/07/2022.

b) **Rent agreement, if any : -- Not applicable**

Other Land Possession documents, if any : -- Not applicable

2.1 **In case of outside GIDC only –**Not applicable as unit is within GIDC

Siting Criteria

Sr. no.	Environmental Sensitivity	Name/Specific details	Siting criteria as per GPCB guidelines dated: 05.06.2022	Aerial Distance in Km
1	Habitat (Residential Area)	--	--	--
2	Eco sensitive zones	--	--	--
3	Wild life sanctuaries/National Parks/ Reserved Forest	--	--	--
4	Water Bodies	--	--	--
	River	--	--	--
	Natural Nallah/Drain	--	--	--
	Lake/Pond/Wetlands	--	--	--
	Water supply Tanks/Reservoirs	--	--	--
	Canal	--	--	--
5	Protected Monuments/Heritage sites/Public Buildings i.e School, colleges, etc.	--	--	--
6	National/State Highway OR Express way	--	--	--
7	Coastal Regulation Zone (CRZ) (In case of Coastal area projects)	--	--	--
8.	Ground water table in meter	--	--	--
9.	Railway Line	--	--	--
10.	Air Port	--	--	--

-

2.2 **Ensure compliance of category as defined in the amendment to EIA Notification, 2006 vide SO 1599 (E) dated 25/06/2014. i.e. Not applicable.**

A. General Condition (GC): Any project or activity specified in Category 'B' will be appraised at Central level as Category 'A' if located in whole or in part within 5 Km radius from the project boundary of:-

Sr No	Particulars	Aerial Distance in Km
1.	Protected Areas notified under the Wildlife (Protection) Act 1972 (53 of 1972)	--
2.	CPA/SPA (Critically Polluted Area/Severely Polluted Area) as	--

	identified by the CPCB	
3	Eco sensitive areas as notified under sub-section (2) of section 3 of EPA-1986	--
4	Interstate boundaries and international boundaries	--

B. Conditions of small units:

Sr no.	Condition	Compliance with justification
1	Water consumption less than 25 M3/day;	--
2	Fuel consumption less than 25 TPD;	--
3	Not covered in the category of MAH units as per the Management, Storage, Import of Hazardous Chemical Rules (MSIHC Rules), 1989 as per the legal undertaking submitted with EIA report.	--

2.3 Detailed land area

Total Land area: 23.356 sq. m.

Floor-wise land area break-up table

Sr. No.	Building Name	Area in G. F in sq. m	Area in F. F in sq. m	Area in S. F in sq. m	Area in T. F in sq. m
1.	Admin/Q.C. Lab QA Area building	345	345	345	345
2.	Raw Material /primary packing material F.G warehouse	828	828	828	828
3	API Pharma/ intermediate plant & utility building 1	828	828	828	828
4	Intermediate & utility building 2	828	828	828	828
5	Intermediate & utility building 3	828	828	828	828
6	utility building	249.25	249.85	00	0
7	Hydrogenation plant	126	126	126	126

Area Adequacy table:

Sr. No.	Building Name	Area required in sq. m	Area Provided in sq. m	% of total of G.F Area
1.	Admin/Q.C. Lab QA Area building	250	345	1.48
2.	Raw Material /primary packing material F.G warehouse	700	828	3.55
3	API Pharma/ intermediate plant & utility building 1	650	828	3.55
4	Intermediate & utility building 2	650	828	3.55
5	Intermediate & utility building 3	650	828	3.55
6	utility building	249.25	249.25	1.07
7	PCC panel room, canteen area, & maintenance work shop area, eng. Office, eng. Store	65.75	65.75	0.28
8	Hydrogenation plant	100	126	0.54
9	ETP/ STP area & MEE plant	1500	2152.80	9.22

10	Boiler house	700	940.80	4.03
11	Solid fuel storage	200	280	1.20
12	Drum yard	150	210	0.90
13	Security cabin & worker locker room, & OHC centre area	40.28	40.28	0.17
14	Road area	5670.13	5670.13	24.28
15	Green belt area	7729.74	7729.74	33.10
16	Parking area	281.65	281.65	1.21
17	Open area	1952	1952	8.36
	Total	21538.8	23356	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.

2.4 Green belt area

	Total(Sq. meter)
Area in Sq. meter	7729.74
% of total area	33.0

Comments:

- ✓ The PP shall develop green belt within premises (7729.74 Sq. m i.e. 33 % of the total plot area) as per the undertaking submitted before SEAC. Green belt shall be developed with native plant species that are significant and used for the pollution abatement as per the CPCB guidelines. It shall be implemented within 3 years of operation phase in consultation with GPCB.

3 Employment generation

Total
410

4 WATER

4.1 Source of Water Supply

GIDC Water Supply

Details of water supply letter from concern authority:

- GIDC Dahej
- Permission letter no. GIDC/DEE/WS/BRH/285 dated 06/06/2022 for 370 KLD

Comments:

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

4.2 Water consumption (KLD)

Sr. No.	**Category**	**Water consumption KL/Day)**	**Remarks**
1.	**Domestic**	14	Fresh
2.	**Industrial**		
2.1	Process & Scrubber	255	83 Fresh + 172 Recycle
2.2	Washing	50	Fresh
2.3	Cooling	116	Fresh
2.4	Boiler	92	Fresh
2.5	Other	-	

3	Gardening	20	11.5 recycle + 9.5 Fresh
Total (Industrial)		513	172 Recycle + 341 Fresh
Total (Domestic +Industrial + Gardening)		547	183.5 Recycle + 363.5 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

4.3 Waste water generation (KLD)

-

Sr. No.	Category	Wastewater generation - KL/Day	Remarks
1.	Domestic	12	TO STP
2.	Industrial		
2.1	Process	241	146 KLD To MEE 95 KLD to ETP
2.2	Washing	50	TO ETP
2.3	Cooling	65	TO ETP
2.4	Boiler	15	TO ETP
2.5	Others-Scrubber	85	To MEE
Total (Industrial)		456	230 KLD to MEE + 225 to ETP
Total (Domestic + Industrial)		468	230 KLD to MEE + 225 to ETP +12 to STP

Justification in case of increase/ drastic reduction in wastewater generation than water Consumption:

- 128 KLD will be evaporation loss from boiler and cooling tower.

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.

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

STP Capacity& its specification:

15 KLD STP Capacity

Specification:

Sr. No.	Name of Unit	Qty	Size
1.	Domestic effluent collection tank	1	15.0 KL
2.	Treated water collection tank	1	15.0 KL
3.	Primary clarifier	1	10.0 KL
4.	MBR tank	1	20.0 KL
5.	Decanter/ Filter press	1	1 Nos.
6.	Sludge drying ponds	1	5.0 m^3

Comments:

✓ Domestic wastewater generation shall not exceed 15 KL/day for proposed project and it shall be treated in STP. It shall not be disposed off through soak pit/ septic tank. Treated sewage shall be utilized for gardening and plantation purpose within premises after achieving on-land discharge norms prescribed by the GPCB.

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

-

Sr. No.	QuantityKLD	Facility
1	468	230 KLD to MEE + 225 to ETP +12 to STP

Total	468	230 KLD to MEE + 225 to ETP +12 to STP

A. Capacity of ETP & its specification:

Capacity of ETP 500 KL

Total 3 types of streams will be generated during the manufacturing process.

1) **HIGH COD & HIGH TDS STREAM - (FROM PROCESS)**
2) **HIGH TDS STREAM - (FROM SCRUBBER)**
3) **LOW COD AND LOW TDS STREAM (WASHING + COOLING TOWER BLOW DOWN)**

MANAGEMENT OF STEAMS:

STREAM NO: -1: - HIGH COD STREAM & HIGH TDS STREAM

Unit will segregate HIGH COD s**tream which is having COD >10,000/-**& HIGH Ammonical Nitrogen Stream- Stream more than 200 mg/l-from the source. High Concentrated effluent will be fed to Solvent Stripper for Recovery of solvents. This stream afterwards shall be subjected to Multiple Effect Evaporator (MEE) (Under Vacuum Evaporation). Condensate shall be transferred to carbon absorption tower and treated water will be recycle in the process.

STREAM NO: -2: - HIGH TDS STREAM - (FROM SCRUBBER) more than (2,00,000 mg/l TDS)

It will be mixed with stream no. 1

STREAM NO: -3: - LOW COD AND LOW TDS STREAM

This stream will be treated in conventional effluent treatment plant along with Cooling Tower Blow down and Washing water.

Unit will develop primary, secondary and tertiary treatment to achieve the stipulated norms of GPCB.

PRIMARY TREATMENT

1. Screening: - This will ensure removal of free and floating material, oily material and solvents. These are to be removed manually.

2. Equalization cum Neutralization tank: - The effluent after removal of screenings, oily matter / solvents shall be collected in equalization cum neutralization tank. Suitable mixing device (agitator) shall be used to mix the contents of the tank. Acid and alkali shall be used as per the incoming effluent pH. pH of 7 to 8 shall be maintained here.

3. Filter Press: - This will be used to remove the solids from the effluent by filtration process and the effluent will be further transferred to Anoxic tank.

SECONDARY TREATMENT

Biological Treatment: The biological treatment consists of an Anoxic tank to remove excess Ammonical nitrogen from effluents. It will be followed by Aerobic process. There are two aeration tanks with diffused aeration system. The oxygen supply shall be done by use of air blower and air bubble diffusers. Suitable levels of mixed liquor suspended solids (MLSS) shall be maintained in the aeration system as per detailed biological process design. The excess biological sludge shall be discharged over to the sludge handling system via two clarifiers connected with each aeration tank.

TERTIARY TREATMENT

Rest of the treated effluent shall pass through Multi Grade Filter/Chlorination. After that it will be sent to CETP.

TREATMENT PROCESS DESCRIPTION FOR CYANIDE STREAM (30 KLD)

HYPOCHLORITE TREATMENT FOR CYANIDE REMOVAL

If the qualities of Cyanide to be destroyed are small enough. It is perfectly acceptable to use sodium hypochlorite. The following equation shows the reaction pattern.

$5NaOCl + H_2O + 2NaCN + 2NaOH \rightarrow 2NaHCO_3 + N_2 + 5\ NaCl$

Effluent from Cyanide

Stream → Transfer to ETP treatment
NaOCl →

PROCESS DESCRIPTION:-

The effluent from cyanide Stream is collected in a separate collection tank i.e.; Storage tank from plant. Then it is batch wise transfer to the 10 KL treatment tank facilitated with stirrer after testing the cyanide content which is almost between the ranges of 30 to 40 PPM.

Now add approx. 120 Kgs of Sodium Hypochlorite solution & 70 Kg sodium hydroxide solution to the effluent under stirring for first 3 hours and then check the sample for the absence of Cyanide content. After the QC Check transfer the effluent to ETP treatment tank where it is further treated.

Sr. No.	Name of Unit	Capacity	MOC
1	Oil & Grease Tank	10 KL	RCC
2	Collection Tank	130 KLD	RCC
3	Neutralizing Tank	130 KLD	RCC
4	Filter press	--	PP
5	Primary treatment tank	130 KLD	FRP
6	Filter press	--	FRP
7	Primary collection tank	250 KLD	RCC
8	Aeration tank	1750 KLD	RCC
9	Clarifier	250 KLD	RCC
10	Tertiary treatment tanks	130 KLD	RCC
11	Multi grade filter	--	MS
12	Final water collection tank	500 KLD	RCC
13	MEE	230 KLD	SS
14	Cyanide treatment tank with stirrer	10 KLD	SS

B. Mechanism/methodology for Segregation/ bifurcation of Streams (concentrated i.e high COD and/or high TDSetc and dilute streams i.e low COD and/or low TDS etc) generated from same source i.e process/washing/others:

In manufacturing of products, normally 2 to 4 times water wash are required to achieve the product quality. Here, segregation is made on basis of TDS/COD of effluent stream.

1) HIGH TDS/COD stream, 2) LOW TDS/COD Stream.

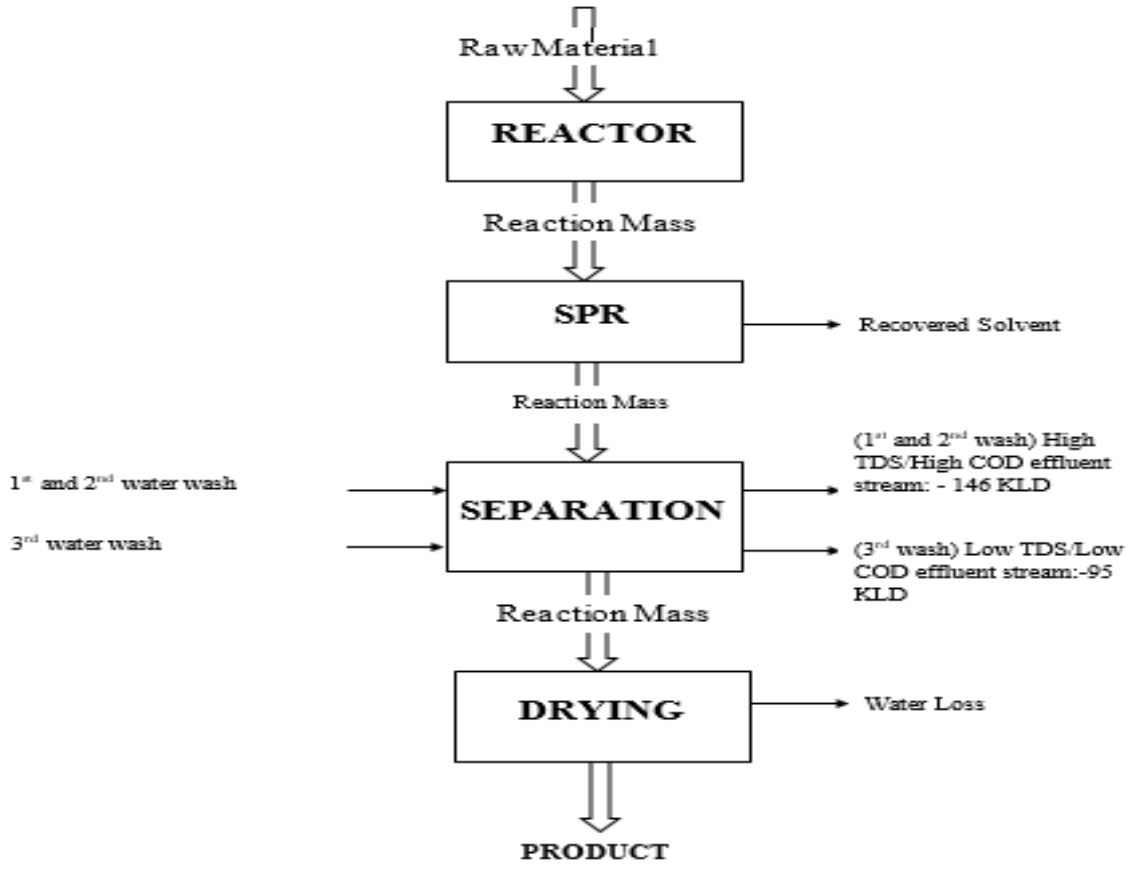
First, two wash are considered as high TDS/COD effluent.

Remaining, wash are considered as low TDS/COD effluent.

Generalized flow diagram showing high TDS/COD concentration and low TDS/COD concentration of effluent stages are as under.

Scrubber solution is high TDS in nature.

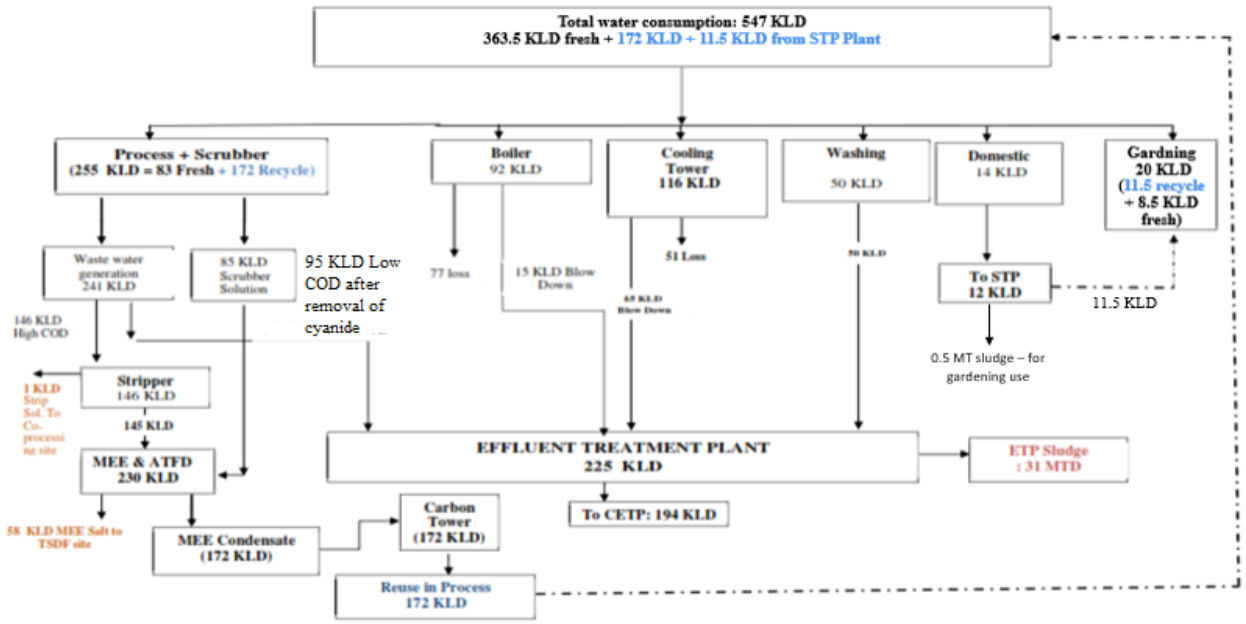
Additional 71 KLD effluent load is because of raw materials & water generated from chemical reaction (esterification).



Comments:

1. Management of Industrial effluent shall be as under:
   - ✓ **High COD Effluent (231 KLD)**:
     - 146 KLD High COD process effluent shall be treated in Stripper. 145 KLD Treated effluent from stripper and 85 KLD scrubber effluent shall be treated in MEE & ATFD. 172 KLD MEE condensate shall be reused within premises after passing through carbon filter.
   - ✓ **Low COD Effluent (225 KLD):**
     - 95 KLD process effluent containing cyanide shall be treated in primary ETP.
     - 95 KLD treated process effluent (cyanide stream) and 130 KLD washing & utilities effluent shall be treated in primary, secondary & tertiary ETP.
     - Total 194 KLD treated effluent shall be sent to CETP-Dahej for further treatment and disposal.

4.6



4.7 Summary

Summary of water requirement	**Quantity**KLD	Remarks
Total water requirement for the project **(A)**	547	
Quantity to be **recycled (B)**	183.5	
Total **fresh water** requirement **(C)**	363.5	
Ensure **Total water requirement = Recycled water + Fresh water i.e. A = B + C**		

5 AIR

5.1 Power (Electricity) requirement: 2238 KVA

5.2 Flue gas emission details

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Sr. No.	Stack Attached To	Stack Height(m)	Type of Fuel	Fuel Consumption	Type of Emission	APCM
1.	Boiler -6TPH	35	Coal/ Bio Coal	100 MTD	PM SO_2 NO_x	MCS + Bag filter + water scrubber
*2.	Boiler -6TPH					* MCS + Bag filter + water scrubber
*3.	TFH- 10 Lakh Kcal/Hr					
4.	DG set – 1000 KVA	11	Diesel	100 KL/month		Acoustic Enclosure
5	DG set – 1000 KVa	11				Acoustic Enclosure

-

5.3 Process gasemission details

-

Sr. No.	Stack Attached To headers of Reactions vessels	Stack Height (m)	Probable Pollutant Emission	APCM
1	Reaction Vessels attached to common header and one stack	15	SO_x, NO_x	Water scrubber followed by Alkali Scrubber

2	Reaction Vessels attached to common header and one stack	15	NO_x	Water scrubber followed by Alkali Scrubber
3	Reaction Vessels attached to common header and one stack	15	HCl,Cl_2,Acid mist, SO_x.	Water scrubber followed by Alkali Scrubber
4	Reaction Vessels attached to common header and one stack	15	NH_3	Acid Scrubber
			SO_x	Alkali Scrubber
5	Reaction Vessels attached to common header and one stack	15	HBr, Br_2	Alkali Scrubber
6	Reaction Vessels attached to common header and one stack	15	HCl,SOx,NOx,Acid Mist, Cl_2,HBr	Water scrubber followed by Alkali Scrubber
7	Reaction Vessels attached to common header and one stack	15	NH_3	Acid Scrubber

-

5.4 Fugitive emission details with its mitigation measures.

Sr.No.	Source	ProbablePollutant Emission	Control Measures/ APCM
1.	Liquid storage tank	Air pollutant (VOC)	i) Carry out work place area monitoring to find out concentration level in ambient air. ii) Close handling system. iii) Provision of breather valve cum flame arrester.
2.	Handling of raw material bags in storage area	Air pollutant (PM)	i) Provision of exhaust ventilation ii) Provision of PPE. iii) Provision of Job rotation to reduce exposure.
3.	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.
4.	Solid raw material transferring to reactor	Air pollutant (PM)	Hopper will be provided with powder transfer system.
5.	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.
6.	Loading /unloading at storage area	Air pollutant (VOC)	Unloading through pipeline to tank in a close system.

Comments for 5.2 to 5.4:

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

6	Solvent management, VOC emissions etc.
6.1	Types of solvents, Details of Solvent recovery, % recovery, reuse of recovered Solvents etc.

Sr. No.	Name of Product	Production in MT/Month	Solvent Name	Total Quantity of solvent in MT/ Month	Quantity of recycled solvent in MT/Month	Quantity of fresh solvent in MT/Month	% recovery	solvent Losses in air
1	Nitration	250						
1.1	2-Chloro-5-Nitro Benzoic Acid / 2-Chloro-3-Nitro Benzoic Acid	250	Methanol	2400	2328	72	97	0.03
1.2	4-Chloro-3-Nitro-5-Chlorosulfonyl Benzoic Acid	250	Methanol	2400	2328	72	97	0.03
1.3	4-Bromo-3-Nitro Benzoic Acid	250	Methanol	2400	2328	72	97	0.03
1.4	3-Nitro Benzoic Acid	250	Methanol	2400	2328	72	97	0.03
1.5	4-Methyl-3-Nitro Benzoic Acid	250	Methanol	2400	2328	72	97	0.03
1.6	1,5-Dinitro Naphthalene	250	Methanol	1250	1211.75	38.25	96.94	0.09
			Ethylene Dichloride	1150	1116.25	33.75	97.06	0.05
1.7	1,8-Dinitro Naphthalene	250	Methanol	1250	1211.75	38.25	96.94	0.09
			Ethylene Dichloride	1150	1116.25	33.75	97.06	0.05
1.8	4-Nitro Imidazole	250	Methanol	2400	2328	72	97	0.03
1.9	3,5-Dinitro Benzoic Acid	250	Methanol	2400	2328	72	97	0.03
1.10	5-Nitro Isophthalic Acid	250	Methanol	2400	2328	72	97	0.03
1.11	4-Nitro Phthalic Acid	250	Methanol	2400	2328	72	97	0.03
1.12	2-Nitro-4-Cresol	250	Ethylene Dichloride	2400	2328	72	97	0.03
1.13	2,5-Dichloro-4-Nitro Aniline	250	Methanol	2400	2328	72	97	0.03
1.14	4,5-Dichloro-2-Nitro Acetanilide	250	Methanol	2400	2328	72	97	0.03
1.15	3,5-Dinitro Toluic Acid / 2-Methyl-3,5-Dinitro Benzoic Acid	250	Methanol	2400	2328	72	97	0.03
1.16	4-Chloro-3-Nitro Benzo Trifluoride	250	Methanol	2400	2328	72	97	0.03
1.17	3-Nitro Benzaldehyde	250	Methanol	2400	2328	72	97	0.03
1.18	4-Cyano-2-Nitro Phenol	250	Methanol	2400	2328	72	97	0.03
Nucleophilic substitution reaction								

2.1	5-Nitro Salicylic Acid	100	No use of solvents					
2.2	2-Amino-5-Nitro Benzoic Acid	100						
2.3	2-Methoxy-5-Nitro 2.4Benzoic Acid	100						
2.4	3,5-Dinitro Salicylic Acid 4-Amino-3-Nitro Benzoic Acid	100						
2.5	4-Methoxy-3-Nitro Benzoic Acid	100						
2.6	4-Amino-3,5-Dinitro Benzophenone	100						
2.7	4-Methylamino-3-Nitro Benzoic Acid	100						
2.8	4-Phenoxy Benzoic Acid	100						
2.9	3-Chloro Anthranilic Acid	100						
2.10	2 Amino Benzoic Acid 5 Sulfonamide	100						
2.11	2 Hydroxy Phenyl Acetic Acid	100						
Oxidation								
3.1	2-Chloro Benzoic Acid	250	Methanol	2500	2425	75	97	0.02
3.2	4-Nitro Benzoic Acid	250	Methanol	2500	2425	75	97	0.02
3.3	2,3-Dichloro Benzoic Acid	250	Methanol	2500	2425	75	97	0.02
3.4	4-Bromo Benzoic Acid	250	Methanol	2500	2425	75	97	0.02
3.5	2-Chloro-4-Nitro Benzoic Acid	250	Methanol	2500	2425	75	97	0.02
3.6	4-Nitro-2-Sulpho Benzoic Acid Potassium Salt	250	Methanol	2500	2425	75	97	0.02
3.7	4-Toluic Acid	250	Methanol	2500	2425	75	97	0.02
3.8	4-t-Butyl Benzoic Acid	250	Methanol	2500	2425	75	97	0.02
3.9	2-Iodo Benzoic Acid	250	Methanol	2500	2425	75	97	0.02
3.10	2-Chloro-5-Iodo Benzoic Acid	250	Methanol	2500	2425	75	97	0.02
API								
4.1	Mefenemic Acid	50	Toluene	28.59	27.33	1.261	95.59	1.41
4.2	Mebendazole	50	Methanol	15.822	15.5	0.322	97.97	0.03
4.3	Dabigatran	50	Toluene	14	13.56	0.44	100	00

			Dimethyl formamide	14.8	14.36	0.44	97.02	0.3
			Ethyl acetate	32	31.04	0.96	97	0.03
			Ethanol	96.76	93.84	2.92	96.98	0.03
			Acetic Acid	12	11.64	0.36	97	0.03
			Acetonitrile	20.52	19.92	0.6	95.12	1.89
			Acetonitrile	90.76	89.84	0.92	98	0.01
			Acetone	20.52	19.92	0.6	95.12	1.89
4.4	Penicillin G	50	Methanol	101.71	98.71	3	97	0.04
4.5	Procaine HCl	50	Methanol	221.42	214.78	6.64	97	0.04
4.6	Lamotrigine	50	Toluene	153.89	149.17	4.72	96.93	0.03
4.7	Frusemide / Furosemide	50	Propanol	164.94	160	4.94	97	0.04
4.8	Dinitro Toluamide (DOT) (3,5 Dinitro Toluamide)	50	IPA	378.36	367	11.36	96.99	0.02
4.9	Albendazole	50	Toluene/MCB/ODCB/EDC	155	150.35	4.65	97	0.04
			Propanol	110	106.72	3.92	97	0.04
			Methanol	133.05	129.06	3.99	97	0.04
			Toluene	180	174.64	5.36	97	0.04
			Acetone	122.89	119	3.899	96.83	0.2
4.10	Fenbendazole	50	methanol	90.00	87.30	2.70	97.00	1.80
4.11	Metronidazole	50	No use of solvents					
4.12	Metronidazole Benzoate	50	Benzene	89.28	86.60	2.68	96.99	0.03
			Methanol	125	121.25	3.75	97	0.02
4.13	Tinidazole	50	Benzene	71.42	69.28	2.14	97	0.02
			Methanol	32.29	31.32	0.97	97.00	0.65
4.14	Ornidazole	50	MDC	387.5	375.86	11.64	96.99	0.03
			Methanol	86.53	83.94	2.59	97	0.02
4.15	Capecitabine	50	Acetic anhydride	218.51	210.75	7.76	96.44	0.56
			Ethyl acetate	169.69	164.60	5.09	97	0.02
			Methanol	331.81	321.87	9.94	97	0.02
			Toluene	200	194	6	97	0.02
			Dichloromethane	290.90	282.18	8.72	97	0.02
			Acetone	180	174.60	5.4	97	0.02
4.16	Alendronate Sodium	50	Diphenyl	18.75	17.87	0.88	95.3	1.6

			Oxide				0	
			Toluene	125	118.75	6.25	95	1.5
			Methanol	125	118.75	6.25	95	1.5
4.17	Meprobamate	50	No use of solvents					
4.18	5-Amino Salicylic Acid (Mesalamine)	50	Methanol	204.91	198.77	6.14	97	0.04
4.19	Diminazene Aceturate	50	Methanol	377.34	327.23	10.12	97.00	0.04
4.20	Iodixanol	50	Toluene	297.29	288.37	8.92	96.99	0.02
			Ethyl acetate	324.32	314.59	9.73	96.99	0.02
			Methanol	259.45	251.67	7.78	97	0.04
			Dimethyl Acetamide	160.54	155.70	4.84	96.98	0.03
			2 Methoxy Ethanol	67.56	65.54	2.02	97	0.04
Acetophenone								
5.1	Hydroxy Acetophenone	70	Methanol	236.72	229.6	7.12	96.99	0.01
5.2	Chloro Acetophenone	70	Methanol	236.72	229.6	7.12	96.99	0.01
5.3	Methyl Acetophenone	70	Methanol	236.72	229.6	7.12	96.99	0.01
5.4	Methoxy Acetophenone	70	Methanol	236.72	229.6	7.12	96.99	0.01
Acetylation								
6.1	2-Acetyl Amino Phenol	70	No use of solvents					
Acid-chloride								
7.1	2-Chloro Benzoyl Chloride	70	Methanol	166.45	161.47	4.98	97	0.04
7.2	2,3-Dichloro Benzoyl Chloride 2,3-Dichloro Benzoyl Chloride	70	Methanol	166.45	161.47	4.98	97	0.04
7.3	2-Bromo Benzoyl Chloride	70	Methanol	166.45	161.47	4.98	97	0.04
7.4	4-Methoxy Benzoyl Chloride	70	Methanol	166.45	161.47	4.98	97	0.04
Ammonolysis								
8.1	2-Chloro-5-Sulfamoyl Benzoic Acid	70	No use of solvents					
8.2	4-Chloro-3-Nitro-5-Sulfamoyl Benzoic Acid	70						
8.3	2,4-Dichloro-5-Sulfamoyl Benzoic	70						

	Acid (Lasamide)							
Benzamide								
9.1	2-Chloro-5-Nitro Benzamide	70	Toluene / Ortho Dichloro Benzene	202.01	195.95	6.06	96.95	0.05
9.2	2-Chloro Benzamide	70	Toluene / Ortho Dichloro Benzene	202.01	195.95	6.06	96.95	0.05
9.3	2-Methoxy-5-Nitro Benzamide	70	Toluene / Ortho Dichloro Benzene	202.01	195.95	6.06	96.95	0.05
9.4	4-Nitro Benzamide	70	Toluene / Ortho Dichloro Benzene	202.01	195.95	6.06	96.95	0.05
9.5	4-Bromo Benzamide	70	Toluene / Ortho Dichloro Benzene	202.01	195.95	6.06	96.95	0.05
9.6	4-Methyl-3-Nitro Benzamide	70	Toluene / Ortho Dichloro Benzene	202.01	195.95	6.06	96.95	0.05
9.7	2,3-Dichloro Benzamide	70	Toluene / Ortho Dichloro Benzene	202.01	195.95	6.06	96.95	0.05
Benzanilide								
10.1	4-Chloro-3-Nitro Benzanilide	70	Thionyl Chloride	75.49	74.73	0.76	98.99	0.005
			Toluene	113.16	102.94	10.22	90.96	
10.2	2-Methoxy-5-Nitro Benzanilide	70	Thionyl Chloride	80.76	79.96	0.8	99	0.05
			Toluene	94.23	91.40	2.83	96.99	0.01
10.3	4-Methyl-3-Nitro Benzanilide	70	Thionyl Chloride	79.24	78.45	0.79	99	00
			Toluene	92.45	89.67	2.78	96.99	0.01
10.4	4-Amino Benzanilide	70	Toluene	118.18	114.64	3.54	97	0.01
Benzonitrile								
11.1	4-Chloro Benzonitrile	70	No use of solvents					
11.2	4-Chloro Benzonitrile	70						
11.3	4-Nitro Benzonitrile	70						
11.4	2-Bromo Benzonitrile	70						
11.5	4-Hydroxy Benzonitrile	70						

Bromination & Chlorination of alcohols, organic acid & cyclic compounds								
12.1	Ethyl Bromide	70	Toluene	64.85	63	1.85	97.14	0.06
12.2	1,2-Dibromo Ethane	70	No use of solvents					
12.3	1-Chloro-2-Ethyl Hexane	70						
12.4	6-Bromo Hexanol	70						
12.5	Ethyl-3-Bromo Propionate	70	Ethanol	219.94	212.95	6.99	96.82	0.19
12.6	4-Bromo Toluene	70	No use of solvents					
Chlorination								
13.1	3-Chloro Benzaldehyde	70	Methanol	655.95	636.29	19.66	97	0.02
13.2	2-Bromo Benzaldehyde	70	Methanol	655.95	636.29	19.66	97	0.02
13.3	5-Chloro Salicylic Acid	70	EDC / MDC	547.75	531.34	16.41	97	0.02
Chloro-sulphonation								
14.1	2-Chloro-5-Chlorosulfonyl Benzoic Acid	70	No use of solvents					
14.2	2,4-Dichloro-5-Chlorosulfonyl Benzoic Acid	70						
Condensation								
15.1	Aceturic Acid	70	No use of solvents					
Cynation								
16.1	2,3-Dichloro Benzoyl Cyanide	70	Hexane	68.43	66.38	2.05	97	0.02
Esterification								
17.1	Methyl-2-Chloro-5-Nitro Benzoate	70	Methanol	85.47	82.91	2.56	97.00	1.71
17.2	Methyl-4-Nitro Benzoate	70	Methanol	85.47	82.91	2.56	97.00	1.71
17.3	4-Methyl-3-Nitro Benzoic Acid Methyl Ester	70	Methanol	85.47	82.91	2.56	97.00	1.71
17.4	5-Nitro Isophthalic Acid Dimethyl Ester	70	Methanol	85.47	82.91	2.56	97.00	1.71
17.5	Ethyl Paraben	70	Ethanol	85.47	82.91	2.56	97.00	1.71
17.6	2-Anisic Acid Methyl Ester	70	Methanol	85.47	82.91	2.56	97.00	1.71
17.7	2-Ethoxy Benzoic Acid Ethyl Ester	70	Ethanol	85.47	82.91	2.56	97.00	1.71
17.8	3-Hydroxy Benzoic Acid Methyl Ester	70	Methanol	85.47	82.91	2.56	97.00	1.71
17.9	3-Chloro Salicylic Acid Methyl Ester	70	Methanol	85.47	82.91	2.56	97.00	1.71
17.10	4-Chloro-2-Methoxy Benzoic Acid Methyl Ester	70	Methanol	85.47	82.91	2.56	97.00	1.71

17.11	Methyl Salicylate	70	Methanol	85.47	82.91	2.56	97.00	1.71
17.12	Methyl-3-Methyl Salicylate	70	Methanol	85.47	82.91	2.56	97.00	1.71
17.13	2,4-Dihydroxy Benzoic Acid Methyl Ester	70	Methanol	85.47	82.91	2.56	97.00	1.71
17.14	1-Methoxy-2-Naphthoic Acid Methyl Ester	70	Methanol	85.47	82.91	2.56	97.00	1.71
17.15	3-Amino Salicylic Acid Methyl Ester	70	Methanol	85.47	82.91	2.56	97.00	1.71
Ether formation								
18.1	4-Methoxy Benzoic Acid / p-Anisic Acid	70	No use of solvents					
18.2	2-Ethoxy Benzamide	70						
18.3	3-Chloro-2-Ethoxy Benzoic Acid 3-Methoxy Phenol	70						
18.4	1-Methoxy-2-Naphthoic Acid	70						
Friedel-craft's reaction								
19.1	2-Chloro-5-Nitro Benzophenone	70	Benzene	352.15	341.59	10.56	97	0.05
19.2	2-Chloro-3,5-Dinitro Benzophenone	70	Benzene	352.15	341.59	10.56	97	0.05
19.3	4-Nitro Benzophenone	70	Benzene	352.15	341.59	10.56	97	0.05
19.4	2,3-Dichloro Benzophenone	70	Benzene	352.15	341.59	10.56	97	0.05
19.5	4-Methyl-3-Nitro Benzophenone	70	Benzene	352.15	341.59	10.56	97	0.05
19.6	Propiophenone	70	Benzene	352.15	341.59	10.56	97	0.05
Hydrolysis								
20.1	4-Isopropoxy Benzoic Acid	70	No use of solvents					
20.2	3-Chloro-2-Methoxy Benzoic Acid	70						
20.3	5-Chloro-2-Methoxy Benzoic Acid	70						
Kolbe-Schmidtt reaction								
21.1	4-Hydroxy Benzoic Acid	70	ODCB	31.78	30.83	0.95	97.01	0.02
21.2	3-Methyl Salicylic Acid	70	ODCB	31.78	30.83	0.95	97.01	0.02
21.3	2,4-Dihydroxy Benzoic Acid	70	ODCB	31.78	30.83	0.95	97.01	0.02
21.4	4-Chloro Salicylic Acid	70	ODCB	31.78	30.83	0.95	97.01	0.02
21.5	1-Hydroxy-2-Naphthoic Acid	70	ODCB	31.78	30.83	0.95	97.01	0.02
21.6	4-Amino Salicylic Acid	70	ODCB	31.78	30.83	0.95	97.01	0.02
Neutralization								

22.1	Sodium Methyl Paraben	70	Methanol	65.19	63.24	1.96	97.00	1.30
22.2	4-Nitro Benzoic Acid Sodium Salt	70	Methanol	65.19	63.24	1.96	97.00	1.30
Reduction								
23.1	2-Chloro-3-Amino Benzoic Acid	70	Methanol	249.99	242.49	7.50	96.99	0.04
23.2	2-Chloro-5-Amino Benzamide	70	Methanol	249.99	242.49	7.50	96.99	0.04
23.3	2-Methoxy-5-Amino Benzoic Acid	70	Methanol	249.99	242.49	7.50	96.99	0.04
23.4	2-Methoxy-5-Amino Benzamide	70	Methanol	249.99	242.49	7.50	96.99	0.04
24.5	3,5-Diamino Salicylic Acid	70	Methanol	249.99	242.49	7.50	96.99	0.04
24.6	4-Methoxy-3-Amino Benzanilide	70	Methanol	249.99	242.49	7.50	96.99	0.04
24.7	3,4-Diamino Benzophenone	70	Methanol	249.99	242.49	7.50	96.99	0.04
24.8	3,4-Diamino Benzophenone	70	Methanol	249.99	242.49	7.50	96.99	0.04
24.9	Methyl-4-Amino Benzoate	70	Methanol	249.99	242.49	7.50	96.99	0.04
24.9	4-Amino Benzoic Acid	70	Methanol	249.99	242.49	7.50	96.99	0.04
24.10	4-Amino Benzamide	70	Methanol	249.99	242.49	7.50	96.99	0.04
24.11	4-Bromo-3-Amino Benzoic Acid	70	Methanol	249.99	242.49	7.50	96.99	0.04
24.12	4-Methyl-3-Amino Benzamide	70	Methanol	249.99	242.49	7.50	96.99	0.04
24.13	5-Amino Isophthalic Acid	70	Methanol	249.99	242.49	7.50	96.99	0.04
24.14	4-Methoxy-3-Amino Acetanilide	70	Methanol	249.99	242.49	7.50	96.99	0.04
24.15	3-Phenoxy Benzyl Alcohol	70	Methanol	249.99	242.49	7.50	96.99	0.04
24.16	4-Cumidine	70	Methanol	249.99	242.49	7.50	96.99	0.04
24.17	4-Amino Benzonitrile	70	Methanol	249.99	242.49	7.50	96.99	0.04
Miscellaneous								
25.1	4-[N-(2-Methoxy Benzoyl)Sulfamoyl]Benzoyl Chloride	70	Chloro Benzene	144.11	139.79	4.35	97	0.05
25.2	4-Thiocyno-2-Nitro Aniline	70	Methanol	367.99	357	10.99	97	0.05

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

Sr.No.	Source	ProbablePollutant Emission	Control Measures/ APCM
1.	Liquid storage tank	Air pollutant (VOC)	i) Carry out work place area monitoring to find out concentration level in ambient air. ii) Close handling system. iii) Provision of breather valve cum flame arrester.
2.	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.
3.	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.
4.	Loading /unloading at storage area	Air pollutant (VOC)	Unloading through pipeline to tank in a close system.

6.3 LDAR proposed:

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

The Following methodology to be adopted during LDAR study:

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

6.4 LDAR for specific solvents:

Sr. No.	Solvent Name	Type of Storage	Mode of Transfer	Charging	Sources of Leakage	Mitigation Measure For find out leakages	Mitigation Measure (If leakages shall be occur)	Action taken for prevention of leakages
1	Methanol/ Toluene /Acetic acid/ Ethanol / IPA	Tank	By Pump & Fix Pipe line	Direct Vessel	• Leak from Valve (Failure of the valve packing & O-ring) • Leak from pump (Occur at seal) • Leak from tank • Leak from Connectors • Leak from open ended lines	•For using Gas Detector by PID Sensor technology.	•If valve shall be leak stop pumping system and replace with new valve. When pump seal shall be leak immediately stop solvent transfer and immediately repair or replace with new seal.	•Check Thickness of tank •Using fix pipeline for solvent transfer •Minimum use of Connectors & Joins •Provided sufficient Space (Solvent Unloading area) for Solvent Tanker

Comments for 6.1 to 6.4:

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

7 Hazardous waste

7.1 Hazardous waste management matrix

Sr. No.	Type of hazardous waste	Source of generation	Category no.	REVISED Quantity in MT/Year	Treatment and disposal
1	Empty barrels/containers/liners contaminated with hazardous chemicals /wastes/discarded containers Bags	Raw material storage area	I-33.1	1800	Collection, Storage, Transportation and Disposal by sending it to an authorized decontamination facility under Rule-9 / recycler or reuse or send back to the supplier/decontaminated material to scrap vendor.
2	Chemical sludge from wastewater treatment (ETP Waste)	ETP plant	I-35.3	11315	Collection, Storage, Treatment, Transportation & Disposal to TSDF site. Or Coprocessing
3	Chemical sludge	MEE plant	I-35.3	21170	Collection, Storage,

	from wastewater treatment (MEE Waste)				Treatment, Transportation and Disposal to TSDF site. Or Coprocessing
4	Used or Spent Oil	Process	I-5.1	12 KL	Collection, Storage, and Reuse in plant and machineries or sell to authorized registered recyclers under Rule-9
5	Any Process or Distillation Residue	Process	I-26.1	1037	Collection, Storage, Transportation and Disposal to CHWIF/ for co-processing.
6	Spent Carbon or filter medium	Process and ETP	28.3	80	Collection, Storage, Transportation & Disposal to CHWIF/ for co-processing.
7	Spent Catalyst	Process	28.2	239	Collection,Storage, Transportation & Disposal by selling to authorized recyclers for regeneration under Rule-9 /TSDF site for land filling Or Coprocessing
8	NaNOx Scrubber Solution	Scrubber	Sch-II/ B-15	9750	Collection, storage & treatment in in-house ETP. Or Collection, Storage, Transportation, Disposal to end user who has valid permission under Rule-9 of Hazardous and Other Waste Rules,2016
9	Solid Waste (Process waste)	Process	Sch-I/ 26.1	973	Collection, Storage, Treatment, Transportation and Disposal to TSDF site Or Coprocessing
10	Spent HCl	Process/Scrubber	Sch-II/ B-15	2027	Collection, storage & treatment in in-house ETP. Or Purification and reuse within premises Or Collection, Storage, Transportation, Disposal to end user who has valid permission under Rule-9 of Hazardous and Other Waste Rules,2016
12	Spent Solvent	process	Sch-I/ 26.4	1484	Collection, Storage, Transportation disposal for incineration/Co-Processing/ authorized actual users under Rule-9
13	Aluminum Chloride	process	Sch-II/	2033	Collection, storage &

	solution		B-15		treatment in in-house ETP. Or Purification and reuse within premises Or Collection, Storage, Transportation, Disposal to end user who has valid permission under Rule-9 of Hazardous and Other Waste Rules,
14	Sodium Bromide solution	Process/Scrubber	Sch-II/ B-15	396	Collection, storage & treatment in in-house ETP. Or Purification and reusewithin premises Or Collection, Storage, Transportation, Disposal to end user who has valid permission under Rule-9 of Hazardous and Other Waste Rules,2016
15	Calcium Hydroxide solution	process	Sch-II/ B-15	326	Collection, storage & treatment in in-house ETP. Or Purification and reuse within premises Or Collection, Storage, Transportation, Disposal to end user who has valid permission under Rule-9 of Hazardous and Other Waste Rules,2016
16	sodium mercaptan solution (20%)	process	Sch-II/ B-15	68	Collection, storage & treatment in in-house ETP. Or Purification and reuse within premises Or Collection, Storage, Transportation, Disposal to end user who has valid permission under Rule-9 of Hazardous and Other Waste Rules,2016
17	Ammonia Solution 25%	process	Sch-II/ B-15	1348	Collection, Storage, & treatment in in-house ETP. Or Purification and reuse within premises Or Transportation, Disposal to

					end user who has valid permission under Rule-9 of Hazardous and Other Waste Rules, 2016
18	Zinc Oxide Sludge	process	Sch-I/ 26.1	80	Collection, Storage, Transportation, Disposal in TSDF site. Or Disposal to end user who has valid permission under Rule-9 of Hazardous and Other Waste Rules, 2016
19	HBr	Process/Scrubber	Sch-II/ B-15	1924	Collection, storage & treatment in in-house ETP. Or Purification and reuse within premises Or Collection, Storage, Transportation, Disposal to end user who has valid permission under Rule-9 of Hazardous and Other Waste Rules,2016
20	SBS/Sodium sulfite solution	Scrubber	Sch-II/ B-15	5933	Collection, storage & treatment in in-house ETP. Or Purification and reuse within premises Or Collection, Storage, Transportation, Disposal to end user who has valid permission under Rule-9 of Hazardous and Other Waste Rules,2016
21	Spent Sulfuric acid	process	--	540	Collection, storage & treatment in in-house ETP. Or Purification and reuse within premises Or Collection, Storage, Transportation, Disposal to end user who has valid permission under Rule-9 of Hazardous and Other Waste Rules,2016
22	Off specification product	process	--	2400	Collection, Storage,Transportation & Disposal to Co-processing/ CHWIF for incineration.
23	Organic Residue	process	Sch-I/ 26.1	220	Collection, Storage, Transportation & Disposal to

					CHWIF/ for co-processing.
24	Spent Nitric Acid	process	--	640	Collection, storage & treatment in in-house ETP, Or Purification and reuse within premises Or Collection, Storage, Transportation, Disposal to end user who has valid permission under Rule-9 of Hazardous and Other Waste Rules,2016
25	Iron sludge	Process	Sch-I/ 26.1	1800	Collection, Storage, Treatment,Transportation & Disposal to TSDF site. Or Coprocessing
26	Recoverable solvents	From solvent recovery	Sch-I/ 26.4	22,000	Collection, Storage, Recover & reuse back in the manufacturing process

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Comments:

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

7.2	Non-Hazardous waste management matrix

Fly Ash generation will be 300 MT/Month and Collection, Storage, Transportation and Sell to Brick Manufacturing unit or send for back filling material in low lying areas.
STP Sludge generation will be 15 MT/Month and Collection, Storage and use as manure in Gardening.

Comments

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

8	**SAFETY details**
8.1	**Details regarding storage of Hazardous chemicals**

✓ **Storage of Hazardous chemicals in Tanks**

Sr. no.	Name of Chemical	Capacity of Tank	Number of Tanks	Hazardous Characteristics of Chemical
TANK FARM (PESO)				
1	Methanol	10 KL	2	Flammable
2	Toluene	10 KL	2	Flammable
3	Ethylene Oxide	20 KL	2 (One stand by)	Flammable, toxic
TANK FARM (NON-PESO)				
1	Chloro sulfonic acid	15 KL	2 (One stand by)	Corrosive
2	Nitric Acid	15 KL X 3 + 20 KL X	6	Corrosive

		3		
3	Sulfuric acid	15 KL	2	Corrosive
4	Caustic lye	15 KL	2	Corrosive
5	Hydrochloric acid	15 KL	3	Corrosive

Safety Measures for Storage tank farm:

- ✓ Adequate spacing between tanks.
- ✓ Install Flame Arresters on atmospheric vents to prevent impinging fire on the outside of the tank from reaching the vapor space inside the tank, Deflagration and Detonation Flame Arresters.
- ✓ Do not use air to mix flammable materials.
- ✓ Provide fire resistant insulation for critical vessels, piping, outlet Valves on tanks, Valve actuators, instruments lines, and key electrical facilities.
- ✓ Provide remote controlled, automatic, and fire-actuated Valves to stop loss of tank contents during an emergency; provide fire protection to these Valves. Valves should be close-coupled to the tank, and must be resistant to corrosion or other deleterious effects of spilled fluids.
- ✓ Storage facility constructed as per the norms of explosive dept. & regulatory requirements.
- ✓ Breather valve & flame arrestor provided for all storage areas.
- ✓ Explosion proof electric fittings are provided in the area.
- ✓ Double earthing provision to all the storage area& flange to flange jumpers are provided & being checked periodically.
- ✓ Periodically checking of Earth pit resistance & continuity.
- ✓ Unloading & transferring of material done under close supervision & using pump or gravity.
- ✓ Firefighting facilities such as Fire hydrant system with fire monitor, Fire Extinguishers & Sand buckets are provided.
- ✓ Dyke wall & fencing provided.
- ✓ Closed handling and transferring systems for Hazardous chemicals.
- ✓ Fire Extinguishers and absorbents will be available near storage area.
- ✓ Drums to be stored on pallet with the suitable trap.
- ✓ Trained & dedicated persons are engaged for material handling activities.
- ✓ Smoking is strictly prohibited in this area. Cautionary notice boards are displayed.
- ✓ Level indicators provided for solvent tanks.
- ✓ Safety Shower cum eye washer provided.

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

Sr. no	Name of Chemical	Capacity of Drum/Bag/ Cylinder/ Glass Bottle	Number of Drum/Bag/ Cylinder/ Glass Bottle	Hazardous Characteristics of Chemical
1	Acetic Acid	Drum (200 Liter)	25 Nos	Flammable
2	Acetic Anhydride	Drum (200 Liter)	25 Nos	Flammable
3	Acetone	Drum (200 Liter)	25 Nos	Flammable
4	Acetonitrile	Drum (200 Liter)	3 Nos	Flammable
5	Benzene	Drum (200 Liter)	25 Nos	Flammable
6	Ethanol	Drum (200 Liter)	10 Nos	Flammable
7	Ethyl Acetate	Drum (200 Liter)	10 Nos	Flammable
8	Hexane	Drum (200 Liter)	25 Nos	Flammable
9	IPA	Drum (200 Liter)	10 Nos	Flammable
10	Propanol	Drum (200 Liter)	25 Nos	Flammable
11	Catalyst - Raney Nickel	Drum 25 Kg/ 50 Kg	5 Nos	Toxic
13	Phosphorous chloride	Drum 25 Kg/ 50 Kg	50 Nos	Toxic
14	Sodium mono chloro acetate	Drum 25 Kg/ 50 Kg	100 Nos	Corrosive
18	Zinc Oxide	Drum 25 Kg/ 50 Kg	5 Nos	Reactive
19	Copper Cyanide / Sodium cyanide	Drum 25 Kg/ 50 Kg	5 Nos	Toxic

20	Chlorine gas	Chlorine tonner	5 Nos	Toxic
21	Hydrogen gas	Cylinder bank	100 Nos	Explosive
22	Bromine	Bottle	150 Nos	Toxic

This is a worst case scenario. The raw materials will be procured on a campaign basis. If these products are manufactured only those raw materials will be stored at site.

✓ **Safety details of Hazardous Chemicals:**

Type of Hazardous Chemicals	Safety measures
FLAMMABLE & EXPLOSIVE CHEMICALS	• 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 ventilation will be provided in storage room. • Proper label and identification board /stickers will be provided in the storage area. • Area shall be marked as “Hazardous Chemical Storage”, “No Smoking”, “Hot work Restricted”. No cell phones • MSDS of chemicals stored will be available in storage area
CORROSIVE CHEMICALS	Preventing or minimizing contact between corrosive substances and skin, mucous membranes and eyes. • Corrosive substances should not be allowed to come in contact with materials that may react. • All the containers, pipes, apparatus, installations and structures used for the manufacture, storage, transport or use of these substances may be protected by suitable coatings, impervious to and unaffected by corrosives. • All containers or receptacles should be clearly labelled to indicate their contents and should bear the danger symbol for corrosives. • Adequate ventilation and exhaust arrangement whether general or local, should be provided whenever corrosive toxic gases or dust are present. • Personal protective devices shall be used • First aid treatment facilities shall be provided and all concerned should be instructed to follow safe practices such as (a) Prolonged washing with water (b) Removing contaminated clothing (c) Seeking immediate medical help. • Safety showers and eye washers is provided.
TOXIC CHEMICALS& IRRITANT CHEMICALS	Ventilation must be sufficient to prevent accumulation of vapor pockets. All fan switches should be outside the storage area. • Self-breathing apparatus, gas mask and 'emergency kits' should be located at strategic points under working condition and to be easily accessible in the event of emergency. • Appropriate minimum safety distances as stipulated in the above mentioned

	rules have to be maintained from buildings or group of buildings or adjacent property
REACTIVE CHEMICALS	• Store minimum quantities. • Segregate chemicals, e.g. from water, air, incompatible chemicals, sources of heat, ignition sources. • Spillage control; bund, spray, blanket, containment. Drain to collection pit. • Decontamination and first-aid provisions, e.g. neutralize/destroy, firefighting • Contain/vent pressure generated to a safe area. • Split-up stocks into manageable lots, e.g. with reference to fire loading/spillage control. • Ensure appropriate levels of security, hazard warning notices, fences, patrols. Control access including vehicles. • Appropriate gas/vapor/fume/pressure venting, e.g. flame arrestors, scrubbers, absorbers, stacks. • Will ensure adequate natural or forced general ventilation of the storage area Provide adequate, safe lighting. • Label (name and number); identify loading/unloading/transfer couplings. • Provide appropriate fire protection (sprinkler, dry powder, gas). Will ensure adequate access for both normal and emergency purposes with alternative routes

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

8.2 Types of hazardous Processes involved and its safety measures:

Types of process	Safety measures including Automation
Amination	➢ Amination process will be carried out through DCS System. ➢ Valve, pipeline will be checked and maintain, in good condition. ➢ Ammonia leakage identification will be done by HCL torch. ➢ Ammonia leakage control Kit will be kept available at store. ➢ All Gaskets will be checked periodically & if new one replaces found defective. ➢ Joints will be checked regularly to find any Leakage. ➢ ADEQUATE PPE will be kept to handle the Hazard. ➢ ISI Portable fire extinguisher & Hydrant line will be provided as per TAC norms. ➢ Sufficient amount of sand/soil are kept to control any spillage. ➢ Flame proof fitting provided. ➢ Eye washer cum shower will be provided near tank-farm area. ➢ Spark arrester will be installed on all vehicles inside the premises. ➢ SBA set, Canister mask and airline mask will be provided. ➢ Earthing& bonding on tanks will be provided. ➢ Vent line dipped in water will be provided.
Chlorination	Risk Assessment plan due to Chlorine Storage and handling: ➢ Chlorine shed will be made as per SMPV rules. ➢ Chlorine will be stored in 900 kgs. tonners at site ➢ Chlorine tonner storage area will be away from the process plant.

- Chlorine KIT, HOOD, PIT, SCBA sets will be kept ready and maintained in tiptop working condition.
- Chlorine Hood with blower will be provided with scrubbing arrangement.
- Safety Shower and eye wash will be provided in Chlorine shed area.
- Tonner handling EOT crane will be installed in Chlorine shed area for safe tonner handling.
- Safety Valve will be provided on chlorine header line and it will be connected to caustic scrubber.
- Barometric lag height will be maintained up to maximum height of the process building.
- SCBA sets will be kept ready at chlorine handling area.
- Safety valve will be provided on vaporizer header and outlet of safety valve connected to scrubber.
- Flow and temperature controllers will be provided on process line.
- SOP will be prepared for safe handling of Chlorine tonners.
- Caution note and emergency handling procedure will be dwell be played and trained all employees.
- Neutralizing chemicals will be kept ready in tonner storage area.
- Regular Mock-drill conducted for chlorine emergency.

Emergency capabilities:

1. Chlorine Emergency Kit will be kept at site.
2. Chlorine scrubber with sparger and with blower will be provided surrounding chlorine tonner shed.
3. Sprinkler will be provided surrounding chlorine shed.
4. On line Gas detection will be provided.
5. Fire hydrant system to be installed as per NFPA Norms in each plant and buildings.
6. On Site emergency Plan will be prepared.
7. Emergency drill will be conducted regularly and train employees for chlorine emergency.
8. 03 Nos. SCBA sets will be provided.
9. Area evacuation plan, Emergency assembly point, Emergency control centre will be prepared and will be maintained round the clock.
10. OHC facility with part time Doctor and male nurse will be prepared and maintained.
11. Emergency siren and wind shock will be provided.
12. Tele Communication system and mobile phone will be used in case of emergency situations for communication.

For Chlorine

1. SOP will be prepared for safe handling of Chlorine tonners.
2. Chlorine Emergency Kit will be procured and kept ready at chlorine shed.
3. Chlorine Hood with blower will be provided with scrubbing arrangement.
4. Safety Shower and eye wash will be provided in Chlorine shed area.
5. Tonner handling EOT crane will be installed in Chlorine shed area for safe tonner handling.
6. Safety Valve will be provided on chlorine header line and it will be connected to caustic scrubber.

For Above ground Non PESO storage tank farm :

7. MS storage tank provided as per IS code.
8. Dyke wall will be provided to storage tank.
9. Level gauge will be provided with low level high level.

		10. Fire hydrant monitor with foam trolley facility will be provided. 11. FLP type pump will be provided. 12. Double static earthing will be provided to storage tank. 13. Double Jumper clip will be provided to all pipeline flanges. 14. Road tanker unloading procedure will be prepared and implemented. 15. Lightening arrestor, PPEs will be provided. 16. Safety shower, eye washer will be provided. 17. NFPA labelling system will be adopted for storage tanks. **For Drum Storage area :** 1. FLP type light fittings will be provided. 2. Proper ventilation will be available in Drum storage area. 3. Proper label and identification board /stickers will be provided in the storage area. 4. Conductive drum pallets are provided. 5. Drum handling trolley / stackers/fork lift are used for drum handling. 6. Separate dispensing room with local exhaust and static earthing provision will be available. 7. Materials are stored as per its compatibility study and separate area will be available for flammable, corrosive and toxic chemical drums storage. 8. Smoking and other spark, flame generating item are banned from the Gate. 9. NFPA labels are provided on drums for hazard identification of the chemicals. 10. Exhaust will be provided at ground level in drum storage area. 11. Drum loading unloading procedures are prepared and implemented. **For Ware House Safety Measures:** 1. FLP type light fittings are provided. 2. Proper ventilation will be available in godown. 3. Proper label and identification board /stickers are provided in the storage area. 4. Pallets are provided for material bag storage. 5. Material handling trolley / stackers/fork lift are used. 6. Materials are stored as per its compatibility study and separate area will be available for flammable, corrosive and toxic chemical storage. 7. Smoking and other spark, flame generating item are banned from the Gate.
	Nitration	➢ Nitration process will be carried out through DCS System. ➢ Nitric acid and sulphuric acid is highly reactive at high temperature. By product of reaction may have explosive property. ➢ It is required to take strict safety measures to control any accident. ➢ Nitration reaction is highly exothermic. It must be controlled by systematic cooling designed to withdraw the energy evolved. ➢ Provide pressure safety valve, Pressure indicator with alarm system. Set maximum and minimum pressure level. ➢ Temperature indicator with alarm system. Set maximum and minimum temperature level. ➢ Reactor must be jacketed and provide adequate cooling system by supplying water. ➢ All pipeline and tanks painted as per IS colour code. ➢ Provide close loop process. ➢ Process area must be well ventilated.

		➢ One tank is always kept empty during Nitration process, connection with emergency release line to neutralize the system ➢ Installation of special electrical equipment for flammable vapors, gases, combustible dusts or other materials. ➢ Periodic testing of grounding and bonding circuits, lightning arresters, and electrical distribution equipment. ➢ Maintenance/calibration done for critical safety equipment (e.g. sensors, instruments, valves, interlocks, reactors, condenser etc.) at suitable intervals. ➢ Provide suction line in which vapour space above the liquid charge to remove the acid fume and oxides of nitrogen which may be liberated. Provide scrubber system for the same. ➢ Level gauge provided. ➢ Required PPEs provided to all employees. Person who will handling this process must be trained. ➢ Double drain valve will be provided ➢ 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. ➢ Cleaning of Spillage ➢ Nitric acid spill clean-ups first begin with the right personal protection equipment (PPE). Nitric acid is hazardous to humans; therefore, workers should gear up in a pair of industrial-grade safety glasses along with gloves, lab apron, and a respirator. Once the worker is properly geared up in the appropriate PPE, they can begin to clean up the spill. ➢ There are several different solutions available for cleaning up a nitric acid spill, but it's usually best to use some form of acid absorbent. An acid neutralizer absorbent, for instance, will safely soak up the nitric acid. And once the acid is fully soaked up and neutralized the powder can be disposed of.
	Sulphonation	➢ Sulphonation process will be carried out through DCS System. ➢ SOP will be prepared for safe charging of Thionyl chloride. ➢ Required PPEs like full body protection PVC apron, Hand gloves, gumboot, Respiratory mask etc. will be provided to operator. ➢ Make sure the absorber unit (two stage Alkali scrubber) is working and capable of handling vented SO2 fumes. ➢ Neutralizing agent will be kept ready for tackle any emergency spillage. ➢ Safety Shower and eye wash will be provided near process area. ➢ For Thionyl Chloride evacuate area in down wind direction up to 0.3 km (300 meter) in small spillage. ➢ Emergency siren and wind sock will be provided. ➢ Tele Communication system and mobile phone will be used in case of emergency situations for communication. ➢ Total close process will be adopted for Thionyl chloride charging. ➢ Caution note and emergency first aid will be displayed and train for the same to all employees. ➢ First Aid Boxes will be available in process area. ➢ Emergency organization and team will be prepared as per On site-Off site emergency planning. DCS System Will be provided.
	Oxidation	➢ Appropriate personal protective equipment (e.g., safety goggles, gloves, fire resistant or all cotton lab coat) must be worn when working with oxidizers. ➢ If a reaction is potentially explosive or if the reaction is unknown, use a fume hood (with the sash down as a protective barrier), safety shield, or

		other methods for isolating the material or the process. ➢ The quantity of oxidizer used should be the minimum necessary for the procedure. Do not leave excessive amounts of an oxidizer in the vicinity of the process. ➢ Oxidizers should be stored in a cool, dry place. Oxidizers must be segregated from organic material, flammables, combustibles and strong reducing agents such as zinc, alkaline metals, and formic acid
	Hydrogenation	➢ Reactor or autoclave shall have following minimum safety devices. ➢ Hydrogenation Process will be carried out through DCS System. ➢ Total enclosed process system will be adopted. ➢ Temperature gauge or temperature indicator will be provided. ➢ Pressure gauge will be provided with red mark of S.W.P. ➢ Auto cut off temperature and pressure arrangement will be provided. ➢ Safety valve will be provided on hydrogen gas line header. ➢ Safety valve will be provided on reactor. ➢ Rupture disc will be provided for additional safety. ➢ Vent line will be connected with scrubber in case of Ammonia used. ➢ Vent will be terminated above roof level in case of Hydrogen gas used. ➢ Flame arrestor will be provided to vent line. ➢ Nitrogen blanketing will be provided before the charging of hydrogen and after completion of reaction. The line and reactor will be flushed with Nitrogen gas properly to avoid fire or explosion in reactor. ➢ Chilling cooling arrangement and alternative arrangement for water will be provided to the reactor. ➢ Alternative power supply arrangement will be provided to autoclave. ➢ Blow down (drawing tank) will be connected to transfer complete reaction mass in case of any extreme emergency. ➢ Double Body earthing will be provided to autoclave. ➢ Flameproof fittings will be provided in the process area. ➢ PRV station with shut off valve, safety valve provision will be made for hydrogenation reaction safety.
	Cyanide Handling SOP	➢ NaCN / CuCN is in solid pallets form receiving in double packing metallic drum. Unit will prepare NaCN / CuCN solution in a dissolving tank as per requirement. There is no any heating arrangement in dissolution tank. There is no any chances of gas or fumes of HCN during this process. HCN can get generated in acidic condition only. Our all reactions will be in aqueous form and alkaline condition. NaCN/ CuCN is in solid form that's why, only dust exposure possible to charging worker if it is in powder form. But stated above , the unit is going to use the Coated TABLETS only having 100 gms weight. Hence There is no chances of dusting & any toxic gas HCN generation during large spillage or catastrophic rupture of tank as it is not volatile to evaporate and create toxic vapour cloud hence No toxic gas dispersion scenarios possible. ➢ Cyanide streamlines are kept separate. For safety point of view, separate dissolution reactor through pump-line addition tank will be provided. The unit will provide personal protective safety suit and three antidote kit to three shifts. The workers are working under safety guidelines of production in-charge and maintaining register as per PESO system. Antidote medicines will also be provided. ➢ Antidote :- Hydroxocobalamine and Sodium Nitrite and Sodium Thiosulfate ➢ Cyanide Process will be carried out through DCS System. ➢ Separate stored in locked room. ➢ Away from water sources.

	➢ Total body protection suite is provided to charging operator with air line respirator. ➢ Safe operating (Charging) procedure is prepared and displayed in process and storage area. ➢ Total close process for charging and handling. ➢ Antidote kit for cyanide is kept ready in OHC. ➢ Training will be provided to handle cyanide, ➢ SCBA sets are available in handling area. ➢ Operator having cuts and sores should not use cyanides. ➢ If a little poisoning, inhale cyanide antidote kit (amyl nitrite, sodium nitrite and sodium thiosulfate) and oxygen for 15-30 seconds as first aid measures ➢ Use sodium hypochlorite, calcium hypochlorite solution or potassium permanganate for washing balance, glass apparatus, spatula, workplace and in case of spillage ➢ Use Apron, eye protecting glass, Mask and gloves during transferring, work-up and decomposition of chemicals. ➢ Issued quantity will be used fully for reactions cannot be stored in the process area Separate Log Book for issuing above cyanides and Manager has to sign on the register.

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8.3 Details of Fire Load Calculation

Total Plot Area:	23356 sq. m
Area utilized for plant activity:	13866 sq. m
Area utilized for Hazardous Chemicals Storage:	345
Number of Floors:	G+3
Water requirement for firefighting in KLD:	48.65 KL
Water storage tank provided for firefighting in KL:	300 KL
Details of Hydrant Pumps:	*Main Pump cap: 75 HP* *Jockey pump cap: 65 HP* *DG Pump cap: 86 HP*
Nearest Fire Station :	Dahej Fire station
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 300 KL. SEAC found it as per the requirement.

8.4 Details of Occupational Health Centre (OHC):

-

Number of permanent Employee:	410
Number of Contractual person/Labour:	100
Area provided for OHC:	40.28
Number of First Aid Boxes:	20
Nearest General Hospital:	Dahej health & welfare hospital 9.33 km
Name of Antidotes to be store in plant:	Treat seizures with diazepam (Valium) Use proparacaine hydrochloride to assist eye irrigation Anticipate seizures Methylene Blue

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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.

8.5	**Details of Emergency measures proposed and preparedness action for chemicals and fire explosion etc.**

- Statutory information in the form of booklet will be given to neighboring units and the general public of the villages in the vicinity of the unit, if required.
- General Public in the vicinity shall be trained for associated chemical hazards, safety measures, on-site & off-site emergencies, individual actions required during emergencies, first aid, etc.
- General Awareness Seminars will be conducted.
- Required safety drills, Off Site drill, etc will be conducted.

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

Sr.No.	Membership for Common Facility	Membership Certificate issuing agency Date of Issue and validity of membership
01	CETP	Unit have membership of CETP, Dahej no. GIDC/BRH/DEE/DRG/280 for 200 KLD dated 20/06/2022.
02	TSDF site	Unit have membership of BEIL Ref no. BEIL/ANK/2022 dated 7th October, 2022.
03	Common Hazardous Waste Incineration Facility	
04	Common Spray Drying Facility	--
05	Common MEE Facility	--
06	Common Conveyance System	--
07	PESO permission	Unit will obtain PESO License for storage of chemicals.
08	FIRE permission	Unit will obtain
09	Health Certificate	--

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

(a) Reduce

Sr. No.	Item	Quantity	% percentage
1	--	--	--

(b) Reuse

Sr. No.	Item	Quantity	% percentage
1	Water	183.5	33.54

(c) Recycle

Sr. No.	Item	Quantity	% percentage
1	Water	183.5	33.54

11	**EMP Details**

Sr. No.	Unit	Detail	Capital Cost (Rs. In Lacs)	Operating Cost (Rs. In Lacs)	Maintenance Cost (Rs. In Lacs)	Total Recurring Cost (Rs. In Lacs)
1	Waste Water	ETP (Primary & Tertiary	400	200	100	300

		Treatment) & discharge into the CETP				
2	Air	Stack and APCM and its maintenance, Acoustic enclosure	400	30	20	50
3	Hazardous Management	Hazardous waste storage, transportation and Disposal	17	490	10	500
4	Fire & Safety	Safety Equipment (PPE, fire extinguishers, First Aid Kit, Smoke detector, Fire Sprinkler System Ventilation, Fire Hydrant System, Fire Proximity Suit)	200	10	20	30
5.	Green Belt Development	Development Green belt area and its maintenance	10	3	2	5
6.	Occupational Health	First Aid Kit, Medicine, Beds, other facility	20	3	2	5
7	Noise Control	Acoustic enclosure & Silencer & Vibration pads & Noise PPEs	10	5	5	10
8	VOC control & LDAR	DCS automation system for process, scrubber, solvent recovery	200	10	15	25
9	Environment monitoring plan	AWH monitoring	10	5	5	10
10.	CER activity	CER will be carried out in vicinity villages	120	5	25	150
Total			**1387**	**761**	**204**	**965**

Comments:

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

12	**Details of CER** -

Total cost of Project (Rs in Crores)	**Total Cost of CER (Rs in Crores)**	**Percentage (%)**
100.47	1.50	1.5 %

PP shall carry out CER activities as below:

CER ACTIVITIES WILL BE CARRIED OUT FOR 3 YEARS						
Sr.No.	**Activities**	**Name of the Village / Place**	**Capital Cost Y1 Lac**	**Maintenance Cost Y2 Lac**	**Maintenance Cost Y3 Lac**	**Maintenance Cost in Lac**
1	Unit will allocate fund to nearby villages for following activities as Corporate Environment Responsibility over a period of three years.	Janiyadara, Akhod, Galenda				
a.	Strengthening and beautification of Pond	Janiyadara, Akhod, Galenda	60	10	6	16
b.	Provision of 5 kW Solar Panel & RO system at panchayat, Pevar block installation.	Janiyadara	10	2	2	4
c.	Provision of 5 kW Solar Panel & RO system at primary health centers	Akhod, Galenda	20	2	2	4
d.	Provision of 10 kW Solar Panel & RO system at primary schools	Akhod, Galenda	30	3	3	6
	Total		**120**	**17**	**13**	**30**

13) 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:

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. Close loop solvent recovery system with adequate condenser system shall be provided to recover solvent vapours in such a manner that recovery shall be maximum and recovered solvent shall be reused in the process within premises.
4. Leak Detection and Repair (LDAR) program shall be prepared and implemented as per the CPCB guidelines. LDAR Logbooks shall be maintained.
5. The National Ambient Air Quality Emission Standards issued by the Ministry vide G. S. R. No. 826 (E) dated 16th November, 2009 shall be complied with.
6. National Emission Standards for Organic Chemicals Manufacturing Industry issued by the Ministry vide G. S. R. 608 (E) dated 21/07/2010 and amended from time to time shall be followed.
7. Unit shall have to adhere to the prevailing area specific policies of GPCB with respect to the discharge of pollutants, and shall carry out the project development in accordance & consistence with the same.
8. All measures shall be taken to avoid soil and ground water contamination within premises.
9. **Safety & Health:**
   a) Unit shall obtain all required permissions from the Narcotics Control Bureau for manufacturing, storage and handling of Acetic Anhydride & any such chemicals.
   b) PP shall obtain PESO permission for the storage and handling of hazardous chemicals.
   c) PP shall provide Occupational Health Centre (OHC) as per the provisions under the Gujarat Factories Rule 68-U.
   d) PP shall obtain fire safety certificate / Fire No-Objection certificate (NOC) from the concern authority as per the prevailing Rules / Gujarat Fire Prevention and Life Safety Measures Act, 2016.
   e) Unit shall adopt functional operations/process automation system including emergency response to eliminate risk associated with the hazardous processes.

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

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

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

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

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

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

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

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

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

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

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

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

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

WATER

10. Total water requirement for the project shall not exceed 547 KLD. Unit shall reuse 183.5 KLD of treated effluent within premises. Hence, fresh water requirement shall not exceed 363.5 KLD and it shall be met through GIDC water supply only. Prior permission from concerned authority for withdrawal of water shall be obtained.
11. The industrial effluent generation from the project shall not exceed 456 KLD.
12. Management of Industrial effluent shall be as under:

- ✓ **High COD Effluent (231 KLD)**:
  - 146 KLD High COD process effluent shall be treated in Stripper. 145 KLD Treated effluent from stripper and 85 KLD scrubber effluent shall be treated in MEE & ATFD. 172 KLD MEE condensate shall be reused within premises after passing through carbon filter.
- ✓ **Low COD Effluent (225 KLD):**
  - 95 KLD process effluent containing cyanide shall be treated in primary ETP.
  - 95 KLD treated process effluent (cyanide stream) and 130 KLD washing & utilities

effluent shall be treated in primary, secondary & tertiary ETP.

- Total 194 KLD treated effluent shall be sent to CETP-Dahej for further treatment and disposal.

13. Unit shall feed wastewater to in-house MEE only after ensuring content of effluent for COD/VOC so as not to get air borne during evaporation in order to achieve no adverse impacts on Environment and Human Health.
14. Treated waste water shall be sent to CETP-Dahej only after complying with the inlet norms of common facilities prescribed by GPCB to ensure no adverse impact on Human Health and Environment.
15. Domestic wastewater generation shall not exceed 12 KL/day for proposed project and it shall be treated in STP.It shall not be disposed off into soak pit. 11.5 KLD, Treated sewage shall be utilized for gardening and plantation purpose within premises after achieving on-land discharge norms prescribed by the GPCB.
16. During monsoon season when treated sewage may not be required for the plantation / Gardening / Green belt purpose, it shall be stored within premises. There shall be no discharge of waste water outside the premises in any case.
17. Unit shall provide buffer water storage tank of adequate capacity for storage of treated waste water during rainy days.
18. Unit shall provide STP, ETP, Stripper, MEE & AFTD with adequate capacity.
19. The PP shall ensure to dispose off Waste water to the Common Facilities having valid CTO of GPCB.
20. The unit shall provide metering facility at the inlet and outlet of STP, ETP, Stripper, MEE & AFTD and maintain records for the same.
21. Proper logbooks of STP, ETP, Stripper, MEE & AFTD; reuse/ recycle of treated/ untreated effluent; chemical consumption in effluent treatment; quantity & quality of treated effluent sent to CETP-Dahej; 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 Steam Boilers, TFH and D G Set as per the point no. 5.2 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. 5.3 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 indicativeguidelines shall also be followed to reducethe fugitive emission.
    - Internal roads shall be either concreted or asphalted or paved properly toreducethe fugitive emission during vehicular movement.

- Air borne dust shall becontrolled with water sprinklers at suitable locations in the plant.
- A green belt shall be developed all around the plant boundary and also along the roads to mitigate fugitive & transport dust emission.

27. Regular monitoring of Volatile Organic Compounds (VOCs) shall be carried out in the work zone area and ambient air.
28. Forcontrol 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 toprevent leakages.
    d. Air borne dust at all transfers operations/ points shall be controlled either by spraying water or providing enclosures.
29. Solvent management shall be carried out as follows:
    - ✓ Measures shall be taken to reduce the process vapors emissions as far as possible. Use of toxic solvents shall be minimum. All venting equipment shall have vapour recovery system
    - ✓ Reactor shall be connected to adequate chilling system to condensate solvent vapors and reduce solvent losses.
    - ✓ Reactor and solvent handling pump shall have mechanical seals to prevent leakages.
    - ✓ The condensers shall be provided with sufficient HTA and residence time so as to achieve maximum solvent recovery.
    - ✓ Solvents shall be stored in a separate space specified with all safety measures.
    - ✓ Proper earthing shall be provided in all the electrical equipment wherever solvent handling is done.
    - ✓ Solvent storage and handling area shall be flame proof. The solvent storage tanks shall be provided with breather valve to prevent losses.
30. Regular monitoring of ground level concentration of PM_{10}, $PM_{2.5}$, SO_2, NOx, HCl, Cl_2, acid mist, Br_2, NH_3, HBr and VOCs shall be carried out in the impactzoneand its records shall be maintained. Ambient air quality levels shall not exceed the standards stipulated by the GPCB. If at any stage these levels are found toexceed the prescribed limits, necessary additionalcontrol measures shall be taken immediately. The location of the stations and frequency of monitoring shall be decided in consultation with the GPCB.

HAZARDOUS / SOLID WASTES:

31. All the hazardous/ solid waste management shall be taken care as per the point no. 7.1 and 7.2 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. 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.
36. STP sludge shall be collected and used as manure in gardening activity or send to TSDF site for landfilling.
37. The unit shall submit the list of authorized end users of hazardous wastes along with MoU signed with them at least two months in advance prior to the commencement of production. In the absence of potential buyers of these items, the unit shall restrict the production of the respective items.

GREENBELT AREA

38. The PP shall develop green belt within premises (7729.74 Sq. m i.e. 33.10% of the total plot area) as submitted before SEAC. Green belt shall be developed with native plant species that are significant and used for the pollution abatement as per the CPCB guidelines. It shall be implemented within 3 years of operation phase in consultation with GPCB.

OTHERS:

39. The project proponent shall carry out the activities of Rs 1.5 Crores [Strengthening and beautification of Pond in Janiyadara, Akhod, Galenda villages; Provision of 5 kW Solar Panel & RO system at panchayat, Pevar block installation in Janiyadara village; Provision of 5 kW Solar Panel & RO system at primary health centers in Akhod & Galenda villages and Provision of 10 kW Solar Panel & RO system at primary schools in Akhod & Galenda villages] 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.
40. All the recommendations, mitigation measures, environmental protection measures and safeguards proposed in the EIA report of the project prepared by M/s. Jyotiom Chemical Research Centre 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:

41. 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.
42. 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.
43. Designated key person shall submit six monthly compliance report to SEIAA/SEAC, MOEF&CC, GPCB and Nodal Department of the Government.
44. 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.

45. 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.
46. 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.
47. 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

2.	SIA/GJ/IND3/408853/2022	**M/s. Siddhima Organics (OPC) Pvt. Ltd.** Plot No: T/64, Saykha Industrial Estate, Ta: Vagra, Dist: Bharuch	EC

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

Project status: **New**

1) Details of Application:

Type of application:	New
Proposal no.	SIA/GJ/IND3/408853/2022
Category of Project :	5(f) – B1
Date of application : (Online accepted by SEAC) *A) DATE OF SUBMISSION OF APPLICATION* *B) ONLINE ACCEPTED BY SEAC*	 A) 01ST DECEMBER, 2022 B) 19TH JANUARY, 2023
Date of EDS by SEIAA *A) EDS RAISED* *B) REPLY BY PP*	No EDS raised by SEIAA
Date of EDS by SEAC c) EDS Raised d) Reply by PP	 a) 19th December, 2022 b) 18th January, 2023
TOR No. & Date :	SIA/GJ/IND/187511/2022 Dated 29th November 2022
Date and place of Public Hearing	Not applicable as proposed unit is in Notified GIDC area
Technical expert / Environmental Consultant :	M/s. Enviro Fluid Consultants
SEAC Meeting No. and Date:	576th SEAC Meeting dated 10th February, 2023.
ADS vide letter dated :	--
Reply Submitted by PP dated:	--

Revised Consideration SEAC Meeting No. and Date:	--
Compliance of Existing EC & CCA as per MOEF&CC's OM dated: 08.06.2022	Not applicable as it is proposed unit.

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

Sr. No.	Name of Products	CAS / CI number	Total Quantity (MT/Month)	End Use
Group- A (API)				
1.	Trimetazidine Dihydrochloride	13171-25-0	**15.00**	Used as medicines
2.	Miconazole	23828-92-4		
3.	Ketoconazole	65277-42-1		
4.	5-Aminosalicylic Acid	89-57-6		
5.	Loratadine	79794-75-5		
6.	Sitagliptin	486460-32-6		
7.	Itraconazole	84625-61-6		
8.	Rabeprazole	117976-89-3		
9.	Sulpiride	23672-07-3		
10.	Pantoprazole Sodium	138786-67-1		
11.	Omeprazole Sodium	95510-70-6		
12.	Lidocaine	73-78-9		
13.	Clotrimazole	23593-75-1		
14.	Domperidone	57808-66-9		
15.	Pregabalin	148553-50-8		
16.	Amisulpride	53583-79-2		
17.	Apixaban	503612-47-3		
Group- B (API)				
18.	Glimepiride	93479-97-1	**5.00**	Used as medicines
19.	Luliconazole	187164-19-8		
20.	Ticagrelor	274693-27-5		
21.	Eplerenone	107724-20-9		
22.	Desloratadine	100643-71-8		
23.	Rosuvastatin Calcium	147098-20-2		
24.	Olmesartan	144689-63-4		
25.	Montelukast Sodium	151767-02-1		
26.	Nebivolol Hydrochloride	152520-26-4		
Group- C (Intermediates)				
27.	2,4-dihydro-4-(4-(4-hydroxyphenyl)-1-piperazinyl)- phenyl)-2-(1-methylpropyl)-3H-1,2,4-triazole- 3- one	106461-41-0	**35.00**	Used in manufacturing of Pharma Products
28.	Cis-2-(2,4- dichlorophenyl)-2-(1H-1,2,4-triazole-1-ylmethyl)-1,3-dioxolan- 4-ylmethyl methane sulphonate	67914-86-7		

29.	2-[[4-(3-Methoxypropoxy)-3-methyl-2-pyridy] methylthio] benzimidazole	117976-90-6			
30.	(S)-2-(Aminomethyl)-1-ethylpyrrolidine	22795-99-9			
31.	Methyl 2-methoxy-5-sullphmoylbenzoate	33045-52-2			
32.	2-Chloromethyl-3, 4-dimethoxypyridinium Chloride	72830-09-2			
33.	Omeprazole Sulphide	73590-85-9			
34.	4-Chloromethyl-5-methyl-1,3-dioxol-2-one	80841-78-7			
35.	4-Hydrazinobenzenesulfonamide Hydrochloride	17852-52-7			
36.	2-Amino-3-Nitro-6-(4'-fluorobenzylamino)-pyridine	33400-49-6			
37.	1,4-benzoxazine-6-carboxylic acid	82419-35-0			
38.	3-Amino-1-Adamantanol	702-82-9			
39.	1- Acetyl- 4-(4-Hydroxyphenyl) Piperazine	67914-60-7			
40.	2- Butyl- 4- Chloro- 5- Formyl Immidazole	83857-96-9			
41.	Trityl tetrazole bromomethyl biphenyl	133051-88-4			
42.	Diethyl D-(-)-Tartrate	13811-71-7			
43.	2-Amino-3, 5-dibromo benzaldehyde	50910-55-9			
44.	4(2-Methoxy ethyl) Phenol	2785-89-9			
45.	4-Methyl-3-oxovaleric Acid Methyl Ester.	42558-54-3			
46.	Phenyl ethyl methyl ether	3558-60-9			
47.	5-(Difluoromethoxy)-2-mercapto-1H-benzimidazole	97963-62-7			
48.	Sulphanilamide	63-74-1			
49.	3-ethyl-4-methyl-2-oxo-N-(4-sulfamoylphenethyl)-2,5-dihydro-1H-pyrrole-1-carboxamide	119018-29-0			
50.	1- Acetyl- 4-(4-Hydroxyphenyl) Piperazine	67914-60-7			
51.	2- Chloroethylamine Hydrochloride	870-24-6			
52.	N,N- Dimethyl Formamide Dimethyl Acetal	4637-24-5			
53.	4-(2-Chlorophenyl) Morpholine Hydrochloride	3647-69-6			
54.	1-(3-Chlorophenyl) Piperazine	65369-76-8			
55.	2-Amino-5-Methyl Thiazole	7305-71-7			
56.	2,4- Dichloro Acetophenone	2234-16-4			
57.	Trans-4-Amino cyclohexanol	27489-62-9			
58.	2,4- Dichlorovalerophenone	61023-66-3			
59.	R&D Products	--	**0.50**	--	
		Total	**55.50**		

 # Brief Note of Product Profile:

1. No of Manufacturing Plants: 2 (1 API Plant and 1 Intermediate Plant)
2. Brief Note regarding number of Products to be manufactured considering plant capacity: Unit will manufacture product of each group as per market demand. Unit will manufacture individual product or all products in group but shall not exceed maximum given production capacity. However, while considering resources requirements and waste generation, worst case scenarios has been taken into consideration. Out of **total 58 proposed products, at a time 7 products** to be manufactured within the premises

3) The project falls under B1 category of project activity 5(f) as per the schedule of EIA Notification 2006.
4) The proposal was considered in the SEAC video conference meeting dated 10.02.2023.
5) Project proponent (PP) and their Technical Expert M/s Enviro Fluid Consultants remain present during video conference meeting.
6) Committee deliberated on Product profile, Layout plan, Storage details, Process safety, Fire safety, water balance & waste water management, Flue gas and process gas emission & Air Pollution Control System, Hazardous waste matrix, EMP, CER, Green belt, etc.
7) The baseline environmental quality has been assessed for various components of the environment viz. air, noise, water, biological and socioeconomic aspect. The baseline environmental study has been conducted for the study area of 10 km radial distance from project site for the period October-2021 to December-2021. Ambient Air Quality monitoring was carried out PM10, PM2.5, SO2, NOX, VOC, HCl, O3, CO, NH3, Cl2, Br2, Lead, Arsenic, Nickel, Benzene, Benzo(a)pyrene, Hydrocarbon 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 View-Lake". Incremental GLC's for all parameters remain within 500 m from the project site. The resultant concentrations are within the NAAQS. The modelling study proved that the air emissions from the proposed plant would not affect the ambient air quality of the region in any significant manner. The ambient air quality around the proposed project site will remain within the National Ambient Air Quality Standards (NAAQS).
8) Risk assessment including prediction of the worst-case scenario and maximum credible accident scenarios has been carried out. The detailed proposed safeguard measures including On-Site / Off-Site Emergency Plan has been covered in the RA report.
9) Since the proposed project is located in notified industrial area, public consultation is not required as per paragraph 7(i) (III) (I) (b) of the Environment Impact Assessment Notification 2006.
10) PP presented details of pollution load/ environmental impacts of the project including Water, Air and Hazardous waste management.

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

1. Brief note on increase in wastewater generation than water consumption in process and scrubber.

2. Provisional membership of CETP-Saykha for discharge of treated industrial effluent.
3. Copy of CCA of common spray dryer M/s Saykha Enviro Projects Pvt Ltd.
4. Notarized undertaking regarding unit will not manufacture Intermediates products which generates High COD effluent till the Common Spray dryer M/s Saykha Enviro Projects Pvt Ltd is operational.
5. Provision of adequate APCM with TFH considering the capacity of TFH.
6. Details of safety measures for each type of hazardous chemicals.
7. Details of capacity of STP and its specification.
8. Details of nitration process.

3.	SIA/GJ/IND3/409528/2022	**M/s. Maruti Industries** Plot no. 757 (New Survey No. 1351), Bodla Chokdi, Nr. Hanuman Temple, Village: Motap, Taluka: Bechraji, District: Mahesana, Gujarat. 384170.	EC

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

Project status: **Expansion**

1) DETAILS OF APPLICATION:

Type of application:	EC-Fresh (Expansion for Proposed)
Proposal no.	SIA/GJ/IND3/409528/2022
Category of Project :	B2
Date of application: c) Date of submission of application d) Online accepted by SEAC	a) 07/12/2022 b) 19/01/2023
Date of EDS by SEIAA c) EDS Raised d) Reply by PP	--
Date of EDS by SEAC e) EDS Raised f) Reply by PP	a) 02/01/2023 b) 13/01/2023
TOR No. & Date :	--
Date and place of Public Hearing	--
Technical expert / Environmental Consultant :	M/s. T R Associates
SEAC Meeting No. and Date:	Agenda No. 3, 576th MEETING OF SEAC **:**10/02/2023
ADS raised by SEAC meeting No & date :	--
Reply Submitted by PP dated:	--

Revised Consideration SEAC Meeting No. and Date:	--
Compliance of Existing EC & CCA as per MOEF&CC's OM dated: 08.06.2022	Self-Certified compliance report is attached as Annexure-1 B of EC presentation.

2) This is an existing unit and now proposed for expansion in manufacturing of synthetic organic chemicals (resins) as mentioned below:

S. No.	Product	CAS Number	Existing Capacity	Proposed Capacity	Total After expansion Capacity	End use
1	Melamine Formaldehyde Resins	9003-08-1	--	1000 MT/ Annum (4 MT/Day)	1000 MT/ Annum (4 MT/Day)	Captive consumption in manufacturing of Plywood, Flush Door, Block board and Wooden products
2	Urea Formaldehyde resins	9011-05-6				
3	Phenol Formaldehyde Resins	9003-35-4				
4	Melamine urea Formaldehyde resins	25036-13-9				
5	Plywood, Flush Door, Block board and Wooden products	--	6000000 Nos./Annum	--	6000000 Nos./Annum	In furniture
		Total	**6000000 Nos./Annum**	**1000 MT/ Annum**	**6000000 Nos./Annum and 1000 MT/ Annum**	

3) The project falls under B2 category of project activity 5(f) as per the schedule of EIA Notification 2006 and MOEF&CC letter No: F.No22-93/2017-IA.III dated: 10.04.2019.

4) The proposal was considered in the SEAC video conference meeting dated 10.02.2023.

5) Project proponent (PP) and their Technical Expert M/s T R Associates remain present during video conference meeting.

6) As per MOEF&CC letter No: F.No22-93/2017-IA.III dated: 10.04.2019, it is mentioned that *"After detailed deliberation on pollution potential as well as risk associated in the process of manufacturing of resin, was of the opinion that this activity may be listed under Category "B2" and the procedure required for Category "B2" may be followed for production of resin not exceeding 1000 tons per annum (4 tons per day) by captive manufacturing and utilization in plywood."*

7) As per MoEF&CC's letter No: F.No.16-12/2017-RT dated: 11.04.2019, it is mentioned that *"The process of manufacturing of resin, was of the opinion that this activity may be listed under Category "B2" and the procedure required for Category "B2" may be followed for production of resin not exceeding 1000 tons*

per annum (4 tons per day) by captive manufacturing and utilization in plywood."

8) Unit has applied for manufacturing of MF resin, UF, PF & MUF resins-1000 MTPA or 4 MT/Day. PP has submitted notarized undertaking for the same. PP is having CCA for manufacturig of Plywood, block board, Flush doors & Core Veneers- 4000 Sq m /Month.
9) PP submitted satellite map showing that there is no any villages, School, monuments etc. within 500 m radius of the project site. Aerial distance of nearest habitat of village Bodla is @ 0.946 Km. PP also submitted that there are no Eco sensitive zones, wild life sanctuaries within the 10 km area from the boundary of the project site.
10) There is no earlier EC as the existing Plywood, Flush Door, Block board and Wooden products manufacturing which does not attracts EC. Unit is having valid CCA of the Board for existing plant valid up to dated: 31.03.2027. PP submitted CC&A self-certified compliance report for existing plant. PP submitted that there is two Notices issued by GPCB in last three years, reply of the same is submitted to GPCB. There is no legal court case and public complaint against unit.
11) As per MoEF&CC's OM dated: 08.06.2022 regarding Certified Compliance report, the unit has obtained CCA on dated: 17.05.2022. Therefore as per MoEF&CC's OM dated: 08.06.2022, *"Self Certfied Compliance report for the latest CTO shall be sufficient if the project proponent applies for expansion within a periof of one year from the grant/ renewal of CTO."* Hence Self Certified Compliance report is acceptable.
12) Committee noted that NA of Survey No: 757, Village: Motap mentioning purpose as industrial purpose in the name of Shri Patel Bhanjibhai Premjibhai. Also, in Index-2 dated: 07.07.2022 it is mentioned that the land is on rent basis to M/s Maruti Industries and its partners.
13) 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.
14) Committee noted that PP has proposed wood waste (1.48 MTPD) as a fuel in TFH. Upon asking clarification for the same, PP informed that the wood waste is generated from the plywood process which is existing process and they will not procure the wood waste from outside. PP has submitted notarized undertaking regarding *"no additional wood will be purchased especially for fuel feeding in TFH from outside. In unavailability of wood waste, briquettes will be used as fuel."*
15) Since, the unit falls in B2 category as per the MoEF&CC's letter dated: 10.04.2021, the public consultation is not applicable as per paragraph 7(i) III (i) (e) of the Environment Impact Assessment Notification-2006.
16) Later on PP submitted the following details through email dated: 10.02.2023 & 15.02.2023.
    - ✓ They have applied for membership of TSDF at M/s Ecocare Infrastructure Pvt Ltd and copy of payment receipt is submitted.
    - ✓ Details of capacity of STP.
    - ✓ Details of area adequacy mentioning details of area required for each components.

17) Committee found presentation and submission of PP found satisfactory.

18) PP presented details of pollution load/ environmental impacts of the project including Water, Air and Hazardous waste management are as under:

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

Total Project Cost of existing project	Total Project Cost of proposed project	Total Project Cost after expansion
0.98	1.05	2.03

Break-up of proposed project Cost:

Sr. No.	Details	Plywood plant Cost in crores (Existing)	Resin plant cost in crores (Proposed)	Total plywood plant & Resin cost in crores (Total after expansion)
1	Land	0.26	--	0.26
2	Building	0.4	0.05	0.45
3	Plant & machineries	0.28	0.5	0.78
4	Environment & management plant	0.04	0.5	0.54
	TOTAL	0.98	1.05	2.03

2	**Land / Plot ownership details:** Land is on rent for 15 years in the name of M/s. Maruti Industries Transaction no.20220707754536924 dated 7th July 2022.
2.1	**In case of outside GIDC only –** **Siting Criteria**

Sr. no.	Environmental Sensitivity	Name/Specific details	Siting criteria as per GPCB guidelines dated: 05.06.2022	Aerial Distance in Km
1	Habitat (Residential Area)	Bodla	0.5 km	0.946
2	Eco sensitive zones	Thol Bird Sanctuary	--	49.22
3	Wild life sanctuaries/National Parks/ Reserved	Thol Bird Sanctuary	--	51.56

	Forest			
4	Water Bodies			
	River	--	--	--
	Natural Nallah/Drain	--	--	--
	Lake/Pond/Wetlands	Bodla Pond	0.5 km	1.31
	Water supply Tanks/Reservoirs	--	--	--
	Canal	--	--	--
5	Protected Monuments/Heritage sites/Public Buildingsi.e School, colleges, etc.	Malai Mata Temple	--	9.73
		Bodla Primary School	0.5 km	1.06
6	National/State Highway OR Express way	GJ-SH134	--	0.10
7	Coastal Regulation Zone (CRZ) (In case of Coastal area projects)	--	--	--
8.	Ground water table in meter	22-610	--	
9.	Railway Line	Mehsana railway station	--	10.61
10.	Air Port	Mehsana Airport	--	9.08

2.2 Ensure compliance of category as defined in the amendment to EIA Notification, 2006 vide SO 1599 (E) dated 25/06/2014. i.e.

C. General Condition (GC): Any project or activity specified in Category 'B' will be appraised at Central level as Category 'A' if located in whole or in part within 5 Km radius from the project boundary of:-

NA

D. Conditions of small units:

Sr no.	Condition	Compliance with justification
1	Water consumption less than 25 M3/day;	Complied. Total water consumption is 6.26 KLD.
2	Fuel consumption less than 25 TPD;	Complied. Wood waste (1.48 MT/Day) or Briquettes (1.75 MT/Day)
3	Not covered in the category of MAH units as per the Management, Storage, Import of Hazardous Chemical Rules (MSIHC Rules), 1989 as per the legal undertaking submitted with EIA report.	Complied. Formaldehyde (37%) storage is less than 5 MT.

2.3 Detailed land area

Total Land area: 5463 m^2

Floor-wise land area break-up table
Area Adequacy table:

Sr No	Components	Area required (Sq m)	Area Provided (sq m)	Percentage
1.	Security Cabin	8	8	0.28
2.	OHC	12	12	0.41
3.	Rest Room	10	15	0.52
4.	O.W.T	16	16	0.55
5.	Frame section and 2 Seasoning chamber	180	197.39	6.80
6.	4 Seasoning Chamber	250	309.44	10.66
7.	TFH	100	113.95	3.92
8.	SHW	20	23.43	0.81
9.	ETP and STP	35	40.49	1.39
10.	Labour Quarter	288.32	288.32	9.93
11.	Resin Mfg area	36	46.02	1.58
12.	Resin RM area	41.04	46.02	1.58
13.	Plywood shed	1700	1740.26	59.93
14.	Office	47.74	47.74	1.64
15.	**Greenbelt**	**1803.67**	**1803.67**	**33.0**
16.	**Road Area**	**755.27**	**755.27**	**13.84**
Total			**5463**	**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.

2.4 Green belt area

	Total (Sq. meter)
Area in Sq. meter	1803.67
% of total area	33.0

Comments:

✓ The PP shall develop green belt within premises (1803.67 Sq. m i.e. 33 % of the total plot area) as submitted before SEAC. Green belt shall be developed with native plant species that are significant and used for the pollution abatement as per the CPCB guidelines. It shall be

implemented within 3 years of operation phase in consultation with GPCB.

3 Employment generation

For Plywood unit	For Resin unit	Total
23	2	25

4 WATER

4.1 Source of Water Supply
Borewell
Exemption letter Vide no. 21-4/10150/GJ/IND/2022 dated 06-12-2022

Comments:

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

4.2 Water consumption (KLD)

Category	Existing Quantity KLD	Proposed Quantity KLD	Total after expansion Quantity KLD	Remarks
(A) Domestic	1.0	0.85	1.85	Fresh: 1.85
(B) Gardening	0	3.60	3.60	Fresh: 2.06 Reuse: 1.54
(C) Industrial				
Process	0	0	0	
Washing	0	0.5	0.5	
Cooling	0	0.31	0.31	
Scrubber	0	0	0	
Glue Mixing	0.05	-0.05	0	
Industrial Total	**0.05**	**0.76**	**0.81**	Fresh-0.39 + Reuse- 0.42
Grand Total (A+B+C)	**1.05**	**5.21**	**6.26**	Fresh-4.30 + Reuse- 1.96

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.

4.3 Waste water generation (KLD)

Category	Existing Wastewater KLD	Proposed Wastewater KLD	Total after expansion Wastewater KLD	Remarks
(A) Domestic	0.2	1.52	1.72	**To STP**
(B) Industrial				
Process	0	0	0	

Washing	0	0.5	0.5	
Cooling	0	0.03	0.03	
Scrubber	0	0	0	
Total Industrial waste water	**0**	**0.53**	**0.53**	**To ETP**
Total [A + B]	**0.2**	**2.05**	**2.25**	

Justification in case of increase/ drastic reduction in wastewater generation than water Consumption: NA

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.

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

Total 1.72 kl/day wastewater will be generated form domestic activities will be treated in STP and will be reused for greenbelt development (1.54 kl/day).

C. Capacity of STP & its specification:

Sr. No.	Name of the units	Capacity of STP
1	Collection cum neutralization Tank	PackagedSTP capacity will be 2.5 KLD.
2	Aeration tank	
3	Settling tank	
4	Holding tank	
5	Pressure Sand Filter (PSF)	
6	Activated carbon filter (ACF)	

STP Scheme

- Domestic wastewater will be collected in collection tank to reduce the shock load on subsequent process equipment's.
- Then it would be taken to aeration tank where BOD and COD of the wastewater will be reduced by providing air through blower at pressure higher than the atmospheric pressure.
- Then it would be taken to settling tank where the supernatant and sludge will be separated and then wastewater will be collected in holding tank where chlorine dosing will be done.
- Then wastewater will be passed through PSF and ACF for polishing of effluent.
- After polishing treatment, it would be reused in gardening.
- Packaged STP will be provided for the Treatment of Domestic wastewater.

Comments:

- ✓ Domestic wastewater generation shall not exceed 1.72 KL/day for proposed project and it shall be treated in STP. It shall not be disposed off through soak pit/ septic tank. 1.54 KLD Treated sewage shall be utilized for gardening and plantation purpose within premises after achieving on-land discharge norms prescribed by the GPCB.

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

-

Sr. no.	Quantity KLD	Facility
1	0.5	Washing wastewater will be treated in ETP followed by evaporator to maintain ZLD.
2	0.03	Cooling wastewater will be treated in ETP followed by evaporator to maintain ZLD.
Total	0.53	

D. Capacity of ETP & its specification:

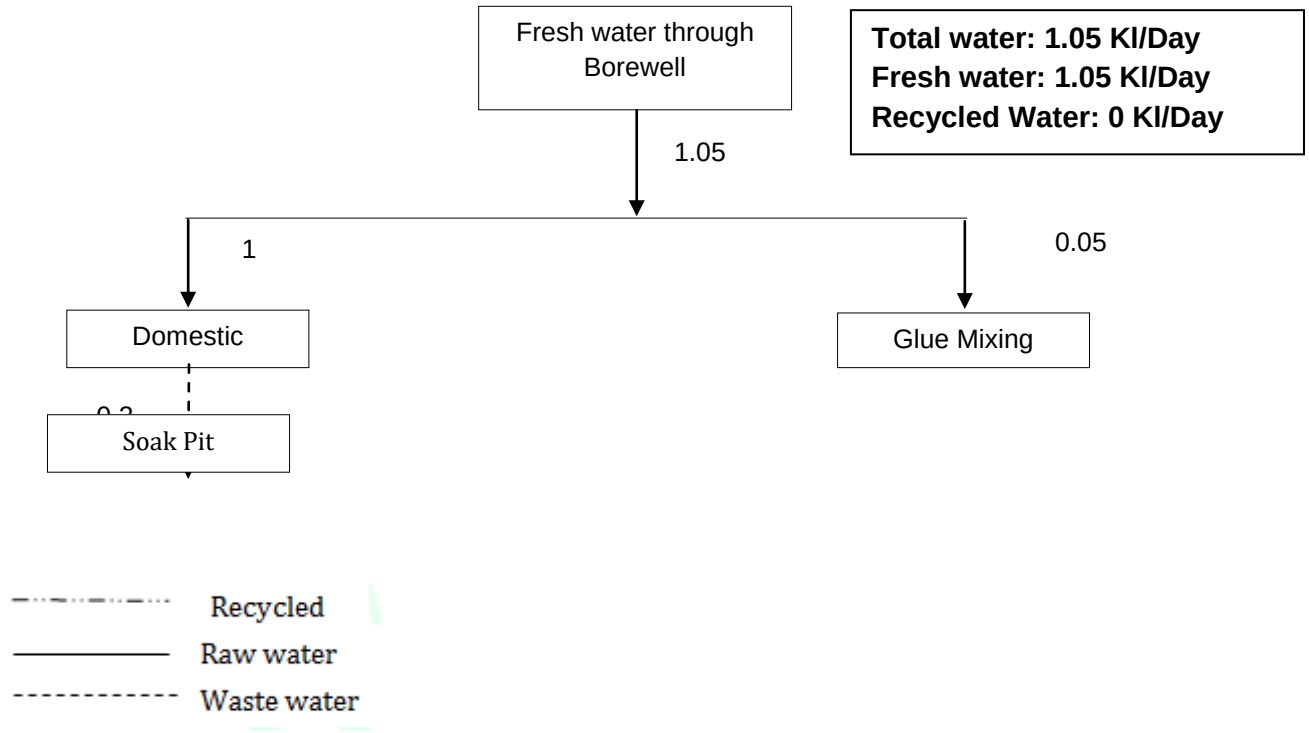
Sr. No.	Name of the units	No. of Unit	Capacity of unit
1	Collection cum neutralization Tank	2	0.5 kL
2	Nutsche Filter	1	0.1 m3/h
3	Holding Tank	2	0.5 kL
4	Evaporator followed by Condenser	1	0.1 m3/h

Comments:

- ✓ 0.53 KLD total industrial effluent shall be treated in primary ETP followed by Evaporator & condenser. 0.42 KLD condensate shall be resued within premises.

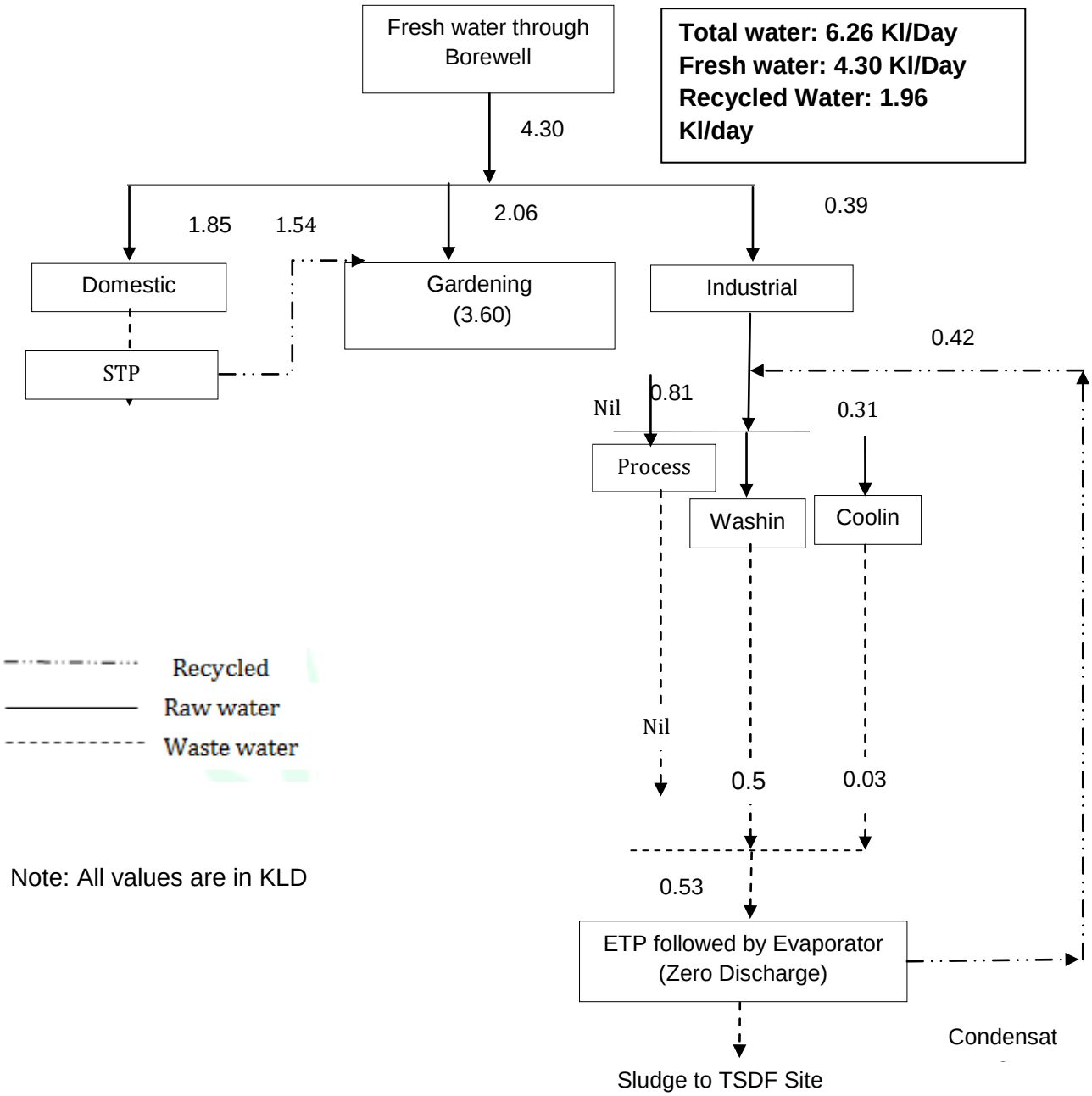
4.6 Simplified water balance diagram

WATER BALANCE DIAGRAM (For Plywood Plant)



Note: All values are in KLD.
Washing wastewater is reused in glue mixing.

WATER BALANCE DIAGRAM (for Resin + Plywood)



Note: All values are in KLD

4.7 Summary

Summary of water requirement	**Existing Quantity** KLD	**Proposed Quantity** KLD	**Total after expansion Quantity** KLD	Remarks
Total water requirement for the project **(A)**	1.05	5.21	6.26	
Quantity to be **recycled (B)**	0	1.96	1.96	
Total **fresh water** requirement **(C)**	1.05	3.25	4.30	
Ensure **Total water requirement = Recycled water + Fresh water i.e. A = B + C**				

5	**AIR**
5.1	Power (Electricity) requirement:67.11 KW and 104.76 KW from Solar roof top
5.2	**Flue gas emission details**

-**Details of Flue Gas Emission and fuel consumption (Existing)**

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.	Thermic Fluid Heater – 10 Lakh kcal/hr	11 m	Wood Waste	1.06 MT/day	SPM SO2 NOx	Cyclone Separator

-Note: As per CCA the Consented quantity of fuel is 1.5 MT/day of Wood. But as actual there is only 1.06 MT/day of fuel consumption and Wood waste is used as Fuel.

Details of Flue Gas Emission and fuel consumption (Total after Expansion)

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.	Thermic Fluid Heater – 10 Lakh kcal/hr	30 m	Wood Waste or Briquettes	Wood waste (1.48 MT/Day) or Briquettes (1.75 MT/Day)	SPM SO2 NOx	Cyclone Separator followed by Bag filter

5.3	**Process gasemission details**
There will be no process gas emission from the manufacturing of resin.	
5.4	**Fugitive emission details with its mitigation measures.**

Sr. No.	Source	Probable Pollutant Emission	Control Measures/ APCM
1.	Dusting from wood cutting for plywood frame	SPM	Proper enclosure will be provided

Comments for 5.2 to 5.4:

- ✓ The fuel to be used is approved fuel for the requirement of the heat energy and has been proposed the Air pollution Control measures so as to achieve the emission norms prescribed by the competent authorities.
- ✓ The air pollution control measures, has been proposed by PP for checking flue gas emission, no Process gas emission, fugitive gas emission, to achieve the emission norms prescribed by the competent authorities.

6	**Solvent management, VOC emissions etc.**
6.1	**Types of solvents, Details of Solvent recovery, % recovery, reuse of recovered Solvents etc.**
Not Applicable	
6.2	**VOC emission sources and its mitigation measures for achieving maximum solvent recovery and minimize VOC generation:**

6.2	**VOC emission Sources and its Mitigation Measures.**		
Sr. No.	**Emission Source**	**Probable Pollutant Emission**	**Control measures**
1	Formaldehyde (37%) storage and handling	VOC	Formaldehyde will be transferred in close system i.e. from tank to reactor through pumps and from tanker to tank through pumps.

6.3 LDAR proposed:

S.N.	**Component**	**Frequency of monitoring**	**Repair preventive maintenance schedule**
As example given below			
1.	Valves/ Flanges	Quarterly (semiannual After two consecutiveperiods with < 2% leaks and annual after 5 periodswith < 2% leaks)	Repair will be started within 5 working days and will be completed within 15 working days after detection of leak for general hydrocarbons.
2.	Pump seals	Quarterly	
3.	Compressor seals	Quarterly	
4.	Pressure relief devices	Quarterly	
5.	Pressure relief devices (after venting)	Within 24 hours	
6.	Heat Exchangers	Quarterly	
7.	Process drains	Annually	
8.	Components that are difficult to monitor	Annually	
9.	Pump seals with visible liquid dripping	Weekly	Immediately
10.	Any component with visible leaks	Weekly	Immediately
11.	Any component after repair/ replacement	Within a week	-

The Following methodology to be adopted during LDAR study:

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

6.4 LDAR for specific solvent :

No solvent will be used in manufacturing of resin.

7 Hazardous waste

7.1 Hazardous waste management matrix

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Sr. no.	Type/Name of Hazardous waste	Specific Source of generation (Name of the Activity, Product etc.)	Category and Schedule as per HW Rules.	Existing Quantity (MT/Annum)	Proposed Quantity (MT/Annum)	Total after expansion Quantity (MT/Annum)	Management of HW
1	ETP Sludge	ETP	35.3	--	0.82 MT/Annum	0.82 MT/Annum	Collection, storage and disposal at approved TSDF site
2	Evaporation Residue	Evaporator	35.3	--	2.48 MT/Annum	2.48 MT/Annum	Collection, storage and disposal at approved TSDF site
3	Used Oil	Machineries	5.1	--	0.05 MT/Annum	0.05 MT/Annum	Collection, storage and used within premises as a lubricant / sold to registered recycler user who has valid permission under Rule-9
4	Discarded Container	Raw material storage	33.1	--	1.83 MT/Annum	1.83 MT/Annum	Collection, storage & sold to authorized vendor user who has

							valid permission under Rule-9
5	Resin Residue	Manufacturing process	23.1	--	0.5 MT/Annum	0.5 MT/Annum	Will be reused in next batch

-

Comments:

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

7.2 Non- Hazardous waste management matrix

The types of Non-Hazardous waste generated are as below:

1. **Municipal Solid Waste:** The municipal solid waste includes the paper wastes from office as well as other domestic wastes. Paper wastes would be sold to scrap vendors, while other wastes would be disposed-off in a proper manner.
2. **STP sludge generation will be 10.32 MT/Annum and would be used as manure in gardening.**
3. **43.69 MT/Annum Fly ash will be generated which will be Handled according to Fly ash notification 2021 and will be stored in HDPE bags and it would be disposed off as per Fly ash notification 2021.**

Comments:

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

8 SAFETY details

8.1 Details regarding storage of Hazardous chemicals

a) Storage of Hazardous chemicals in Tanks

Sr. no	Name of Chemical	Capacity of Tank	Number of Tanks	Hazardous Characteristics of Chemical
TANK FARM (NON-PESO)				
1	Formaldehyde (37%)	4.5	1+1	Highly Flammable, Toxic
2	Phenol	4.5	1+1	Flammable, Toxic

Safety Measures for PESO Underground storage tank farm:

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

Sr. no	Name of Chemical	Capacity of Drum/Bag/ Cylinder/ Glass Bottle	Number of Drum/Bag/ Cylinder/ Glass Bottle	Hazardous Characteristics of Chemical
1.	Caustic	0.05	1	Corrosive, toxics
2.	Acetic acid	0.22	1	Highly Flammable, Corrosive

b) Safety details of Hazardous Chemicals:

Type of Hazardous Chemicals	Safety measures
FLAMMABLE & EXPLOSIVE	**Handling and storage:** ➢ Formaldehyde will be stored at isolated and well-ventilated place in 4.5 KL Tank and will be transfer from tanker to tank and tank to reactor through closed system. ➢ All other materials will be stored separate from Formaldehyde. ➢ Dyke wall shall be provided to all above ground storage tank area. ➢ Keep away from heat and sources of ignition. ➢ Online VOC (formaldehyde) detector with alarm system will be install in process area Which Will Detect Value Well Within TLV (0.75 Ppm). ➢ Activated carbon mask will be provided as PPE to worker working in the process area. **Accidental release measures:** ➢ Absorb spill with inert material ➢ Safety shower and eye washer shall be installed near storage area. ➢ Appropriate personal protective equipment will be provided. ➢ Evacuate personnel to safe areas. ➢ Remove all sources of ignition. ➢ Do not flush into surface water or sanitary sewer system. ➢ Spark-proof tools and explosion-proof equipment will be provided. **Fire Fighting Measures:** ➢ CO_2, dry chemical, or foam will be used as fire extinguishing media in case of fire. ➢ Proper protective eye-ware, gloves, and clothing will be provided to workers. ➢ Flame proof Electrical fittings shall be provided at flammable storage area. ➢ Earthing/bonding shall be provided for static charges. ➢ Flame arrestor shall be provided on flammable material storage tank vent.
CORROSIVE& CHEMICALS	**Handling and storage:** ➢ Acetic acid will be stored in 220 lit Barrel and it will be transfer to reactor through closed system. ➢ Spark-/explosion proof appliances and lighting system will be provided. ➢ Take precautions against electrostatic charges. ➢ Concentration in the air regularly will be measured. ➢ Local exhaust/ventilation will be provided in acetic acid storage area. ➢ Exhaust gas must be neutralised

	➢ After contamination cloths will be removed & clean immediately. ➢ Corrosion proof equipment will be used. ➢ Do not discharge the waste into the drain. **Accidental release measures:** ➢ Absorb spill with an inert material ➢ Thoroughly clean/dry the installation before use. ➢ Spark-/explosion proof appliances and lighting system will be used. ➢ Proper precautions will be taken against electrostatic charges. **Fire Fighting Measures:** Suitable extinguishing media: Water spray, polyvalent foam, Alcohol-resistant foam, BC powder, Carbon dioxide will be used as fire extinguishing media in case of fire.
TOXIC CHEMICALS	**Handling and storage:** ➢ Phenol will be stored in 4.5 KL in tank and it will be transfer from tanker to tank and transfer tank to reactor through closed system. ➢ All other materials will be stored separate from Phenol. ➢ Contact with skin, eyes, and clothing will be avoided. ➢ Good hygiene procedures will be followed when handling Phenol. ➢ Keep away from heat, sparks and flame. ➢ Phenol will be stored in moisture & cool location. ➢ Protect from freezing and physical damage. ➢ Dyke wall shall be provided to all above ground storage tank. **Accidental release measures:** ➢ Cover with dry lime or soda ash. ➢ Pick up and transfer to properly labelled containers. ➢ Spark proof tools will be used. ➢ Prevent from reaching drains, sewer, or waterway. ➢ Safety shower and eye washer shall be installed near storage area. **Fire Fighting Measures:** Suitable extinguishing agents: ➢ Water, dry chemical, chemical foam, carbon dioxide, or alcohol-resistant foam will be used as a fire extinguishing media. ➢ A vapor suppressing foam may be used to reduce vapors. ➢ Appropriate Personal Protective Equipments will be provided to workers. ➢ Flame proof Electrical fittings shall be provided at flammable storage area. ➢ Earthing/bonding shall be provided for static charges. ➢ Flame arrestor shall be provided on flammable material storage tank vent.

➢ **Applicability of PESO:** Not Applicable.

Comments:

✓ PESO not applicable.

8.2	**Types of hazardous Processes involved and its safety measures:**
NA	
8.3	**Details of Fire Load Calculation**

Total Plot Area:	5463
Area utilized for plant activity:	2904.06
Area utilized for Hazardous Chemicals Storage:	46.02
Number of Floors:	0

Water requirement for firefighting in KLD:	13.92
Water storage tank provided for firefighting in KLD:	200 KL
Details of Hydrant Pumps:	2
Nearest Fire Station:	Agnishaman Kendra, Palwasana at 8.73 km in ESE direction from the project site
Applicability of Off Site Emergency Plan:	-

Comments:

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

8.4	**Details of Occupational Health Centre (OHC):**

-

Number of permanent Employee:	06
Number of Contractual person/Labour:	19
Area provided for OHC:	12
Number of First Aid Boxes:	15
Nearest General Hospital:	Health & Wellness Center, Motap at 1.62 km in NW direction from the project site
Name of Antidotes to be store in plant:	4

-

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.

8.5	**Details of Emergency measures proposed and preparedness action for chemicals and fire explosion etc.**

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

Sr. No.	Membership for Common Facility	Membership Certificate issuing agency Date of Issue and validity of membership
01	CETP	Not applicable because unit will maintain ZLD.
02	TSDF site	Unit has appliedfor the membership from TSDF site (Ecocare Infrastructures Pvt. Ltd.).
03	Common Hazardous Waste Incineration Facility	Not applicable
04	Common Spray Drying Facility	Not applicable because unit will maintain ZLD.
05	Common MEE Facility	Not applicable because unit will maintain ZLD.

06	Common Conveyance System	Not applicable because unit will maintain ZLD.	
07	PESO permission	Not applicable	
08	FIRE permission	Unit will obtain Fire NOC.	
09	Health Certificate	Unit will obtain Health certificate of workers and will maintain record.	

10 Reduce / Reuse / Recycle measures adopted.

(c) Reduce

Sr. No.	Item	Quantity	% percentage
-	-	-	-
-	-	-	-

(d) Reuse

Sr. No.	Item	Quantity	% percentage
-	-	-	-

(c) Recycle

Sr. No.	Item	Quantity	% percentage
1	Treated Water from STP	1.54 KLD	35.81 % of total water
2	Treated Water from ETP	0.42 KLD	9.76 % of total water

11 EMP Details

Sr. No	Unit	Detail	Existing Capital Cost (Rs. In Lakhs)	Proposed Capital Cost (Rs. In Lakhs)	Total Capital cost After Expansion (Rs. In Lakhs)	Total Recurring Cost After Expansion per Month (Rs. In Lakhs)
1	Water Pollution	STP, ETP, evaporator	--	7.85	7.85	3.88
2	Air Pollution	Bag filter, Cyclone Separator and stack	1.2	6.80	8.00	1.00
3	Hazardous / Solid Waste Management	Hazardous waste room and membership and disposal	--	1.00	1.00	0.074
4.	Fire & Safety	Fire pump, Fire water tank, Fire hydrant line, Hose box, fire extinguisher, sand bucket, Fire proximity suit, foam trolley, dry chemical powder, LDAR	--	16.51	16.51	0.25
5	Green Belt Development	Greenbelt development	0.1	2.15	2.25	2.01
6.	Occupational	Mock drill, safety audit,	1	1.05	2.05	1.70

	Health	antidotes, Safety boards, safety training, safety shower, SOP, PPE kits				
7.	Noise Pollution	Enclosures	--	0.12	0.12	0
8.	Environment Monitoring Program	Air, Water, Noise, soil, Solid waste monitoring and analysis	--	0.00	0	2.52
9.	CER Activity	Social forestry	--	2.06	2.06	0
10.	Misc.	Hiring Environmental manager, Rain water harvesting	1.7	12.63	14.33	4.00
Total			**4**	**50.17**	**54.17**	**15.43**

Comments:

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

12	**Details of CER** -

PP shall carry out CER activities as below:
Social Forestry in nearby villages for that unit will earmark 2.06 lakhs rupees

19) DELIBRATION AND RECOMMENDATION:

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

Conditions with which Environment Clearance is recommended:

Construction Phase

j) "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.

k) "No uncovered vehicles carrying construction material and waste shall be permitted."

l) "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."

m) Roads leading to or at construction site must be paved and blacktopped (i.e. – metallic roads).

n) No excavation of soil shall be carried out without adequate dust mitigation measures in place.

o) Dust mitigation measure shall be displayed prominently at the construction site for easy public viewing.

p) Grinding and cutting of building materials in open area shall be prohibited.

q) Construction material and waste should be stored only within earmarked area and road side storage of construction material and waste shall be prohibited.

r) Construction and demolition waste processing and disposal site shall be identified and required dust mitigation measures be notified at the site. (If applicable).

SPECIFIC CONDITIONS:

1. Unit shall not exceed production of resins 1000 Tons per annum (4 tons per day) by captive manufacturing and utilization in plywood.
2. Unit shall not procure/purchase wood or wood waste for utilization as fuel in TFH from outside.
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. Leak Detection and Repair (LDAR) program shall be prepared and implemented as per the CPCB guidelines. LDAR Logbooks shall be maintained

5. 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 effective Isolation for Process area and storage of hazardous chemicals.

WATER

6. Total water requirement for the project shall not exceed 6.26 KLD. Unit shall reuse 1.96 KLD of treated effluent within premises. Hence, fresh water requirement shall not exceed 4.30 KLD and it shall be met through borewell water supply only. Prior permission from concerned authority for withdrawal of water shall be obtained.
7. The industrial effluent generation from the project shall not exceed 0.53 KLD.
8. Management of Industrial effluent shall be as under:
    - ✓ 0.53 KLD total industrial effluent shall be treated in primary ETP followed by Evaporator & condenser. 0.42 KLD Condensate shall be reused within premises.
9. Complete Zero Liquid Discharge [ZLD] status shall be maintained all the time and there shall be no drainage connection from the premises.
10. Unit shall feed wastewater to in-house Evaporator 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.
11. Domestic wastewater generation shall not exceed 1.72 KL/day for proposed project and it shall be treated in STP. It shall not be disposed off through soak pit or septic tank. Treated sewage shall be utilized for gardening and plantation purpose within premises after achieving on-land discharge norms prescribed by the GPCB.
12. During monsoon season when treated sewage may not be required for the plantation / Gardening / Green belt purpose, it shall be stored within premises. There shall be no discharge of waste water outside the premises in any case.
13. Unit shall provide buffer water storage tank of adequate capacity for storage of treated waste water during rainy days.
14. Unit shall provide ETP, Evaporator and STP with adequate capacity.
15. The unit shall provide metering facility at the inlet and outlet of ETP, Evaporator & STP and maintain records for the same.
16. Proper logbooks of ETP, Evaporator & STP; reuse/ recycle of treated/ untreated effluent; chemical consumption in effluent treatment; quantity & quality of treated effluent; power consumption etc. shall be maintained and shall be furnished to the GPCB from time to time.

AIR:

17. Unit shall not exceed fuel consumption for TFH as per the point no. 5.2 as mentioned above.
18. Unit shall provide adequate APCM with flue gas generation sources to achieve the norms prescribed by GPCB.
19. There shall be no process gas emission.
20. The fugitive emission in the workzoneenvironment 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.

21. Regular monitoring of Volatile Organic Compounds (VOCs) shall be carried out in the work zone area and ambient air.
22. Regular monitoring of ground level concentration of PM_{10}, $PM_{2.5}$, SO_2, NOx 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:

23. All the hazardous/ solid waste management shall be taken care as per the point no. 7.1 and 7.2 as mentioned above.
24. 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.
25. 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.
26. The project proponent has to obtain membership of TSDF site & CHWIF before obtaining CTO of GPCB.
27. STP sludge shall be collected and used as manure in gardening activity or send to TSDF site for landfilling.
28. 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.
29. The unit shall submit the list of authorized end users of hazardous wastes along with MoU signed with them at least two months in advance prior to the commencement of production. In the absence of potential buyers of these items, the unit shall restrict the production of the respective items.

GREENBELT AREA

30. The PP shall develop green belt within premises (1803.67 Sq m i.e. 33 % of total plot area) as submitted before SEAC. Green belt shall be developed with native plant species that are significant and used for the pollution abatement as per the CPCB guidelines. It shall be implemented within 3 years of operation phase in consultation with GPCB.

OTHERS:

31. The project proponent shall carry out the entire activities of Rs 2.06 Lakhs [Social Forestry in nearby 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.

32. 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:

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

4.	SIA/GJ/IND3/409755/2022	**M/s. Kinjal Chemical** Plot No. C-9, 9/1 & 10, GIDC Saykha, Ta: Vagra, District: Bharuch	EC

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

Project status: **New**

1) Details of Application:

Type of application:	EC (New)
Proposal no.	SIA/GJ/IND3/409755/2022
Category of Project :	B
Date of application : a)Date of submission of application	 08.12.2022

b)Online accepted by SEAC	19.01.2023
Date of EDS by SEIAA a)EDS Raised b)Reply by PP	 03.01.2023 12.01.2023
Documents Submitted by Project Proponent(PP)	EIA with annexure, SEAC Format
TOR No. & Date :	SEIAA/GUJ/TOR/5(f)/1002/2021, dated 29.06.2021
Date and place of Public Hearing	Not Applicable
Technical expert / Environmental Consultant :	Dr. Mahendra Sadaria M/s. San Envirotech Pvt. Ltd., Ahmedabad
SEAC Meeting No. and Date:	576th Meeting of SEAC, dated 10.02.2023
ADS raised by SEAC meeting No & dated :	--
Reply Submitted by PP dated:	--
Revised Consideration SEAC Meeting No. and Date:	--
Compliance of Existing EC & CCA as per MOEF&CC's OM dated: 08.06.2022	--

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

Sr. No.	Name of the Products	CAS no.	Quantity MT/Month	*End-use of products
1	Para Nitro Chloro Benzene	100-00-5	1200	Dye Manufacturing
2.	Ortho Nitro Chloro Benzene	88-73-3		
3.	Meta Nitro Chloro Benzene	121-73-3		
4.	Ortho Nitro Cumene	6526-72-3		
5.	Para Nitro Cumene	1817-47-6		
6.	Meta Nitro Cumene	6526-72-3		
7.	Nitro Benzene	98-95-3		
8.	2,5 Dichloro Nitro Benzene	89-61-2		
9.	3,4 Dichloro Nitro Benzene	99-54-7		
10.	Ortho Nitro Toluene	88-72-2		
11.	Meta Nitro Toluene	99-08-1		
12.	Para Nitro Toluene	99-99-0		
13.	2,4-Dichloro Nitro Benzene	611-06-3		
14.	Diethyl Sulphate	64-67-5		
15.	Meta Chloro Aniline (MCA)	108-42-9		
16.	Para Chloro Aniline (PCA)	106-47-8		
17.	3,4 Di Chloro Aniline	95-76-1		
18.	2,3 Di Chloro Aniline	608-27-5		

19.	2,5 Di Chloro Aniline	95-82-9			
20.	Toluidine	95-53-4			
21.	4-Chloro 3,5 Dinitro Benzoic Acid	118-97-8			
22.	Resist Salt	127-68-4			
23.	Para Amino Phenol (PAP)	123-30-8			
24	1,2-Dinitrobenzene	528-29-0	500		
25	1,3-dinitrobenzene	99- 65-0			
26	1,4-Dinitrobenzene	100-25-4			
27	Di Nitro Chloro Benzene	97-00-7			
28	Metanilic Acid	121-47-1			
29	BDSA	117-61-3			
30	Resorcinol	108-46-3	300		
31	Ortho Anisidine	90-04-0			
32	Para Anisidine	104-94-9			
33	Chloro Fluoro Aniline	367-21-5			
34	Para Cumidine	99-88-7			
35	Meta Amino Phenol (MAP)	591-27-5			
36	4 NADAPSA	91-29-2			
37	MPDSA Powder	88-64-2			
38	Para Anisidine 2 Sulfonic Acid	13244-33-2			
39	R Salt	148-75-4			
40	Aniline 2,5 Di Sulfonic Acid	24605-36-5			
41	Aniline 2,4 Di Sulfonic Acid	137-51-9			
42	4 Sulfo Anthranilic Acid	98-43-1			
43	4 Aminophenol 2 Sulfonic Acid (OAPSA)	98-37-3			
44	G-Salt	118-32-1			
45	N-Methy J-Acid	22346-43-6			
46	K Acid	118-03-6			
47	DASDA	81-11-8			
48	PANTOSA	718635-09-7			
49	DASA	16803-97-7			
50	Ortho Phenylenediamine (OPD)	95-54-5	100		
51	Meta Phenylenediamine (MPD)	108-45-2			
52	Para Phenylenediamine (PPD)	106-50-3			
53	MUA	59690-88-9			
54	6 CAPSA	599-61-1			
55	EBAMSA	101-11-1			
56	6 NAPSA (70%)	96-93-5			
57	DEMAP	91-68-9			
58	6 Acetyl 2 Aminophenol 4 Sulfonic Acid	40306-75-0			
59	Copper Formazone	77840-01-8			
60	Sacheffers Acid	93-01-6			
61	4 Sulpho Hydrozen	118969-29-2			
62	2-Pyridone	142-08-5			
63	4 NAPSA	96-67-3			

64	Gama Acid	90-51-7		
65	PAS Acid (4-Aminosalicylic Acid)	65-49-6		
66	Sulpho VS	42986-22-1		
67	Sulpho OAVS	121-88-0		
68	Sulpho J Acid	6535-70-2		
69	Sulpho Gamma Acid	90-40-4		
70	1,3 SPMP	119-17-5		
71	1,4 SPMP	89-36-4		
		Total	**2100**	**--**

 # Brief Note of Product Profile:

1. No of Manufacturing Plants: **3 Nos.**
2. Brief Note regarding number of Products to be manufactured considering plant capacity:

3) The project falls under B1 category of project activity 5(f) as per the schedule of EIA Notification 2006.
4) The proposal was considered in the SEAC video conference meeting dated 10.02.2023.
5) Project proponent (PP) and their Technical Expert M/s San Envirotech Pvt. Ltd remain present during video conference meeting.
6) Committee deliberated on Compliances of ToRs, Product profile, Layout plan, Storage details, Process safety, Fire safety, water balance & waste water management, Flue gas and process gas emission & Air Pollution Control System, Hazardous waste matrix, EMP, CER, Green belt, etc.
7) The baseline environmental quality has been assessed for various components of the environment viz. air, noise, water, biological and socioeconomic aspect. The baseline environmental study has been conducted for the study area of 10 km radial distance from project site for the period March-2022 to May-2022. Ambient Air Quality monitoring was carried out PM10, PM2.5, SO2, NOX, CO, HCs (methan and non-methane) and VOC (total BTX) 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 “ISCST3”. Incremental GLC’s for all parameters remain within 500 m from the project site. The resultant concentrations are within the NAAQS. The modelling study proved that the air emissions from the proposed plant would not affect the ambient air quality of the region in any significant manner. The ambient air quality around the proposed project site will remain within the National Ambient Air Quality Standards (NAAQS).
8) Risk assessment including prediction of the worst-case scenario and maximum credible accident scenarios has been carried out. The detailed proposed safeguard measures including On-Site / Off-Site Emergency Plan has been covered in the RA report.
9) Since the proposed project is located in notified industrial area, public consultation is not required as per paragraph 7(i) (III) (I) (b) of the Environment Impact Assessment Notification 2006.
10) PP presented details of pollution load/ environmental impacts of the project including Water, Air and Hazardous waste management.

After deliberation, SEAC unanimously decided to consider the proposal in one of the upcoming

meeting of SEAC after satisfactory submission of following details:

1. Details of mechanism of segregation of streams.
2. Provisional membership of TSDF & CHWIF for sending hazardous wastes.
3. Provisional membership of CETP-Saykha for sending treated effluent.

5.	SIA/GJ/IND3/412507/2023	**M/s. BeePee Coatings Pvt. Ltd.** Plot No. 443/Part GIDC Industrial Estate, Vitthal Udhyog Nagar, Tehsil and Dist. Anand, Gujarat.	EC

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

Project status: **New**

1) Details of Application:

Type of application:	EC (Expansion)
Proposal no.	SIA/GJ/IND3/412507/2023
Category of Project :	B1
Date of application: *e)* Date of submission of application *f)* Online accepted by SEAC	 10.01.2023 30.01.2023
Date of EDS by SEIAA *e)* EDS Raised *f)* Reply by PP	No EDS raised
Date of EDS by SEAC *g)* EDS Raised *h)* Reply by PP	No EDS raised
TOR No. & Date :	SIA/GJ/57103/2022, dated. 31st March 2022
Date and place of Public Hearing	Not Applicable as project is located in industrial area.
Technical expert / Environmental Consultant :	Kadam Environment Consultants
SEAC Meeting No. and Date:	Meeting no. 576 and Dated. 10th February, 2023
ADS raised by SEAC meeting No & date :	No ADS raised
Reply Submitted by PP dated:	-
Revised Consideration SEAC Meeting No. and Date:	-
Compliance of Existing EC & CCA as per MOEF&CC's OM dated: 08.06.2022	Certified Compliance report received dated 14th November, 2022 of Existing EC

2) This is a new project proposed for manufacturing of paints as mentioned below:

Sr. no.	Name of the Products	CAS / SI no.	Quantity (MT/Month)			End-use of the products
			Existing	Proposed	Total	
1	**Water Based Emulsion Paints (MT/M)**	• Final products	3000	0	3000	Construction

2	**Water Based Emulsion (MT/M)**	are composition of different raw materials hence there is no possibility to give single CAS number for individual product. • Name of sub-products are depending on market demand.	3200	1300	4500	chemicals
3	**Primer (MT/M)**		1000	0	1000	
4	**Synthetic enamel (MT/M)**		1500	0	1500	
5	**Epoxy Paint (KL/M)**		200	550	750	
6	**Zinc Silicate (KL/M)**		100	0	100	
7	**Thinner (KL/M)**		800	0	800	
8	**Alkyd Resin*(Intermediate) (MT/M)**		700	0	700	
9	**Acrylic Resin (MT/M)**		200	0	200	
	Total					

 # Brief Note of Product Profile:

1. No of Manufacturing Plants: __6__ no's
2. Brief Note regarding number of Products to be manufactured considering plant capacity:

3) The project falls under B1 category of project activity 5(f) as per the schedule of EIA Notification 2006.
4) The proposal was considered in the SEAC video conference meeting dated 10.02.2023.
5) Project proponent (PP) and their Technical Expert M/s Kadam Environment Consultants remain present during video conference meeting.
6) Committee deliberated on product profile that the total of all products is not mentioned and units of all products are different. Also in the details submitted by PP in prescribed SEAC format, the details of Non EC products are not mentioned. Further, the details of product wise raw material is also not submitted.
7) Committee deliberated on Compliances of ToRs, 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.
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 March-2022 to June-2022. Ambient Air Quality monitoring was carried out PM10, PM2.5, SO2, NOX and CO at Eight locations, including the project site. Values conform to the prescribed standards for Ambient Air Quality. The incremental Ground Level Concentration (GLC) has been computed using "AERMOD". Incremental GLC's for all parameters remain within 500 m from the project site. The resultant concentrations are within the NAAQS. The modelling study proved that the air emissions from the proposed plant would not

affect the ambient air quality of the region in any significant manner. The ambient air quality around the proposed project site will remain within the National Ambient Air Quality Standards (NAAQS).

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) Earlier PP has obtained EC on dated: 25.03.2019. Unit is having Valid CCA of the Board for existing plant issued on dated: 12.09.2022. PP submitted that there is no legal court case and public complaint against unit.
11) Committee noted that CCR is obtained from MoEF&CC, IRO Gandhinagar dated.14/11/2022 in which Out of total 111 conditions, 60 conditions are complied, 15 conditions are partly complied, 21 conditions are agreed to comply by the project proponent, 6 are noted by the unit whereas 9 conditions can't be ascertained. The Action Taken report has been submitted for partly complied conditions are submitted.
12) 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.
13) PP presented details of pollution load/ environmental impacts of the project including Water, Air and Hazardous waste management.

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

1. Revised product profile mentioning details of EC and Non-EC products and its total production capacity in MT/M.
2. Details of product wise raw materials in prescribed format.
3. Provision of adequate APCM with boilers, TFHs, D G Sets, etc. wrt capacity of the utilities.
4. Details of capacity of ETP & STP and its specifications.
5. Brief note on decrease in wastewater generation than water consumption.
6. Details of EMP in prescribed format.
7. Details of CER mentioning name of villages and focusing of activities related to environmental aspects.
8. Details of area adequacy for all components in prescribed format.
9. Details of all hazardous chemicals along with characteristics and safety measures.
10. Details of Solvent management, VOC emission, etc in prescribed format.
11. Provisional membersip of TSDF and CHWIF for disposal of hazardous wastes.

6.	SIA/GJ/IND3/413310/2023	**M/s. Shree Siddheshwar Pharma Chem Private Limited,** Plot No. C-346, Saykha GIDC Estate, Ta. Vagra, Dist.-Bharuch, Gujarat-392140	EC
Category of the unit: **5 (f)**			

Project status: **New**

1) Details of Application:

Type of application:	EC(New)
Proposal no.	SIA/GJ/IND3/413310/2023
Category of Project :	5 (f) – B1
Date of application: g) Date of submission of application h) Online accepted by SEAC	 17-01-2023 30-01-2023
Date of EDS by SEIAA g) EDS Raised h) Reply by PP	 -
Date of EDS by SEAC i) EDS Raised j) Reply by PP	 -
TOR No. & Date :	SIA/GJ/170110/2022, Date: 28/10/2022
Date and place of Public Hearing	Not Applicable (Unit is located in Saykha GIDC Area)
Technical expert / Environmental Consultant :	Green Circle Inc. NABET Accredited Organization NABET/EIA/2124/RA 0219 Valid up to 26.01.2024
SEAC Meeting No. and Date:	576th SEAC Agenda Meeting 10-02-2023
ADS raised by SEAC meeting No & date :	-
Reply Submitted by PP dated:	-
Revised Consideration SEAC Meeting No. and Date:	-
Compliance of Existing EC & CCA as per MOEF&CC's OM dated: 08.06.2022	This is NEW Unit in Saykha GIDC.

3) This is a new project proposed for manufacturing of synethtic organic chemicals (API and Intermediates) as mentioned below:

Sr. No.	Name of products	CAS number	Quantity [MT/Month]	End use
Group A				
1	**Citalopram & its intermediates**	59729-33-8	**70 TPM (Sr. No. 1 to 19)**	Citalopram is used to treat depression. It may improve your energy level and feelings of well-being.
	4-[4-dimethylamino-1-(4-fluoro-phenyl)-1-hydroxy-butyl]-3-hydroxymethyl-benzonitrile	103146-25-4		
	1-(3-dimethylamino-propyl)-1-(4-fluoro-phenyl)-1,3-dihydro-	64372-56-1		

	isobenzofuran-5-carbonitrile			
2	**Dabigatran etexilate mesylate & its intermediates**	872728-81-9		Dabigatran etexilate mesylate is used to treat blood clots in the veins of your legs (deep vein thrombosis) or lungs (pulmonary embolism) and to reduce the risk of them occurring again.
	Ethyl 3-(2-(((4-carbamimidoylphenyl) amino) methyl)-1-methyl-n-(pyridin-2-yl)-1h-benzo[d]imidazole-5-carboxamido) propanoate	429658-95-7		
3	**Dextromethorphan hydrobromide & its intermediates**	125-69-9		Dextromethorphan hydrobromide is used to temporarily relieve cough caused by the common cold, the flu, or other conditions.
	1-(4-methoxy-benzyl)-1,2,3,4,5,6,7,8-octahydro-isoquinoline	30356-07-1		
	3-methoxymorphinan	1531-25-5		
4	**Doxophylin & its intermediates**	69975-86-6		Doxofylline is a bronchodilator used for the treatment of asthma and chronic obstructive pulmonary disease (COPD).
	2-bromomethyl-1,3-dioxolane	4360-63-8		
5	**Empagliflozin & its intermediates**	864070-44-0		Empagliflozin is a medicine used to treat type 2 diabetes.
	2-(4-chloro-3-(4-(((r)-tetrahy drofuran-3-yl) oxy) benzyl)phenyl)-6-(hydroxymethyl)-2-methoxytetrahydro-2h-pyran-3,4,5-triol	915095-95-3		
6	**Etodolac & its intermediates**	41340-25-4		Etodolac is a used to treat mild to moderate pain, and helps to relieve symptoms of arthritis including inflammation, swelling, stiffness, and joint pain.
	7-ethyl tryptophol	41340-36-7		
	Methyl 3-oxovalerate	30414-53-0		
7	**Etorocoxib & its intermediates**	202409-33-4		Etoricoxib helps to reduce the pain and swelling (inflammation) in the joints and muscles of people 16 years of age and older with osteoarthritis, rheumatoid arthritis, ankylosing spondylitis and gout.
	1-(6-methylpyridin-3-yl)-2-[4-(methylsulfonyl) phenyl] ethanone	221615-75-4		
	2-chloro-1,3-bis(dimentylamino)trimethinium hexafluorophosphate	249561-98-6		
8	**Gabapentin & its intermediates**	60142-96-3		Gabapentin is an anticonvulsant - used to treat partial seizures, neuropathic pain, hot flashes, and restless legs syndrome
	1-(aminomethyl)-cyclohexane acetic acid hydrochloride	60142-95-2		
9	**Levetiracetam & its intermediates**	102767-28-2		Levetiracetam is used alone and along with other medications to control partial-onset seizures (seizures that involve only one part of
	N-(1-carbamylpropyl)-4-chloro butyramide	774604-48-7		

				the brain) in adults, children, and infants 1 month of age or older.
10	**Linagliptin & its intermediates**	668270-12-0		Linagliptin is a medicine used to treat type 2 diabetes.
	8-bromo-7-(but-2-yn-1yl)-3-methyl-1-[(4-methyl quinazolin-2yl)methyl]-3,4,5,7-tetrahydro-1h-purine-2,6-dione	853029-57-9		
	(r)-tert-butyl (1-(7-(but-2-yn-1-yl)-3-methyl-1-((4-methylquinazolin-2-yl) methyl)-2,6-dioxo-2,3,6,7-tetrahydro-1h-purin-8-yl) piperidin-3-yl) carbamate	668273-75-4		
11	**Linezolid & its intermediates**	165800-03-3		Linezolid is used to treat infections, including pneumonia, and infections of the skin.
	(5r)-3-(3-fluoro-4-(4-morpholinyl) phenyl)-5-hydroxymethyl-2-oxazolidione	168828-82-8		
12	**Montelukast sodium & its intermediates**	151767-02-1		Montelukast Sodium used in the treatment of asthma.
	2-[1-(mercaptomethyl)cyclopropyl] acetic acid	162515-68-6		
	2-(2-(3-(2-(7-chloro-2-quinolinyl)-ethenylphenyl)-3-hydroxypropyl) phenyl)-2-propanol	142569-70-8		
	Montelukast dicyclohexylamine salt	577953-88-9		
13	**Pregabalin & its intermediates**	148553-50-8		Pregabalin used to treat epilepsy, neuropathic pain, fibromyalgia, restless leg syndrome, and generalized anxiety disorder.
	3-carbamoymethyl-5-methylhexanoic acid	181289-15-6		
14	**Rivaroxaban & its intermediates**	366789-02-8		Rivaroxaban is used to prevent or treat a type of blood clot called deep vein thrombosis (dvt), which can lead to blood clots in the lungs (pulmonary embolism
	4-(4-aminophenyl) morpholin-3-one	438056-69-0		
	4-[4-(5-hydroxymethyl-2-oxo-oxazolidin -3-yl)-phenyl]-morpholin-3-one	117893-60-3		
	2-{2-oxo-3-[4-(3-oxo-morpholin-4-yl)-phenyl]-oxazolidin-5-ylmethyl}-isoindole-1,3-dione	446292-08-6		
15	**Rosuvastatin & its intermediates**	287714-41-4		Rosuvastatin is used along with a proper diet to help lower "bad" cholesterol and fats and raise "good" cholesterol in the blood.
	4-(4-fluoro-phenyl)-6-isopropyl-2-(methanesulfonyl-methyl-amino)-pyrimidine-5-carboxylic acid ethyl ester	289042-11-1		
	3-(tert-butyl-dimethyl-silanyloxy)-7-[4-(4-fluoro-phenyl)-6-isopropyl-2-(methanesulfonyl-methyl-amino)-pyrimidin-5-yl]-5-oxo-hept-6-enoic acid methyl este	147118-38-5		

	7-[4-(4-fluoro-phenyl)-6-isopropyl-2-(methanesulfonyl-methyl-amino)-pyrimidin-5-yl]-3-hydroxy-5-oxo-hept-6-enoic acid methyl ester	147118-39-6		
	7-[4-(4-fluoro-phenyl)-6-isopropyl-2-(methanesulfonyl-methyl-amino)-pyrimidin-5-yl]-3,5-dihydroxy-hept-6-enoic acid methyl ester	1112048-62-0		
16	**Sitagliptin & its intermediates**	486460-32-6		Sitagliptin is a medicine used to treat type 2 diabetes.
	3-amino-1-(3 trifluoromethyl-5,6-dihydo 8h-(1,2,4) triazolo[4,3-a)pyrazir-7-yl)-4 (2,4,5-trifluoro phenyl)but-2-en-1-one (n-2)	--		
17	**Vildagliptin & its intermediates**	274901-16-5		Vildagliptin is used for the treatment of type 2 diabetes mellitus.
	(s)-1-(2-chloroacetyl) pyrrolidine-2-carbonitrile	207557-35-5		
	3 hydroxy adamantan-1-amine	702-82-9		
18	**Benazepril hydrochloride & its intermediates**	86541-74-4		Benazepril hydrochloride used to treat high blood pressure.
	L-homophenylalanine ethyl ester hydrochloride	90891-21-7		
	3-bromo-2,3,4,5-tetrahydro-2h-benzo[b]azepin-2-one	86499-96-9		
	S-ATBA	109010-60-8		
	Ethyl (r)-2-hydroxy-4-phenylbutyrate	90315-82-5		
19	**Bilastetin & its intermediates**	202189-78-4		Bilastine is an antihistamine that is used to relieve the symptoms of allergic rhinoconjunctivitis and other forms of allergic rhinitis.
	2-ethoxyethyl-4-methylbenzenesulfonate	17178-11-9		
	2-piperidin-4-yl-1h-benzoimidazole	38385-95-4		
Group B				
20	Acebrophylin	96989-76-3	**50 TPM (Sr. No. 20 to 35)**	Acebrophylline is used in the treatment and prevention of chronic obstructive pulmonary disease.
21	Diclofenac Sodium	15307-79-6		Diclofenac sodium is used to relieve pain and swelling (inflammation) from various mild to moderate painful conditions.
22	Bempedoic acid	738606-46-7		Bempedoic acid is used together with lifestyle changes (diet, weight-loss, exercise) and certain cholesterol-lowering medications
23	Brivaracetam	357336-20-0		Brivaracetam is used alone and in combination with other medications to

				control partial onset seizures (seizures that involve only one part of the brain) in adults, children, and infants 1 month of age and older.
24	Clarithromycin	81103-11-9		Clarithromycin is used to treat certain bacterial infections, such as pneumonia (a lung infection), bronchitis (infection of the tubes leading to the lungs), and infections of the ears, sinuses, skin, and throat.
25	Clindamycin	18323-44-9		Clindamycin is used to treat certain types of bacterial infections, including infections of the lungs, skin, blood, female reproductive organs, and internal organs.
26	Deflazacort	14484-47-0		Deflazacort is used to treat Duchenne muscular dystrophy (DMD). DMD is a rare, inherited muscle disease that occurs usually in children and young adults.
27	Diclofenac potassium	15307-81-0		Diclofenac potassium is used to relieve pain and swelling (inflammation) from various mild to moderate painful conditions.
28	Dimethyl fumarate	624-49-7		Dimethyl fumarate is used to treat adults with relapsing forms of multiple sclerosis
29	Febuxostat	144060-53-7		Febuxostat is used to lower hyperuricemia (high uric acid in the blood) in patients with gout who have been treated with allopurinol that did not work well or cannot be treated with allopurinol.
30	Mesalazine	89-57-6		Mesalazine is used to treat ulcerative colitis and Crohn's disease and other types of inflammatory bowel disease.
31	Nitazoxanide	55981-09-4		Nitazoxanide is used to

				treat diarrhea in adults and children older than 1 year of age caused by the protozoa Cryptosporidium or Giardia.
32	Tamsulosin hydrochloride	106463-17-6		Tamsulosin hydrochloride helps reduce the symptoms of an enlarged prostate gland by relaxing the muscles in the bladder and prostate so you can pee more easily.
33	Teneligliptin	760937-92-6		Teneligliptin is a recently developed oral dipeptidyl peptidase 4 inhibitor indicated for the management of type 2 diabetes mellitus (T2DM) in adults along with diet and exercise.
34	Torsemide	56211-40-6		Torsemide is used to help treat fluid retention (edema) and swelling that is caused by congestive heart failure, liver disease, kidney disease.
35	Ursodeoxycholic acid	128-13-2		Ursodeoxycholic acid is indicated in the treatment of primary biliary cirrhosis (PBC) and for the dissolution of radiolucent gallstones in patients with a functioning gall bladder.
	R & D	---	**0.10**	---
	Total production quantity		**120.10 TPM**	

 # Brief Note of Product Profile:

1. No of Manufacturing Plants: 2
2. Brief Note regarding number of Products to be manufactured considering plant capacity: The unit will manufacturing Seven Numbers of Product At time of production in plant

3) The project falls under B1 category of project activity 5(f) as per the schedule of EIA Notification 2006.
4) The proposal was considered in the SEAC video conference meeting dated 10.02.2023.
5) Project proponent (PP) and their Technical Expert M/s Green Circle Inc. remain present during video conference meeting.
6) Committee deliberated on Compliances of ToRs, product profile, Layout plan, Storage details, Process safety, Fire safety, water balance & waste water management, Flue gas and process gas emission & Air Pollution Control System, Hazardous waste matrix, EMP, CER, Green belt, etc.
7) The baseline environmental quality has been assessed for various components of the environment viz.

air, noise, water, biological and socioeconomic aspect. The baseline environmental study has been conducted for the study area of 10 km radial distance from project site for the period November-2020 to January-2021. Ambient Air Quality monitoring was carried out PM10, PM2.5, SO2, NOX, VOC, Cl_2 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 View-Lakes". Incremental GLC's for all parameters remain within 500 m from the project site. The resultant concentrations are within the NAAQS. The modelling study proved that the air emissions from the proposed plant would not affect the ambient air quality of the region in any significant manner. The ambient air quality around the proposed project site will remain within the National Ambient Air Quality Standards (NAAQS).

8) Risk assessment including prediction of the worst-case scenario and maximum credible accident scenarios has been carried out. The detailed proposed safeguard measures including On-Site / Off-Site Emergency Plan has been covered in the RA report.

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

10) PP presented details of pollution load/ environmental impacts of the project including Water, Air and Hazardous waste management.

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

<table>
<tr><th>Total Project Cost</th></tr>
<tr><td>9.0</td></tr>
</table>

Break-up of proposed project Cost:

<table>
<tr><th>Details</th><th>Project Cost (Rs. In Crores)</th></tr>
<tr><td>Land</td><td rowspan="2">3.01</td></tr>
<tr><td>Building</td></tr>
<tr><td>Machinery</td><td>2.8</td></tr>
<tr><td>Env. & Safety</td><td>3.19</td></tr>
<tr><td>Miscellaneous</td><td>---</td></tr>
<tr><td>TOTAL</td><td>9.0</td></tr>
</table>
-</td><td></td></tr>
<tr><td colspan="3"></td></tr>
<tr><td>2</td><td colspan="2">Land / Plot ownership details:
(Linking between Land ownership and PP is required.)
a) GIDC Plot Allotment letter/ NA documents:GIDC/RM/ANK/TRF/FTO/SAY1/174 on dated 08/09/2022 Total Plot area 4926.41 Sq. m.</td></tr>
<tr><td>2.1</td><td colspan="2">In case of outside GIDC only –The Unit is located in Saykha GIDC industrial Estate
Siting Criteria
<table>
<tr><th>Sr. no.</th><th>Environmental Sensitivity</th><th>Name/Specific details</th><th>Siting criteria as per GPCB</th><th>Aerial Distance in</th></tr>
</table></td></tr>
</table>

			guidelines dated: 05.06.2022	**Km**
1	Habitat (Residential Area)	The Unit is located in Saykha GIDC industrial Estate	Siting criteria is not applicable in GIDC area as per Condition No. 4 of GPCB guidelines dated: 05.06.2022	
2	Eco sensitive zones			
3	Wild life sanctuaries/National Parks/ Reserved Forest			
4	Water Bodies			
	River			
	Natural Nallah/Drain			
	Lake/Pond/Wetlands			
	Water supply Tanks/Reservoirs			
	Canal			
5	Protected Monuments/Heritage sites/Public Buildings i.e School, colleges, etc.			
6	National/State Highway OR Express way			
7	Coastal Regulation Zone (CRZ) (In case of Coastal area projects)			
8.	Ground water table in meter			
9.	Railway Line			
10.	Air Port			

-

2.2 **Ensure compliance of category as defined in the amendment to EIA Notification, 2006 vide SO 1599 (E) dated 25/06/2014. i.e.**

E. General Condition (GC): Any project or activity specified in Category 'B' will be appraised at Central level as Category 'A' if located in whole or in part within 5 Km radius from the project boundary of:-

Sr No	Particulars	Aerial Distance in Km
3.	Protected Areas notified under the Wildlife (Protection) Act 1972 (53 of 1972)	No within 5 Km Radius from projec site
4.	CPA/SPA (Critically Polluted Area/Severely Polluted Area) as identified by the CPCB	No within 5 Km Radius from projec site
3	Eco sensitive areas as notified under sub-section (2) of section 3 of EPA-1986	No within 5 Km Radius from projec site
4	Interstate boundaries and international boundaries	No within 5 Km Radius from projec site

F. Conditions of small units:

Sr no.	Condition	Compliance with justification
1	Water consumption less than 25 M3/day;	The Unit is located in Saykha GIDC industrial Estate
2	Fuel consumption less than 25 TPD;	
3	Not covered in the category of MAH units as per the Management, Storage, Import of Hazardous Chemical Rules (MSIHC Rules), 1989 as per the legal undertaking submitted with EIA report.	

-

2.3 **Detailed land area**
Total Land area: 4926.41 Sq.m
Floor-wise land area break-up table

Sr. No.	Description of Area	Ground Floor Area (m^2)	First Floor Area (m^2)	Second Floor Area (m^2)	TOTAL	Percentage
1	Production area: - API Area	0	683.54	683.54	1367.08	**-**
2	Production area: - Intermediate Area	281.4	481.4	481.4	1244.2	**5.71**
3	Raw material Storage in Drum	573.54	-	-	573.54	**11.64**
4	Raw Material Storage in Bag	200	-	-	200	**3.48**
5	Finish Good Storage	110	-	-	110	**2.23**
6	Tank Farm area	180	-	-	180	**3.65**
7	Hydrogen Storage	150	-	-	150	**3.04**
8	Chlorine Storage	56	-	-	56	**1.14**
9	Ammonia Storage	56	-	-	56	**1.14**
10	Bromine Storage	85	-	-	85	**1.73**
11	ETP Area	105	-	-	105	**2.13**
12	ETP Waste storage area	60	-	-	60	**1.22**
13	Process waste Storage area	60	-	-	60	**1.22**
14	Utility area	120	-	-	120	**2.44**
15	Flue & Fly Ash Storage	48	-	-	48	**0.97**
16	OHC Area	50	-	-	50	**1.01**
17	Admin Area	-	50	-		
18	Lab & R&D	-	-	50		
17	Green Belt area	1626	-	-	1626	**33.01**
18	**Open Area**	**1165.47**			**1165.47**	**23.65**
Total		**4926.41**				**100.0**

Area Adequacy table:

Sr No.	Description of Area	Criteria for Storage	Inventory Required (MT) (KL)	Area Required (m^2)	Area Proposed (m^2)
1	Finished Product Storage Area (solid Form) (1 Week inventory)	120 MT/Month	30 MT/Month	45	110
2	Raw Material Store area in Drum and Bag (1 Week inventory)	944 Drum (210 Lit) 3904 Bag (25Kg)	198.24	425	773.54
			97.600	115	
4	Storage tank Area (PESO Applicable)	10 X 3 (1.8 m dia. x 3.0 m Height)	30	40	180
		5 X 1 (1.5 m dia. x 2.8 m Height)	5	10	
5	Storage tank Area (Non PESO Applicable)	5 X 4 (1.5 m dia. x 2.8 m Height)	20	30	
		10 X 1 (1.8 m dia. x 3.0 m Height)	10	20	
		15 X 1 (2.0 m dia. x 3.2 m Height)	15	25	
6	H2 Storage area	2 Nos cylinder (60 Kg each)	0.120	100	150

	7	Cl2 Storage	2 Nos Tonner (900 Kg each)	1.8	40	56
	8	Ammonia gas cylinder	2 Nos cylinder (50 Kg each)	0.100	35	56
	9	Bromine Storage	200 Bottle (3 lit each)	0.600	60	85
	10	Effluent Treatment Plant	30 KLD & 15 KLD	-	100	165
		ETP Waste storage area (30 Day Inventory)	252 MT/Annum	21		
	11	Utility Area	-	Boiler (1 TPH), TFH (2 Lakh Kcal/hr), HAG (4 Lakh/Kcal/hr)	80	168
		Fuel Area (3 Days Storage)	6.4 MT/Day	19.2	22	
		Fly ash Storage (15 Day Inventory)	161 MT/Annum	6.7	8	
	12	Process waste storage (1 Week Inventory)	2027.81 MT/Annum	42.24 MT	50	60
	13	Manufacturing Area	120 MT/Month	-	550	2611.28
	14	Admin Area	-	-	15	50
	15	Lab Area & R&D	-	-	20	50
	15	Occupation health Center + Safety Room	-	-	15	50
	16	Open Area	-	-	985	1250
	17	Green belt area	-	-	1626	1626
				Total	**4416**	**7356.29**

Comments:

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

2.4 **Green belt area**

	Total (Sq. meter)
Area in Sq. meter	1626
% of total area	33.01

Note: Unit has proposed to carry out 33.01% Greenbelt within premises

Comments:

✓ The PP shall develop green belt within premises (1626 Sq. m i.e. 33.01 % 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.

3 Employment generation

Total
30

-

4 WATER

4.1 Source of Water Supply

GIDC Supply

Details of water supply letter from concern authority: we have obtain Water supply connection vide letter no: GIDC/DEE/WS/BRH/601 dated 12/10/2022 for 45.00 KLD

Comments:

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

4.2 Water consumption (KLD)

-

Sr. No	Category	Water Consumption KLD	Remark
1.	Domestic Purpose	3.5	
2.	Gardening	5.0	
3.	**INDUSTRIAL**		
	Mfg. Process Water	19.82	
	Boiler	6.00	(3.6 KLD Cond. + 2.4 KLD Fresh)
	Cooling	6.00	(1.07 KLD Cond. + 4.93 KLD Fresh)
	Washing	3.50	
	Flue Gas Scrubber	0.20	
	Process gas Scrubber	1.48	
	Total water Consumption (Domestic + Gardening)	**8.5**	
	Total water Consumption (Industrial)	**37.00**	
	Total Water Consumption	**45.5**	
	Total reuse	**4.67**	
	Total Fresh	**40.83**	

-

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.

4.3 Waste water generation (KLD)

-

Sr. No	Category	Waste Water Generation KLD	Remark
1.	Domestic Purpose	3.00	Send to ETP-1 Secondary Treatment
2.	**INDUSTRIAL**		

	Mfg. Process Water	25.81	15.52 KLD Send to ETP-1 + 10.29 KLD ETP-2
	Boiler	1.15	ETP-1
	Cooling	2.04	ETP-1
	Washing	3.50	ETP-1
	Flue gas Scrubber	0.2	ETP-1
	Process gas scrubber	0.0	Scrubbing media generated from process is considered under Haz. waste matrix as per Haz. waste Rule 2016
	Total Wastewater Generation (Domestic)	**3.00**	
	Total Wastewater Generation (Industrial)	**32.70**	
	Total Wastewater Generation	**35.70**	

Justification in case of increase/ drastic reduction in wastewater generation than water Consumption:

- The increase is wastewater in comparison to water consumption is high due to addition of liquid raw material in process. The worst case scenario we have made to calculate water consumption and wastewater generation is tabulated as under for better clarification and for your kind consideration

Sr. No.	Name of the Products	MT/ Month	Water consumption		Wastewater Generation		Mode of Discharge
			KL/ MT of Product	KL/Day [30 Days]	KL/ MT of Product	KL/Day [30 Days]	
	GROUP A						
1	Citalopram & its intermediates	70	0.9	2.10	2.896	6.76	CETP
2	Dabigatranetexilatemesylate& its intermediates		1.34	3.13	1.500	3.50	CETP
3	Dextromethorphan hydrobromide& its intermediates		1.1	2.57	2.500	5.83	CETP
4	Doxophylin& its intermediates		0.9	2.10	1.514	3.53	CETP
5	Empagliflozin& its intermediates		2.5	5.83	2.865	6.69	CETP
6	Etodolac& its intermediates		1.3	3.03	1.980	4.62	CETP
7	Etorocoxib& its intermediates		0.85	1.98	3.150	7.35	CETP
8	Gabapentin & its intermediates		0.47	1.10	1.479	3.45	CETP
9	Levetiracetam& its intermediates		0.3	0.70	1.524	3.56	CETP
10	Linagliptin& its		**4.784**	**11.16**	**6.650**	**15.52**	**CETP**

	intermediates						
11	Linezolid & its intermediates		0.69	1.61	2.084	4.86	CETP
12	Montelukast sodium & its intermediates		1.5	3.50	2.673	6.24	CETP
13	Pregabalin& its intermediates		1.64	3.83	3.064	7.15	CETP
14	Rivaroxaban& its intermediates		1.84	4.29	3.143	7.33	CETP
15	Rosuvastatin& its intermediates		1.18	2.75	2.901	6.77	CETP
16	Sitagliptin& its intermediates		1.2	2.80	3.640	8.49	CETP
17	Vildagliptin& its intermediates		0.72	1.68	3.788	8.84	CETP
18	Benazepril Hydrochloride & its intermediates		0.658	1.54	0.099	0.23	CETP
19	Bilastine& its intermediates		0.56	1.31	0.470	1.10	CETP
20	Acebrophylline		0.520	0.87	0.562	0.94	CMEE
21	Diclofenac sodium		4.280	7.13	5.156	8.59	CMEE
22	Bempedoic acid		0.500	0.83	1.039	1.73	CMEE
23	Briveracetam		0.730	1.22	4.160	6.93	CMEE
24	Clarithromycin		0.480	0.80	0.340	0.57	CMEE
25	Clindamycin		1.000	1.67	1.763	2.94	CMEE
26	Deflazacort		0.950	1.58	1.890	3.15	CMEE
27	Diclofenac potassium		**5.182**	**8.64**	**6.165**	**10.27**	**CMEE**
28	Dimethyl fumarate	50	0.700	1.17	0.610	1.02	CMEE
29	Febuxostat		0.400	0.67	0.740	1.23	CMEE
30	Mesalazine		0.788	1.31	1.319	2.20	CMEE
31	Nitazoxanide		1.050	1.75	0.652	1.09	CMEE
32	Tamsulosin hydrochloride		0.500	0.83	0.369	0.62	CMEE
33	Teneligliptin		0.760	1.27	0.609	1.02	CMEE
34	Torsemide		0.750	1.25	0.900	1.50	CMEE
35	Ursodiol Acid (Ursodeoxycholic Acid)		0.700	1.17	1.180	1.97	CMEE
36	R & D	0.1	-	0.02	-	0.02	CMEE
	TOTAL GROUP (A + B)	**120.1**		**19.82**		**25.81**	

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.

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

STP Capacity & its specification: Domestic wastewater will be collected and treated into secondary ETP plant

Comments:

✓ Domestic wastewater generation shall not exceed 3 KL/day for proposed project and it shall be treated in secondary ETP and sent to CETP-Saykha. It shall not be disposed off through soak pit/ septic tank.

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

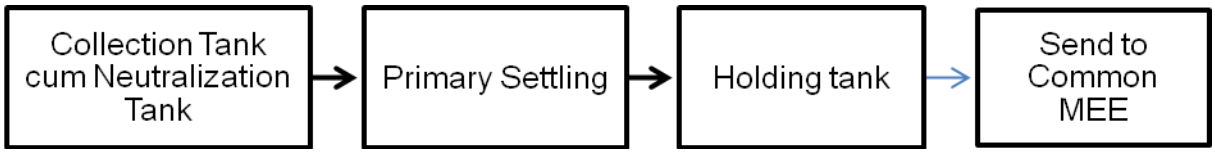
-

Sr. no.	Quantity KLD	Facility
1	25.0	CETP Saykha
2	10.0	Common MEE Facility
3	0.7	ETP Sludge send to TSDF
Total	35.7	

E. Capacity of ETP & its specification:

High Concentrated Effluent treatment plant : (ETP-2) (15 KLD)

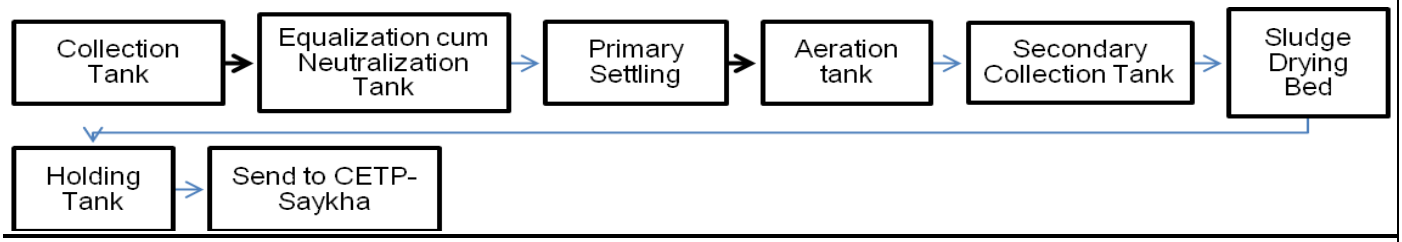
- The unit has proposed dedicated ETP-2 (15 KLD) for High Concentrated Effluent.
- The high concentrated wastewater generated @ **10.29 KLD** from Group B Product will be treated in Primary ETP -2 having capacity of 15 KLD and then after primary treatment it will be send to Common MEE system BEIL



Sr. No.	Equipment Name	Dimensions(M)	Volume	Quantity (Nos)
1	Collection cum Neutralization Tank	1.0 X 1.0 X 2.5	15	1
2	Flash Mixture	0.9 X 0.9 X 0.6	0.48	1
3	Primary settling Tank	1.0 X 1.5 X 1.5	5	1
4	Holding Tank	1.0 X 1.5 X 2.5	15	1
5	Effluent Transfer Pump	-	-	1
6	Sludge Transfer pump	-	-	1

Low Concentrated Effluent treatment plant : (ETP-1) (30 KLD)

- We have proposed dedicated Effluent Treatment Plant for Low COD-Low TDS Stream, which will be, generated from Group A product which is around @**15.52 KLD (Dilute Stream).**
- This 15.52 KLD dilute stream we conveyed to dedicated ETP and treat along with other wastewater stream i.e. washing water and utility water and Domestic water. The combine dilute stream will be **@25.41 KLD** which are going and treated in ETP-1 having capacity of 30 KLD will be treated in Primary and Secondary Treatment plant and then after treated water will be send to CETP Saykha.for further disposal and 0.41 KLD Sludge will be send to TSDF



Sr. No.	Equipment Name	Dimensions(M)	Volume	Quantity (Nos)
1	Oil & Grease Trap	1.5 X 1.5 X 1.35	30	1

2	Equalization cum Neutralization Tank	3.0 X 3.0 X 2.5	30	1
3	Flash Mixture	0.9 X 0.9 X 0.6	0.48	1
4	Primary settling Tank	3.0 X 2.5 X 2.5	25	1
5	Aeration Tank	3.0 X 3.0 X 2.5	20	1
6	Secondary collection Tank	3.0 X 1.5 X 1.5	10	1
7	Holding Tank	1.5 X 1.5 X 1.35	30	1
8	Sludge Drying bed	-	-	1
9	Effluent Transfer Pump	-	-	1
10	Sludge Transfer pump	-	-	1

Characteristics of Effluent:ETP-2: [P treatment send to Common facility]

Sr. No.	Parameters	Unit	Process	After Primary Treatment	Send to Common Facility (9.9 KLD)	Permissible Limit of CMEE
1.	pH	--	3.5-4	6.5-8.5	---	6.5-8.5
2.	C.O.D.	mg/l	35000-40000	28000-32000	28000-32000	50,000
3.	T.D.S.	mg/l	45000-55000	45500-55500	45500-55500	2,50,000

Characteristics of Effluent: ETP-1: [P+S treatment CETP Saykha]

Sr. No.	Parameters	Unit	Process	Washing	Boiler	Cooling	Before Treatment
1.	pH	--	3.5-5.5	7 – 8	7 – 8	7 – 8	3.5-5.5
2.	C.O.D.	mg/l	3000-4000	500-600	100 -200	100 -200	3000-4000
3.	T.D.S.	mg/l	7500-8500	2500 -300	2200-2500	1500-2000	7500-8500

Sr. No.	Parameters	Unit	Before Treatment	After Primary Treatment	After Secondary Treatment	Send to CETP (20 KLD)	Permissible Limit of CETP-Saykha
1.	pH	--	3.5-5.5	6.5-7.5	6.5-7.5	6.5-7.5	6.5-8.5
2.	C.O.D.	mg/l	3000-4000	2500-3400	750-1050	750-1050	3000
3.	T.D.S.	mg/l	7500-8500	8000-10000	8000-10000	8000-10000	10000

F. <u>Mechanism/methodology for Segregation/ bifurcation of Streams (concentratedi.e high COD and/or high TDSetcand dilute streamsi.e low COD and/or low TDS etc) generated from same source i.e process/washing/others:</u>

- We have proposed dedicated Effluent Treatment Plant for High COD-High TDS Stream (Concentrated Stream) and Low COD-Low TDS stream (Dilute Stream) we will give dedicated conveyance line from the process steps itself in each plant where the wastewater generated and same will conveyed to dedicated Effluent treatment plant.
- The high concentrated wastewater generated @ **10.29 KLD** from Group B Product will be treated in Primary ETP -2 having capacity of 15 KLD and then after primary treatment it will be send to Common MEE system BEIL.
- We have proposed dedicated Effluent Treatment Plant for Low COD-Low TDS Stream which will be

generated from Group A product which is around @**15.52 KLD (Dilute Stream).**

- This 15.52 KLD dilute stream we conveyed to dedicated ETP and treat along with other wastewater stream i.e. washing water and utility water and Domestic water. The combine dilute stream will be @**25.41 KLD** which are going and treated in ETP-1 having capacity of 30 KLD will be treated in Primary and Secondary Treatment plant and then after treated water will be send to CETP Saykha.
- The washing water from each manufacturing plant will be collected in intermediate tank in each plant and then transfer to ETP 1 to treat along with dilute stream.
- The dedicated ETP (ETP-1 and ETP-2) is proposed to handle high concentrated stream and dilute stream.
- The ETP Sludge will be collected and send to TSDF site as per HWM Rule 2016

Comments:

48. Management of Industrial effluent shall be as under:

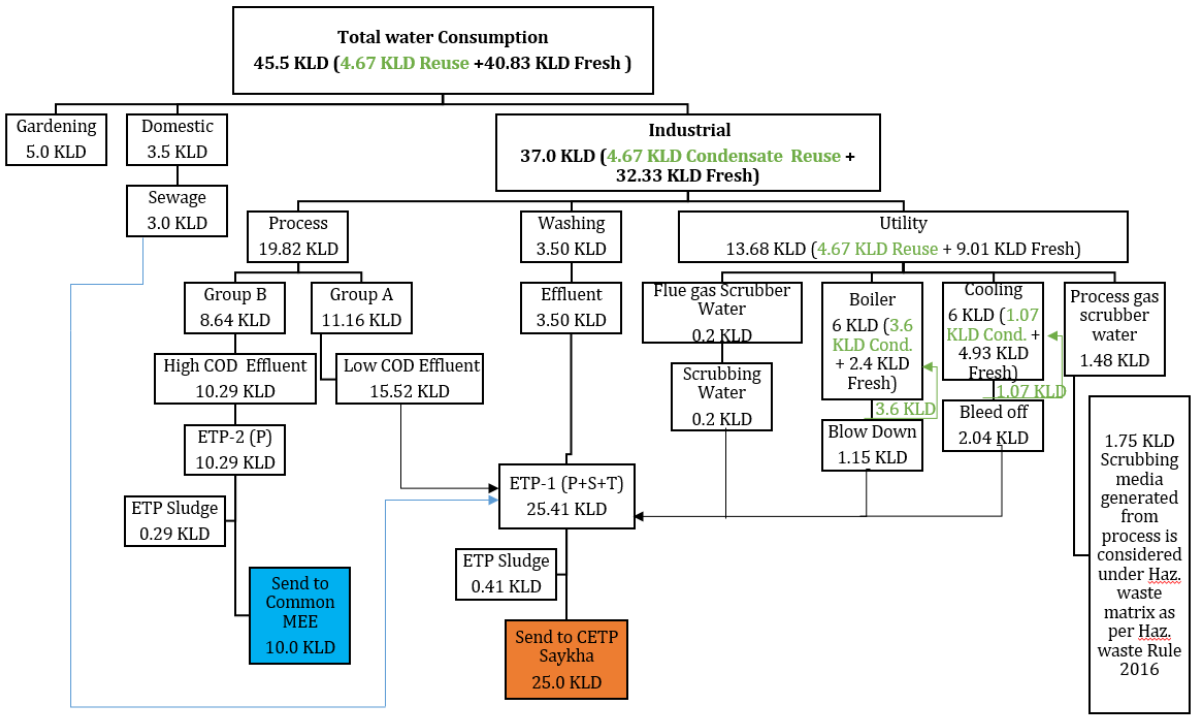
✓ **High COD effluent (10.29 KLD):**

➢ 10.29 KLD process effluent generated from Group-B shall be treated in primary ETP-2 and sent to common MEE- BEIL for further treatment and disposal.

✓ **Low COD effluent (25.41 KLD):**

➢ 15.52 KLD process effluent generated from Group-A, 6.89 KLD effluent generated from washing, scrybber & utilities and 3 KLD domestic effluent shall be treated in primary, secondary & tertiary ETP-1. 25 KLD treated effluent shall be sent to CETP-Saykha for further treatment and disposal.

4.6 Simplified water balance diagram



4.7 Summary

Summary of water requirement	**Quantity** KLD	Remarks

		Total water requirement for the project **(A)**	45.5		
		Quantity to be **recycled (B)**	4.67	Boiler 3.6 KLD Cooling 1.07 KLD	
		Total **fresh water** requirement **(C)**	40.83		
		Ensure **Total water requirement = Recycled water + Fresh water i.e. A = B + C**			

5	**AIR**
5.1	Power (Electricity) requirement : 250 KVA
5.2	**Flue gas emission details**

-

Sr. No	**Stack attached to**	**Stack height in meter**	**Fuel**	**Consumption**	**Type of Pollutants i.e. Air Pollutants**	**APCM**
1	Boiler [Cap. 1 TPH]	33	Natural gas **and/or** Agro Waste Briquettes	1000 Nm^3/Day **and/or** 3.5 TPD	PM SO_2 NO_x	Adequate Stack **And/or** Multi Cyclone Separator + Bag Filter + Water scrubber
2	Thermic Fluid Heater [Cap. 2 lakh Kcal/Hr.]	33	Natural gas **and/or** Agro Waste Briquettes	325 Nm3/Day **and/or** 1.4 TPD		Adequate Stack **And/or** Bag filter + Water scrubber
3	Hot Air Generator (Cap.4 lakh Kcal/Hr.)	33	Natural gas **and/or** Agro Waste Briquettes	400 Nm^3/Day **and/or** 1.5 TPD		Adequate Stack **And/or** Bag filter + Water scrubber
4	D.G. Set [Cap. 100 KVA] [1 Nos.]	15	Diesel	60 Lit/Day		Adequate Stack Height

-Note: we are calculate Fuel Quantity on the basis of eight hours operation hours

5.3	**Process gasemission details**

-

Sr. no	**Stack attached to**	**Stack height in meter**	**APCM**	**Types of Emission**	**Scrubbing Media**
1	Reaction Vessel-1 [HCl: - Product No. 2,3,10,15,17,18, 19, 21,27,31]	20	Two Stage Water Scrubber	HCl, Cl2	HCL Solution
2	Reaction Vessel-2 [SO_2: - Product no. 17] [HBr: - Product No. 1,4,10,18,22,32,33] [H_2S: - Product no. 30]	20	Two Stage Alkali Scrubber	SO_2, HBr H_2S	Sodium bisulfite Sol. Bromide solution NaSH Solution
3	Reaction Vessels-3	20	Two Stage Acidic	NH_3	Ammonium Sulfate

	[From Product No. 14,23,24]		Scrubber		Sol

-

5.4	Fugitive emission details with its mitigation measures.

Sr. No.	Source	Probable Pollutant Emission	Control Measures/ APCM
1	Solvent storage tank	Air pollutant (VOC)	Carry out workplace area monitoring to find out concentration level in ambient air Close handling system Provision of breather valve cum flame arrester.
2	Solvent recovery system	Air pollutant (VOC)	Solvent recovery system with steam condensation system. Pumps & motors are Mechanical seal type.
3	Handling of raw material bags in storage area	Air pollutant (PM)	Provision of exhaust ventilation Provision of PPE. Provision of Job rotation to reduce exposure.
4	Flange joints of pipeline, pump & motors	Air pollutant (VOC)	Routine & periodic inspection to check leakage. Preventive maintenance, Follow SOP for maintenance. Pumps & motors will be mechanical seal type. 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 5.2 to 5.4:

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

6	Solvent management, VOC emissions etc.
6.1	Types of solvents, Details of Solvent recovery, % recovery, reuse of recovered Solvents etc.

sr. no	Name of Solvent	Qty. Used MT/ Month	Qty. Recovered MT/ Month	solvent Losses in air (A)	solvent Loss in (Effluent - stripped out) (B	Distillation Residue (C)	Total Losses (A + B+ C)	Solvent Recovery %
1	Butanol	16	15.92	0.02	0.02	0.04	0.08	99.50

2	Ethanol	15.4	15.34	0.01	0.02	0.03	0.06	99.60
3	Iso Propyl alcohol	44.5	44.06	0.09	0.13	0.22	0.45	99.00
4	MDC	71.6	70.17	0.29	0.43	0.72	1.43	98.00
5	Methanol	45.5	43.91	0.32	0.48	0.80	1.59	96.50
6	N-Hexane	17.5	17.06	0.09	0.13	0.22	0.44	97.50
7	Toluene	80.5	79.29	0.24	0.36	0.60	1.21	98.50
8	Xylene	7.5	7.37	0.03	0.04	0.06	0.13	98.30

6.2 VOC emission sources and its mitigation measures for achieving maximum solvent recovery and minimize VOC generation:

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

6.3 LDAR proposed:

S.N.	**Component**	**Frequency of monitoring**	**Repair preventive maintenan**
1.	Valves / Flanges	Quarterly (semi-annual after two consecutive period with < 2% leaks and annual after 5 periods with < 2% leaks)	Repair shall be started within 5 and shall be completed with days after detection of leak.
2.	Pump seal	Quarterly	
3.	Compressor seals	Quarterly	
4.	Pressure relief devices	Quarterly	
5.	Pressure relief devices (after venting)	Within 24 hrs.	
6.	Process drains	Annually	Repair shall be started within 5 and shall be completed with days after detection of leak.
7.	Components that are difficult to monitor	Annually	

8.	Pump seals with visible liquid dripping	Weekly	Immediately
9.	Any component with visible leaks	Weekly	Immediately
10.	Any component after repair / replacement	Within a week	-

The Following methodology to be adopted during LDAR study:

- The entire manufacturing activities & distillation process will be carried out in totally closed system.
- Regular maintenance of the pipeline and valves & fittings will be carried out regularly to avoid any leakages.
- Distillation column will be connected with condenser where cooling water will be used as media and also equipped with vacuum system.
- The condenser will be provided with the sufficient HTA and residence time to achieve more than 98% recovery.
- During the manufacturing activity as well as during distillation process 3% of the total solvent will be lost; approx. 97 % of solvent will be recovered during the process. The fresh solvent requirement will depend on solvent loss during distillation as well as manufacturing activity.

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

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

Record keeping of LDAR Program

6.4 LDAR for specific solvent :

Sr. No.	Solvent Name	Type of Storage	Mode of Transfer	Charging	Sources of Leakage	Mitigation Measure For find out leakages	Mitigation Measure (If leakages shall be occur)	Action taken for prevention of leakages
1.	Xylene/ MDC	Tank	By Pump & Fix Pipe line	Direct Vessel	• Leak from Valve (failure of the valve packing & O-ring) • Leak from pump (Occur at seal) • Leak from tank • Leak from Connectors • Leak from open ended lines	•For using Gas Detector by PID Sensor technology.	•If valve shall be leak stop pumping system and replace with new valve. When pump seal shall be leak immediately stop solvent transfer and immediately repair or replace with new seal.	•Check Thickness of tank •Using fix pipeline for solvent transfer •Minimum use of Connectors & Joins •Provided sufficient Space (Solvent Unloading area) for Solvent Tanker
2	Toluene/ IPA / N-	Tank	By Pump &	Direct Vessel	• Leak from	•For using	•If valve	•Check

	Hexane		Fix Pipe line		Valve (failure of the valve packing & O-ring) • Leak from pump (Occur at seal) • Leak from tank • Leak from Connectors • Leak from open ended lines	Gas Detector by PID Sensor technology .	shall be leak stop pumping system and replace with new valve. When pump seal shall be leak immediately stop solvent transfer and immediately repair or replace with new seal.	Thickness of tank •Using fix pipeline for solvent transfer •Minimum use of Connectors & Joins •Provided sufficient Space (Solvent Unloading area) for Solvent Tanker
3	Ethanol/ Methanol	Tank	By Pump & Fix Pipe line	Direct Vessel	• Leak from Valve (failure of the valve packing & O-ring) • Leak from pump (Occur at seal) • Leak from tank • Leak from Connectors • Leak from open ended lines	•For using Gas Detector by PID Sensor technology .	•If valve shall be leak stop pumping system and replace with new valve. When pump seal shall be leak immediately stop solvent transfer and immediately repair or replace with new seal.	•Check Thickness of tank •Using fix pipeline for solvent transfer •Minimum use of Connectors & Joins •Provided sufficient Space (Solvent Unloading area) for Solvent Tanker

Comments on 6.1 to 6.4:

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

7 Hazardous waste

7.1 Hazardous waste management matrix

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Sr. No.	Name of Hazardous Waste	Source of Generation	Category as per HWM, 2016	Quantity [MT/ Year]	Remarks
1.	Empty barrels/	Raw Material	33.1	150	Collection, Storage, Transportation,

	containers/ liners contaminated with hazardous chemicals /wastes	and Packaging			reuse or send back to supplier or sell to authorize end users registered under rule 9.
2.	Used or Spent Oil	From Machinery	5.1	1.0	Collection, Storage, Transportation and sold to authorized Recyclers under Rule-9.
3.	ETP Sludge	ETP	35.3	252	Collection, Storage, Transportation and sent to Common TSDF site or Send to Co- processing. (Through GPS mounted vehicle)
4.	Process waste	From Product No. **1,3,4,10,14,17**	28.1	160	Collection, Storage, Transportation and sent to Common TSDF site or Send to Co- processing. (Through GPS mounted vehicle)
5.	Hyflow	From Product no. **3,6,7,16,20,28,33**	28.1	76.0	Collection, Storage, Transportation and sent to Common TSDF site or Send to Co- processing. (Through GPS mounted vehicle)
6.	Distillation Residue	From Process	20.3	40.87	Collection, Storage, transportation and sent for CHWIF or Send to Co-processing . (Through GPS mounted vehicle)
7.	Spent Carbon	From Product No. **1, 3,4,6,7 to 12, 14, 16, 17, 18, and 20,21,25,27 to 33**	28.3	109	Collection, Storage, transportation and sent for co-processing in cement industries disposal at CHWIF or Send to Co- processing .(Through GPS mounted vehicle)
8.	Spent Catalyst	From Product No. **14,19,21,27**	28.2	16.94	Collection, Storage, transportation and sent for Catalyst regenerator or send to CHWIF or Send to Co-processing. (Through GPS mounted vehicle)
9.	Spent Solvent	From Process	28.6	1970	Collection, Storage, Recovery and Recycle for manufacturing of product **or** sell to authorized end users registered under rule 9.
10.	Off-Specification Products	Process	28.4	20	Collection, Storage, transportation and sent for co-processing/Incineration in cement industries disposal at CHWIF. (Through GPS mounted vehicle)
11.	Ammonium Sulfate Sol. [30-40%]	Scrubbing Media	26.1	666	Collection, Storage, Transportation and sell to authorized end users registered under rule 9.
12.	NaSH Solution [12-15%]	Scrubbing Media	26.1	384	Collection, Storage, Transportation and sell to authorized end users registered under rule 9.
13.	Bromide solution [15-20%]	Scrubbing Media	26.1	709	Collection, Storage, Transportation and sell to authorized end users registered under rule 9.

14.	HCl Sol. [28-33%]	Scrubbing Media	SCH-II-/ B (15)	633	Collection, Storage, Transportation and sell to authorized end users registered under rule 9.
15.	Sodium bisulfite Sol. [30-40%]	Scrubbing Media	26.1	631	Collection, Storage, Transportation and sell to authorized end users registered under rule 9.
16.	Scrubbing water	Flue gas Scrubbing system	---	72	Collection, Storage and treated with Effluent treatment plant with in Plant premises and send to Final disposal with Effluent

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Comments:

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

7.2	Non- Hazardous waste management matrix

Sr. No	Types of Hazardous Waste	Sources	Category	Propose MT/Annum	Disposal
1	Fly Ash	Utility	-	161	Collection, storage in silo and send to brick manufacturing unit as per Fly Ash Notification

Comment

- ✓ 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.

8	**SAFETY details**
8.1	**Details regarding storage of Hazardous chemicals**

b) Storage of Hazardous chemicals in Tanks

Sr. no	Name of Chemical	Capacity of Tank	Number of Tanks	Hazardous Characteristics of Chemical
TANK FARM (PESO)				
1	Toluene	10	1	Flammable
2	Methanol	10	1	Flammable
3	Isopropyl Alcohol	10	1	Flammable
4	Ethanol	5	1	Flammable
TANK FARM (NON PESO)				
5	Ethyl acetate	5	1	Flammable
6	Acetone	5	1	Flammable
7	Acetic Acid	5	1	Flammable
8	Sulphuric Acid	15	1	Corrosive
9	HCL	10	1	Corrosive
10	Spent HCL	5	1	Corrosive
Gas stoarge (PESO)				

11	Hydrogen	60 Kg/150Bar	2 NOS (60Kg)	Flammable and Explosive
12	Chlorine	900 Kg	2 NOS	Toxic
13	Ammonia Gas	50 Kg	2 Nos	Toxic
	Bottle Storage			
14	Bromine	3 Liter	200	Danger

Safety Measures for PESO Underground storage tank farm:

PESO Tank	**PESO Area Storage & Handling Safety: (UNLOADING)** ✓ The Entire plant will be operated by PLC based semi Atomization system ✓ 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	✓ The Entire plant will be operated by PLC based SCADA Semi Atomization System ✓ Store in cool, dry and well ventilated area in compliance with compatible chart ✓ Dyke wall with sufficient size is provided. ✓ Tank, valve, pipeline are checked and maintain, in good condition. ✓ Apron, Hand gloves, gumboot, goggles and helmet will be provided.

	✓ ISI Portable fire extinguisher & Hydrant line is provided as per TAC norms. ✓ Sufficient amount of sand/soil are kept to control any spillage. ✓ Eye washer cum shower is provided near tank-farm area. ✓ Level indicator provided. ✓ Vent line dipped in dilute caustic will be provided. ✓ RCC foundation will be provided. ✓ The material transfer is only from pump and fixed line in receiver tank with return valve to main tank

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

Sr. No.	Name of RM	Monthly requirement	Max. storage capacity at site [MT]	Physical Form	Hazard	Mode of Storage	Capacity of each storage
1	Xylene	7.5	1	Liquid	Flammable	Drum	210 Lit
2	Vinyl magnesium bromide	15.4	2.1	Liquid	Reactive	Drum	210 Lit
3	Vinyl acetate monomer	38.5	5.1	Liquid	Reactive	Drum	210 Lit
4	Triethylorthoformate	25	3.3	Liquid	Flammable	Drum	210 Lit
5	Triethylsilane	13.3	1.8	Liquid	Flammable	Drum	210 Lit
6	Triethyl amine	50	6.7	Liquid	Flammable	Drum	210 Lit
7	Thionyl chloride	3.5	0.5	Liquid	Reactive	Drum	210 Lit
8	THF	90	6	Liquid	Flammable	Drum	210 Lit
9	Theophylline anhydrous	30.45	4.1	Liquid	Reactive	Drum	210 Lit
10	Theophylline	15	2	Liquid	Reactive	Drum	210 Lit
11	Tert-Butanol	5.6	0.7	Liquid	Flammable	Drum	210 Lit
12	Raney Nickel	0.56	0.1	Liquid	Reactive	Drum	210 Lit
13	Pyridine	4	0.5	Liquid	Reactive	Drum	210 Lit
14	Pyrazine HCL	42	5.6	Liquid	Corrosive	Drum	210 Lit
15	Phosphorous oxy chloride	100	13.3	Liquid	Corrosive	Drum	210 Lit
16	Phosphoric acid	20.5	2.7	Liquid	Reactive	Drum	210 Lit
17	Ortho phosphoric acid	58	7.7	Liquid	Corrosive	Drum	210 Lit
18	Nitric acid 70%	3.5	0.5	Liquid	Reactive	Drum	210 Lit
19	N-Hexane	17.5	2.3	Liquid	Flammable	Drum	210 Lit
20	N-Butanol	28	3.7	Liquid	Flammable	Drum	210 Lit
21	NaOH	130	17.3	Liquid	Flammable	Drum	210 Lit
22	NaOCl	33.04	4.4	Liquid	Corrosive	Drum	210 Lit
23	NaH	3	0.4	Liquid	Flammable	Drum	210 Lit
24	Na2CO3	9.8	1.3	Liquid	Flammable	Drum	210 Lit
25	N,N-Dimethyl formamide	14	1.9	Liquid	Corrosive	Drum	210 Lit
26	m-toludine	15.75	2.1	Liquid	Flammable	Drum	210 Lit
27	Mono methyl Chloro Acetyl acid	41	5.5	Liquid	Reactive	Drum	210 Lit
28	Mono ethylene glycol	28.7	3.8	Liquid	Reactive	Drum	210 Lit
29	Methylene chloride	17.5	2.3	Liquid	Flammable	Drum	210 Lit
30	Methyl magnesium Bromide	14	1.9	Liquid	Reactive	Drum	210 Lit

31	Methyl Iodide	42	5.6	Liquid	Reactive	Drum	210 Lit
32	Methyl amine	7.14	1	Liquid	Reactive	Drum	210 Lit
33	Methane sulphonic acid	15	2	Liquid	Reactive	Drum	210 Lit
34	Methane sulfonyl chloride	13.65	1.8	Liquid	Flammable	Drum	210 Lit
35	Meta chloroperoxy benzoic acid	83.076	11.1	Liquid	Reactive	Drum	210 Lit
36	Liq Ammonia	65	8.7	Liquid	Reactive	Drum	210 Lit
37	L-Homophenylalanine Ethyl Ester Hydrochloride	37.8	5	Liquid	Reactive	Drum	210 Lit
38	KOH	25	3.3	Liquid	Reactive	Drum	210 Lit
39	Isopropyl isocyanate	18.25	2.4	Liquid	Flammable	Drum	210 Lit
40	Isopropyl ether	40	5.3	Liquid	Flammable	Drum	210 Lit
41	Isopropyl acetate	16.1	2.1	Liquid	Flammable	Drum	210 Lit
42	Iso pthalaldehyde	15.75	2.1	Liquid	Flammable	Drum	210 Lit
43	Iodine	29.5	3.9	Liquid	Reactive	Drum	210 Lit
44	Hydrogen peroxide	5.6	0.7	Liquid	Reactive	Drum	210 Lit
45	Hydrogen fluoride	3.5	0.5	Liquid	Toxic	Drum	210 Lit
46	Hydrobromic acid	43	5.7	Liquid	Reactive	Drum	210 Lit
47	Hydrazine Hydrate	8.26	1.1	Liquid	Reactive	Drum	210 Lit
48	HMPA	14	1.9	Liquid	Reactive	Drum	210 Lit
49	Hexafluoro phosphoric acid	14	1.9	Liquid	Reactive	Drum	210 Lit
50	Heptane	35	1.7	Liquid	Flammable	Drum	210 Lit
51	Glycidyl butyrate	23.45	3.1	Liquid	Reactive	Drum	210 Lit
52	Fumaric Acid	40.5	5.4	Liquid	Reactive	Drum	210 Lit
53	Formic Acid	13	1.7	Liquid	Reactive	Drum	210 Lit
54	Formaldehyde	24.5	2.3	Liquid	Flammable	Drum	210 Lit
55	Ethylene di bromide	2.8	0.4	Liquid	Reactive	Drum	210 Lit
56	Ethyl isobutyrate	17.5	2.3	Liquid	Reactive	Drum	210 Lit
57	DMSO	12	1.6	Liquid	Reactive	Drum	210 Lit
58	DMPU	5	0.7	Liquid	Reactive	Drum	210 Lit
59	DMF	20.5	2.7	Liquid	Flammable	Drum	210 Lit
60	Dimethyl sulfoxide	24.5	3.3	Liquid	Reactive	Drum	210 Lit
61	Dimethyl Formamide	14.5	1.9	Liquid	Flammable	Drum	210 Lit
62	Dimethyl amino propyl chloride hydrochloride	56	7.5	Liquid	Reactive	Drum	210 Lit
63	Diisopropylamine	11.9	1.6	Liquid	Reactive	Drum	210 Lit
64	Diisopropyl Ether	27.5	3.7	Liquid	Reactive	Drum	210 Lit
65	Diethyl methoxyborane	14	1.9	Liquid	Reactive	Drum	210 Lit
66	Dicyclohexylcarbodimide	42	5.6	Liquid	Reactive	Drum	210 Lit
67	Dichloromethane	4	0.5	Liquid	Reactive	Drum	210 Lit
68	Di methoxy ethane	9.1	1.2	Liquid	Reactive	Drum	210 Lit
69	Cyclohexane	1.05	0.1	Liquid	Reactive	Drum	210 Lit
70	Clindamycin Hydrochloride	47.75	6.4	Liquid	Reactive	Drum	210 Lit
71	Clarioxime	51.25	6.8	Liquid	Reactive	Drum	210 Lit
72	Chloroform	22.4	3	Liquid	Reactive	Drum	210 Lit
73	Chloro Acetyl Chloride	162	21.6	Liquid	Reactive	Drum	210 Lit

74	Butanol	16	2.1	Liquid	Flammable	Drum	210 Lit
75	Boron triflouorideetherate	24.5	3.3	Liquid	Reactive	Drum	210 Lit
76	Benzyl alcohol	3.5	0.5	Liquid	Reactive	Drum	210 Lit
77	Aniline	25.75	3.4	Liquid	Reactive	Drum	210 Lit
78	Ammonium hydroxide	7.5	1	Liquid	Reactive	Drum	210 Lit
79	Ammonia solution	10.5	1.4	Liquid	Reactive	Drum	210 Lit
80	Ambroxol	30.65	4.1	Liquid	Reactive	Drum	210 Lit
81	Alpha Phenyl ethyl amine	42	5.6	Liquid	Reactive	Drum	210 Lit
82	AlCl3	42	5.6	Liquid	Reactive	Drum	210 Lit
83	Acetyl Chloride	15	2	Liquid	Reactive	Drum	210 Lit
84	Acetonitrile	91	12.1	Liquid	Reactive	Drum	210 Lit
85	Acetic anhydride	20	2.7	Liquid	Reactive	Drum	210 Lit
86	8-Bromo-7-but-2-ynyl-3-methyl-3,7-dihydro-purine-2,6-dione	70	9.3	Liquid	Reactive	Drum	210 Lit
87	7-Ethyl Tryptophol	46.9	6.3	Liquid	Flammable	Drum	210 Lit
88	7-Chloro-quinaldehyde	21	2.8	Liquid	Reactive	Drum	210 Lit
89	5-Cyanophthalide	32.2	4.3	Liquid	Reactive	Drum	210 Lit
90	5-Chloro thiopene-2-carbonyl chloride	29.4	3.9	Liquid	Reactive	Drum	210 Lit
91	5-(2R)-(2-Aminopropyl)-2-methoxybenzene Sulfonamide	27.6	3.7	Liquid	Reactive	Drum	210 Lit
92	4-Methyl-3-oxo-pentanoic acid ethyl ester	46.41	6.2	Liquid	Reactive	Drum	210 Lit
93	4-hydroxy-3-pyridinsulfonic acid	26	3.5	Liquid	Reactive	Drum	210 Lit
94	4-Fluoro benzaldehyde	36.4	4.9	Liquid	Reactive	Drum	210 Lit
95	4-Chlorobutryl Chloride	58.45	7.8	Liquid	Reactive	Drum	210 Lit
96	4-(4-Nitro-phenyl)-morpholin-3-one	33.46	4.5	Liquid	Reactive	Drum	210 Lit
97	3-bromo-1,3,4,5-tetrahydro-2H-1-benzazepin-2-one	37.1	4.9	Liquid	Reactive	Drum	210 Lit
98	3-{4-[(2-Chloro-5-iodo-phenyl)-methoxy-methyl]-phenoxy}-tetrahydro-furan	73.5	9.8	Liquid	Reactive	Drum	210 Lit
99	3-[(3-Amino-4methylaminobenzoyl)pyridin-2-ylamino]propionic acid ethyl ester	42	5.6	Liquid	Reactive	Drum	210 Lit
100	2-methyl-2-phenylpropanoic acid	25.9	3.5	Liquid	Reactive	Drum	210 Lit
101	2-chloroacetic acid	15.05	2	Liquid	Reactive	Drum	210 Lit

102	2-Amino-butyramide	96.3	12.8	Liquid	Reactive	Drum	210 Lit
103	2-Amino-5-Nitro Thiazole	24	3.2	Liquid	Reactive	Drum	210 Lit
104	2-Amino butyramide HCl	57.4	7.7	Liquid	Reactive	Drum	210 Lit
105	2,6 Dichloro Phenol	32	4.3	Liquid	Reactive	Drum	210 Lit
106	2,3-Dichloro-5,6-dicyano benzoquinone	59.5	7.9	Liquid	Reactive	Drum	210 Lit
107	2-(Chlorocarbonyl)phenyl Acetate	32.5	4.3	Liquid	Reactive	Drum	210 Lit
108	2-(2-Ethoxy phenoxy) ethyl Bromide	27.75	3.7	Liquid	Reactive	Drum	210 Lit
109	2- Chloromethyl-4-methyl quinazoline	65.1	8.7	Liquid	Reactive	Drum	210 Lit
110	1-Bromo-4-fluoro benzene	36.4	4.9	Liquid	Reactive	Drum	210 Lit
111	1-adamantanamine HCl	86.8	11.6	Liquid	Reactive	Drum	210 Lit
112	1,5-dibromopentane	34	4.5	Liquid	Reactive	Drum	210 Lit
113	1-(3-methyl 1-phenyl-5-pyrazolyl)piperazine	32.5	4.3	Liquid	Reactive	Drum	210 Lit
114	1-(2-Iodo-phenyl)-ethanone	28.7	3.8	Liquid	Reactive	Drum	210 Lit
115	1-(2-ethoxyethyl)-2-(piperidin-4-yl)-1-benzimidazole	42	5.6	Liquid	Reactive	Drum	210 Lit
116	1-Hydroxybenzotriazole	14	1.9	Liquid	Reactive	Drum	210 Lit
117	(R)-5-Azidomethyl-3-(3-fluoro- 4-morpholin-4-yl phenyl) oxazolidin-2-one	67.9	9.1	Liquid	Reactive	Drum	210 Lit
118	Tri phenyl phosphine	55.3	7.4	Solid	Reactive	Bag	25 Kg
119	Tosylmethylisocyanide	29	3.9	Solid	Reactive	Bag	25 Kg
120	TBAB	0.21	0	Solid	Reactive	Bag	25 Kg
121	Sodium tungstate	1.4	0.2	Solid	Reactive	Bag	25 Kg
122	Sodium triacetoxyborohydride	2.5	0.3	Solid	Reactive	Bag	25 Kg
123	Sodium sulphate	108	14.4	Solid	Corrosive	Bag	25 Kg
124	Sodium Nitrite	22.75	3	Solid	Corrosive	Bag	25 Kg
125	Sodium Methoxide	90	12	Solid	Corrosive	Bag	25 Kg
126	Sodium metal	1.25	0.2	Solid	Reactive	Bag	25 Kg
127	Sodium hydride (60%)	0.7	0.1	Solid	Corrosive	Bag	25 Kg
128	Sodium Chloride	55	7.3	Solid	Corrosive	Bag	25 Kg
129	Sodium Carbonate	22	2.9	Solid	Corrosive	Bag	25 Kg
130	Sodium Borohydride	9	1.2	Solid	Corrosive	Bag	25 Kg
131	Sodium Bisulphite	7	0.9	Solid	Corrosive	Bag	25 Kg
132	Sodium Bicarbonate	20	2.7	Solid	Corrosive	Bag	25 Kg
133	S-Methyl iso thio urea	24.5	3.3	Solid	Reactive	Bag	25 Kg

134	Salicylic Acid	45.5	6.1	Solid	Reactive	Bag	25 Kg
135	Potassium-t-butoxide	10.5	1.4	Solid	Flammable	Bag	25 Kg
136	Potassium Phthalimide	29.96	4	Solid	Reactive	Bag	25 Kg
137	Potassium hydroxide	20	2.7	Solid	Reactive	Bag	25 Kg
138	Potassium Carbonate	102	13.6	Solid	Reactive	Bag	25 Kg
139	Potassium Acetate	11.25	1.5	Solid	Reactive	Bag	25 Kg
140	PMPPA	175	23.3	Solid	Reactive	Bag	25 Kg
141	Phosphorous pentoxide	19.6	2.6	Solid	Flammable	Bag	25 Kg
142	N-(4-Cyanophenyl) glycine	19.6	2.6	Solid	Reactive	Bag	25 Kg
143	Mono Chloro acetic acid	8	1.1	Solid	Reactive	Bag	25 Kg
144	Methyl-thio-benzyl cyanide	37.8	5	Solid	Reactive	Bag	25 Kg
145	Methyl-6-methyl nicotinate	28	3.7	Solid	Reactive	Bag	25 Kg
146	Methyl(3R)-3-(tert butyl di methyl silyloxy)-5-oxo-6-triphenylphosphoranyl idenehexanoate	70	9.3	Solid	Reactive	Bag	25 Kg
147	Methyl sulfonyl chloride	18.55	2.5	Solid	Reactive	Bag	25 Kg
148	Methyl 3-oxopentanoate	33.32	4.4	Solid	Reactive	Bag	25 Kg
149	Mandelic acid	17.5	2.3	Solid	Reactive	Bag	25 Kg
150	Magnesium	14	1.9	Solid	Reactive	Bag	25 Kg
151	L-Proline	45.5	6.1	Solid	Reactive	Bag	25 Kg
152	LiCl	7	0.9	Solid	Reactive	Bag	25 Kg
153	Imidazole	8.75	1.2	Solid	Reactive	Bag	25 Kg
154	hyflo	9.5	1.3	Solid	Reactive	Bag	25 Kg
155	Cyclohexane-1, 1-Diacetic Acid Monoamiede	82.6	11	Solid	Flammable	Bag	25 Kg
156	Charcoal	1.26	0.2	Solid	Flammable	Bag	25 Kg
157	Caustic soda flakes	10.5	1.4	Solid	Reactive	Bag	25 Kg
158	Calcium oxide	4.5	0.6	Solid	Reactive	Bag	25 Kg
159	Calcium chloride	14	1.9	Solid	Reactive	Bag	25 Kg
160	Boc-3- amino piperidine	65.8	8.8	Solid	Flammable	Bag	25 Kg
161	Ammonium formate	15	2	Solid	Reactive	Bag	25 Kg
162	Ammonium Chloride	35	4.7	Solid	Reactive	Bag	25 Kg
163	Ammonium Carbonate	11.2	1.5	Solid	Reactive	Bag	25 Kg
164	Ammonium acetate	16.1	2.1	Solid	Reactive	Bag	25 Kg

d) <u>Safety details of Hazardous Chemicals:</u>

Type of	Safety measures

Hazardous Chemicals	
FLAMMABLE & EXPLOSIVE CHEMICALS	• The Entire plant will be operated by PLC based Semi Atomization System • Storage shall be cool, well ventilated away from sources of ignition or heat. Prevent accumulation of static charge. Protect material from direct sunlight. • Store in original container. Keep containers tightly closed and upright when not in use. • Proper label and identification board /stickers shall be provided in the storage area. • Conductive drum pallets shall be provided. • Drum handling trolley / stackers/fork lift shall be used for drum handling. Separate dispensing room with local exhaust and static earthing provision shall be made. • Ground container and transfer equipment to eliminate static electric sparks. • Smoking and other spark, flame generating item shall be banned near storage area. FLP type light fittings shall be provided. • Handling of materials from Drum shall be done only through Mechanical Transfer System only. • Training shall be provided to employees for safe storage, handling and transpiration. • When using, do not eat, smoke or drink. • Fire Hydrant with monitor, fire proximity suits, automatic sprinkler system, Safety shower & eye wash unit shall be installed nearby area. • Provision of Respiratory protective equipment (airline respirator & SCBA) & personal protective equipment shall be available. • For spills involving small volumes of dilute solution of Xylene/Formaldehyde/Methanol, the following cleaning procedure can be used • Wear appropriate personal protective equipment (PPE) • Remove any ignition source from the spill area; • Clean the spill area with a mixture of water and soap • Dry the spill area with paper towels Onsite emergency plan prepared and mock drill shall be carried out. Safety sign board displaying Do's and Don'ts in local language.
CORROSIVE CHEMICALS	✓ Preventing or minimizing contact between corrosive substances and skin, mucous membranes and eyes. ✓ The Entire plant will be operated by PLC based Semi Atomization System Corrosive substances shall not be allowed to come in contact with materials that may react. ✓ All the containers, pipes, apparatus, installations and structures used for the manufacture, storage, transport or use of these substances shall be protected by suitable coatings, impervious to and unaffected by corrosives. ✓ All containers or receptacles shall be clearly labelled to indicate their contents and shall bear the danger symbol for corrosives. ✓ Adequate ventilation and exhaust arrangement whether general or local, shall be provided whenever corrosive toxic gases or dust are present. ✓ Personal protective devices shall be used. ✓ First aid treatment facilities shall be provided and all concerned shall be instructed to follow safe practices such as (a) Prolonged washing with water (b) Removing contaminated clothing (c) Seeking immediate medical help. Safety showers and eye washers shall be provided.
TOXIC CHEMICALS	✓ The Entire plant will be operated by PLC based SCADA Semi Atomization System ✓ Storage shall be cool, well ventilated away from sources of ignition or heat.

	Prevent accumulation of static charge. Protect material from direct sunlight. ✓ Store in original container. Keep containers tightly closed and upright when not in use. ✓ Proper label and identification board /stickers shall be provided in the storage area. ✓ Conductive drum pallets shall be provided. ✓ Drum handling trolley / stackers/fork lift shall be used for drum handling. Separate dispensing room with local exhaust. ✓ Ground container and transfer equipment to eliminate static electric sparks. ✓ Handling of materials from Drum shall be done only through Mechanical Transfer System only. Unloading procedure shall be prepared and implemented. ✓ Training shall be provided to employees for safe storage, handling and transpiration. ✓ Safety shower & eye wash unit shall be installed nearby area. ✓ Required PPEs like full body protection PVC apron, Hand gloves, gumboot, Respiratory protective equipment (airline respirator & SCBA) etc. shall be provided to operator ✓ For spills involving small volumes, the following cleaning procedure can be used ✓ wear appropriate personal protective equipment (PPE) ✓ clean the spill area with a mixture of water and soap ✓ Neutralizing agent shall be kept ready for tackle any emergency spillage ✓ Onsite emergency plan prepared and mock drill shall be carried out. Safety sign board displaying Do's and Don'ts in local language.
REACTIVE CHEMICALS	✓ Store minimum quantities. ✓ The Entire plant will be operated by PLC based Semi Atomization System Segregate chemicals, e.g. from water, air, incompatible chemicals, sources of heat, ignition sources. ✓ Spillage control; bund, spray, blanket, containment. Drain to collection pit. ✓ Decontamination and first-aid provisions, e.g. neutralize/destroy, fire-fighting • Contain/vent pressure generated to a safe area. ✓ Split-up stocks into manageable lots, e.g. with reference to fire loading/spillage control. ✓ Ensure appropriate levels of security, hazard warning notices, fences, patrols. Control access including vehicles. ✓ Appropriate gas/vapour/fume/pressure venting, e.g. flame arrestors, scrubbers, absorbers, stacks. ✓ Shall ensure adequate natural or forced general ventilation of the storage area Provide adequate, safe lighting. ✓ Label (name and number); identify loading/unloading/transfer couplings. ✓ Provide appropriate fire protection (sprinkler, dry powder, gas). Shall ensure adequate access for both normal and emergency purposes with alternative routes

- **Applicability of PESO:** Yes. Unit will obtain PESO License for storage of chemicals as this license will give by PESO at the time of commissioning of unit after site verification and safety measures the unit has provided

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.

8.2	Types of hazardous Processes involved and its safety measures:

Types of process	Safety measures including Automation
Amination	• The Entire plant will be operated by PLC based SCADA Semi Atomizati System • controls and operation of plant will be installed. • Valve, pipeline will be checked and maintain, in good condition. • Sprinkler system provision will be made in storage area. • Ammonia leakage identification will be done by HCL torch. • Ammonia leakage control Kit will be kept available at store. • Hazard identification, control measures in case of leakage and first A procedure will be prepared and displayed at handling locations. • Sprinkler point and Eyewash/ Safety shower will be provided near Ammor header point. • ADEQUATE PPE will be kept to handle the Hazard. • ISI Portable fire extinguisher & Hydrant line will be provided as per TAC norms. • Sufficient amount of sand/soil are kept to control any spillage. • Flame proof fitting provided. • Eye washer cum shower will be provided near storage area. • Spark arrester will be installed on all vehicles inside the premises. • SBA set, Canister mask and airline mask will be provided. • Earthing & bonding will be provided
Bromination	• The Entire plant will be operated by PLC based SCADA Semi Atomizati System • Required PPEs like full body protection PVC apron, Hand gloves, gumbo Respiratory mask etc. will be provided to operator. • To avoid runaway reaction, Chlorine charging will be done gradually & slowly. • Overflow line connected to storage vessel. • Charging will be done only through closed line and system. Scrubber attach with closed system. • Make sure the absorber unit (two stage Water Scrubber followed by Alk scrubber) is working and capable of handling vented Br2 fumes. • Neutralizing agent will be kept ready for tackle any emergency spillage. • Safety Shower and eye wash will be provided near process area. • Emergency siren and wind sock will be provided. • Tele Communication system and mobile phone will be used in case emergency situations for communication. • Total close process will be adopted for Bromine charging. • Caution note and emergency first aid will be displayed and train for the same all employees. • First Aid Boxes will be available in process area. • Emergency organization and team will be prepared as per On site-Off s emergency planning. • Emergency team will be prepared and trained for scenario base emergency. Li Toxic control team, Fire control team, First aid team, communication and gene administration team, Medical team etc. • Do not touch damaged containers or spilled material unless wearing appropria protective clothing. • Use water spray to reduce vapors; do not put water directly on leak, spill area inside container. Keep combustibles (wood, paper, oil, etc.) away from spill

	material. • Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain
Chlorination	• The Entire plant will be operated by PLC based SCADA Semi Atomization System • Alkali Scrubbing system will be provided in process area. • It is proposed to provide leak sensor and alarm system • Automatic supply shut off valves are proposed • On site emergency response capability shall be maintained • As far as possible, it is recommended to keep the gas phase composition outside the flammable range. • Temperature indicators will be provided near all reactors. • HAZOP and pre-start up safety review will be conducted before starting first batch. • Regular preventive maintenance will be carried out for all equipment.
Hydrogenation	• The Entire plant will be operated by PLC based SCADA Semi Atomization System • FLP type area will be provided. • Total enclosed process system. • Instrument & Plant Air System. • Nitrogen blanketing in Hydrogenation reactor. • Safety valve and Rupture disc provided on reactor • Cooling Chilling and power alternative arrangement have been made on reactor. • Hydrogen and Nitrogen Cylinder bank away from the auto clave reactor • PRV station with shut off valve, safety valve provision will be made for hydrogenation reaction safety • Before Hydrogen Gas charging in to reactor and after completion of reaction • Nitrogen flushing will be done. • Flame arrestor will be provided on vent line of reactor and it will be extended up to roof level • Open well ventilated and fragile roofs will be provided to on reactor. • Safe Catalyst charging method will be adopted. • SOP will be prepared and operators will be trained for the same. • Static earthing and electric earthing (Double) provided. • Reactor vent extended outside the process area and flame arrestor provided on vent line. • Dumping vessel arrangement will be made. • Dumpers for static earthing on pipeline flanges of flammable chemical will be provided
Nitration	• The Entire plant will be operated by PLC based SCADA Semi Atomization System • Safety valve & Rupture disk shall be provided on reactors. • Flushing water (chilled water / ice quenching) to control the runaway reaction. • Provision of dumping vessel for the contents of the Nitrator. • Total close process will be adopted (from storage tank to measured vessel & then to reactor) for Nitric Acid charging • SOP will be displayed for safe charging of Nitric acid for nitration process • Required PPEs like full body protection PVC apron, • Hand gloves, gumboot, Respiratory mask etc. • will be provided to operator at time of nitric acid charging.

	• Make sure the absorber unit (two stage Alkali scrubber) will be working and capable of handling vented NO2 fumes. • Neutralizing agent will be kept ready for tackle any emergency spillage. • Safety Shower and eye wash will be provided near process area. • Caution note and emergency first aid will be displayed and train for the same to all employees. • First Aid Boxes will be available in process area. • Prevention measures for runaway reaction of nitration reaction. • Instrumentation control • Rotameter • Level alarms • TIC of jacket as well as the reactor • Emergency control measures • Standby Pump For Cooling Water / Brine Circulation
Sulphonation	• The Entire plant will be operated by PLC based SCADA Semi Atomization System • Training of MSDS of all chemicals involved. • HAZOP and pre-start up safety review will be conducted before starting first batch. • Control / slow charging of chemicals through dedicated line and control valves. • Scrubbing system will be provided in process area. • Batch process control record will be filled for following safety will be all stage. • Cooling and chilling both systems will be provided in reactor with standby arrangement. • Two temperature indicators will be installed on reactor. • High temperature stirrer locking system will be provided. • Safety valve will be provided on the jacket. • Rupture disk will be provided on condenser. • Thickness and hydraulic testing will be carried out periodically • Regular preventive maintenance will be carried out for all equipment
Others, if any General process safety measures	NO

8.3 Details of Fire Load Calculation

Total Plot Area:	**4926.41**
Area utilized for plant activity:	3999.82
Area utilized for Hazardous Chemicals Storage:	330
Number of Floors:	GF+FF+ SF
Water requirement for firefighting in KLD:	30 KL
Water storage tank provided for firefighting in KLD:	300 KL
Details of Hydrant Pumps:	6.0 Inch Diameter fire hydrant line will be provided connected to Jockey Pump Followed by Diesel Pump having 07 bar pressure with sprinkler system. The jockey pump is placed with the fire water tank having capacity of 300 KL.
Nearest Fire Station :	Bharuch fire station With 19.7 KM distance

Applicability of Off Site Emergency Plan:	Yes

Comments:

- ✓ The project proponent has proposed fire safety plan which includes fire hydrant line, sprinkler system, fire extinguishers, fire suits, covering the project area and provides for fire water storage tank of 300 KL. SEAC found it as per the requirement.

8.4 Details of Occupational Health Centre (OHC):

-

Number of permanent Employee:	10
Number of Contractual person/Labour:	20
Area provided for OHC:	50 Sq. m
Number of First Aid Boxes:	At least one box containing such items and placed and maintained in accordance with the requirements of Sec. 45 is separately provided.
Nearest General Hospital:	Bharuch Civil Hospital @ 21 Km
Name of Antidotes to be store in plant:	Injection -morphia, pethidins, atropins, adrenaline, coramine, novocan Fomepizole, Cobalt EDTA, Diazem, Epinephina, Efidrine, Ethanol, Milk of Magnesia epicake syrup, Sodium Hydro-Carbonate (4% Conc.), Milk, Lime Juice, Soda Water, Soframycine

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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.

8.5 Details of Emergency measures proposed and preparedness action for chemicals and fire explosion etc.

Management shall take into consideration fire prevention measures at the project planning and during plant commissioning stage to avoid any outbreak of fire. But looking to the hazardous nature of process and the chemicals that shall be handled and processed, the chance of outbreak of fire cannot be totally ignored. Hence to tackle such a situation a good well laid fire protection system will be provided in the factory. Details of firefighting are given below.

Type		**nos**	**Capacity in Kg**
ABC	:	20	06
CO2	:	15	06
SAND BUCKET	:	20	05
Class B (Foam)	:	25	05
DCP	:	15	06
Foam Trolley		02	50 Liter
TOTAL	**:**	**97**	**---**

9 Details of Membership for Common Facility:

Sr. No.	**Membership for Common Facility**	**Membership Certificate issuing agency Date of Issue and validity of membership**
01	CETP	CETP Saykha - (35 KLD) GIDC/BRH/XEN/WD/1154, Dated: 11/10/2022

02	TSDF site	We have obtain Membership certificate from BEIL vide letter no: BEIL/ANK/ 2022 dated 28/10/2022
03	Common Hazardous Waste Incineration Facility	We have obtain Membership certificate from BEIL vide letter no: BEIL/ANK/ 2022 dated 28/10/2022
04	Common Spray Drying Facility	Not Applicable
05	Common MEE Facility	We have obtain Membership certificate from BEIL (25 KL/Day) vide letter no: BEIL/ANK/ 2022 dated 14/09/2022
06	Common Conveyance System	Not Applicable
07	PESO permission	We will obtained after getting EC/NOC
08	FIRE permission	We will obtained after getting EC/NOC
09	Health Certificate	We will obtained after getting EC/NOC

10 Reduce / Reuse / Recycle measures adopted.

(e) Reuse

Sr. No.	Item	Quantity	% percentage
1	Water	Total requirement 45.5 KLD Total reuse 4.67 KLD Total fresh 40.83 KLD	10.26

(c) Recycle

Sr. No.	Item	Quantity	% percentage
1	Solvent	Total Solvent Quantity: 1970 MT/Annum Recover Quantity: 1929.13 MT/ Annum Loss Quantity: 40.87 MT/ Annum	97.9

11 EMP Details

Sr. No	Unit	Detail	Capital Cost (Rs. In Lakhs)	Total Recurring Cost (Rs. In Lakhs per Annum)
1	Wastewater	ETP (Installation and Maintenance of ETP Treatment and Discharge cost of CETP-Saykha & Treatment and Discharge cost of CMEE-BEIL)	80.0	395
2	Air	Installation of stack/vent & it's monitoring facilities including provision of air pollution control System	50	25
3	Hazardous Management	Getting membership of TSDF site with including transportations cost and sampling cost	30.0	200
4.	Fire & Safety	Provision of Safety Measures including person Protective Equipment, SCBA Suit, Fire Detectors, Sensors, Alarm, Fire Hydrant, Fire Extinguishers, Lightening arrestors etc.	55.0	15
5	Green Belt Development	Development of Greenbelt Area	4.0	1
6.	Occupational Health	O.H.C, OHS Training of staff, Miscellaneous, etc.	12.0	12
7.	Noise Control	Acoustic enclosure; Silencer ;	5.0	1

		Vibration pads; Noise PPEs, etc.		
8.	VOC Control & LDAR	VOC Control equipment Sensor	10.0	5
		Provision of PLC based semi atomization	35.0	10
9	Environment Monitoring Program	Risk analysis, safety audit, maintenance expenses details,.	20.0	9
10	CER Activity	CER Cost (2 % of Total Project Cost)	18.0	-
Total			**319**	**673.0**

Comments:

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

12	**Details of CER** -

Total cost of Project (Rs in Crores)	**Total Cost of CER (Rs in Lakhs)**	**Percentage (%)**
9.0	18.0	2 %

PP shall carry out CER activities as below:

1	Installation of Solar panel Tree 5 KW at common place suggested by local Gram PanchayatArgama, Saladara	18 Lakhs

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11) 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

s) "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.

t) "No uncovered vehicles carrying construction material and waste shall be permitted."

u) "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."

v) Roads leading to or at construction site must be paved and blacktopped (i.e. – metallic roads).

w) No excavation of soil shall be carried out without adequate dust mitigation measures in place.

x) Dust mitigation measure shall be displayed prominently at the construction site for easy public viewing.

y) Grinding and cutting of building materials in open area shall be prohibited.

z) Construction material and waste should be stored only within earmarked area and road side storage of construction material and waste shall be prohibited.

aa) 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:

49. 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].**
50. 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.
51. Leak Detection and Repair (LDAR) program shall be prepared and implemented as per the CPCB guidelines. LDAR Logbooks shall be maintained.
52. 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.
53. 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.
54. 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.
55. All measures shall be taken to avoid soil and ground water contamination within premises.

56. Safety & Health:

sions from the Narcotics Control Bureau for manufacturing, storage and handling of Acetic Anhydride & any

r the storage and handling of hazardous chemicals.

h Centre (OHC) as per the provisions under the Gujarat Factories Rule 68-U.

e / Fire No-Objection certificate (NOC) from the concern authority as per the prevailing Rules / Gujarat Fire s Act, 2016.

s/process automation system including emergency response to eliminate risk associated with the hazardous

in the premises as per the prevailing guidelines of safety and display proper evacuation plan in the

mergency or accident.
nt system with foam trolley attachment within premises and separate storage of water for the same shall be

s for control of storage hazards within premises ensuring incompatibility of storage raw material and ensure
s per the prevailing guidelines of the concerned authority.
s for human safety within premises to ensure that no any harm is caused to any worker/employee or labour

e provided in the plant premises, wherever applicable.
carboys of incompatible material/chemical together.
nts, water monitors & foam application system at solvent storage area and unit shall provide adequate safety
ter curtains, foam pouring system etc. to restrict cascade fire emergency in solvent storage area.
for Process area and storage of hazardous chemicals.
ol dry separate area, out of direct sunlight.
ture disc to the Hydrogenation vessel.
control emergency kit and FRP hood with scrubber system for chlorine safety.
apture disc, as well as auto dump or auto quench/, suppress system for nitration vessel safety.
apture disc, as well as auto dump or auto quench/, suppress system for exothermic reaction vessel safety.
the ammonia storage cylinder.

WATER

57. Total water requirement for the project shall not exceed 45.5 KLD. Unit shall reuse 4.67 KLD of treated effluent within premises. Hence, fresh water requirement shall not exceed 40.83 KLD and it shall be met through GIDC water supply only. Prior permission from concerned authority for withdrawal of water shall be obtained.
58. The industrial effluent generation from the project shall not exceed 32.70 KLD.
59. Management of Industrial effluent shall be as under:
    - ✓ **High COD effluent (10.29 KLD):**
        - 10.29 KLD process effluent generated from Group-B shall be treated in primary ETP-2 and sent to common MEE- BEIL for further treatment and disposal.
    - ✓ **Low COD effluent (25.41 KLD):**
        - 15.52 KLD process effluent generated from Group-A, 6.89 KLD effluent generated from washing, scrybber & utilities and 3 KLD domestic effluent shall be treated in primary, secondary & tertiary ETP-1. 25 KLD treated effluent shall be sent to CETP-Saykha for further treatment and disposal.
60. Treated waste water shall be sent to common facilities (CETP-Saykha and Common MEE-BEIL) only after complying with the inlet norms of common facilities prescribed by GPCB to ensure no adverse impact on Human Health and Environment.
61. Unit shall provide ETPs with adequate capacity.

62. The PP shall ensure to dispose off Waste water to the Common Facilities having valid CTO of GPCB.
63. Domestic wastewater generation shall not exceed 3 KL/Day for proposed project and it shall be treated in ETP and sent to CETP-Saykha. It shall not be disposed off through soak pit/ septic tank.
64. The unit shall provide metering facility at the inlet and outlet of ETPs and maintain records for the same.
65. Proper logbooks of ETPs; reuse/ recycle of treated/ untreated effluent; chemical consumption in effluent treatment; quantity & quality of treated effluent sent to CMEE & CETP; power consumption etc. shall be maintained and shall be furnished to the GPCB from time to time.

AIR:

66. Unit shall not exceed fuel consumption for Steam Boiler, TFH, HAG and D G Set as per the point no. 5.2 as mentioned above.
67. Unit shall provide adequate APCM with flue gas generation sources to achieve the norms prescribed by GPCB.
68. Unit shall provide adequate APCM with process gas generation sources as the point no. 5.3 as mentioned above.
69. PP shall use approved fuels only as fuel in boilers.
70. The fugitive emission in the workzoneenvironment 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 indicativeguidelines shall also be followed to reduce the fugitive emission.
    - Internal roads shall be either concreted or asphalted or paved properly toreducethe fugitive emission during vehicular movement.
    - Air borne dust shall becontrolled with water sprinklers at suitable locations in the plant.
    - A green belt shall be developed all around the plant boundary and also along the roads to mitigate fugitive & transport dust emission.
71. Regular monitoring of Volatile Organic Compounds (VOCs) shall be carried out in the work zone area and ambient air.
72. Forcontrol 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 toprevent leakages.
    h. Air borne dust at all transfers operations/ points shall be controlled either by spraying water or providing enclosures.
73. Solvent management shall be carried out as follows:

ures shall be taken to reduce the process vapors emissions as far as possible. Use of toxic solvents shall be
um. All venting equipment shall have vapour recovery system
or shall be connected to adequate chilling system to condensate solvent vapors and reduce solvent losses.
or and solvent handling pump shall have mechanical seals to prevent leakages.
ondensers shall be provided with sufficient HTA and residence time so as to achieve maximum solvent

ery.

nts shall be stored in a separate space specified with all safety measures.

r earthing shall be provided in all the electrical equipment wherever solvent handling is done.

nt storage and handling area shall be flame proof. The solvent storage tanks shall be provided with breather to prevent losses.

74. Regular monitoring of ground level concentration of PM_{10}, $PM_{2.5}$, SO_2, NOx, HCl, Cl_2, NH_3, HBr, H_2S and VOCs shall be carried out in the impactzoneand its records shall be maintained. Ambient air quality levels shall not exceed the standards stipulated by the GPCB. If at any stage these levels are found toexceed the prescribed limits, necessary additionalcontrol measures shall be taken immediately. The location of the stations and frequency of monitoring shall be decided in consultation with the GPCB.

HAZARDOUS / SOLID WASTES:

75. All the hazardous/ solid waste management shall be taken care as per the point no. 7.1 and 7.2 as mentioned above.
76. 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.
77. 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.
78. 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.
79. The project proponent has to obtain membership of TSDF site & CHWIF before obtaining CTO of GPCB.
80. 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

81. The PP shall develop green belt within premises (1626 Sq. m i.e. 33.01 % of the total plot area) as submitted before SEAC. Green belt shall be developed with native plant species that are significant and used for the pollution abatement as per the CPCB guidelines. It shall be implemented within 3 years of operation phase in consultation with GPCB.

OTHERS:

82. The project proponent shall carry out the activities of Rs 18 Lakhs [Installation of Solar panel Tree 5 KW at common place suggested by local Gram PanchayatArgama, Saladara] 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.
83. All the recommendations, mitigation measures, environmental protection measures and safeguards

proposed in the EIA report of the project prepared by M/s. Green Circle Inc 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:

84. 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.
85. 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.
86. Designated key person shall submit six monthly compliance report to SEIAA/SEAC, MOEF&CC, GPCB and Nodal Department of the Government.
87. 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.
88. 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.
89. 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.
90. All complains and public grievance or representations may be addressed to SEIAA/SEAC in the email addresses (a) msseiaagj@gmail.com& (b) seacgujarat@gmail.com

7.	SIA/GJ/IND3/295313/2022	**M/s. Mahant Life Science** Plot No. 1, Survey No. 158/E, Near Solvay Speciality Chemical (Panoli Division), Vill: Nana Borsara, Tal: Mangrol, Dist: Surat – 394115	EC-Corrigendum

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

Project Status: **EC-Corrigendum**

1) This is a Greenfield project proposed for manufacturing of “Synthetic Organic Chemicals” [API and API Intermediates] for which was accorded Environmental Clearance vide letter no. SEIAA/GUJ/EC/5(f)/1442/2022 dated: 25/05/2022.
2) Now, project proponent has applied online vide proposal no. SIA/GJ/IND3/295313/2022 for EC-Corrigendum in EC letter no. SEIAA/GUJ/EC/5(f)/ 1442/2022 dated: 25/05/2022 in which there is a typographical error in source of water. The details are as under:

Condition no.	EC granted by SEIAA	To be correct as	Remarks
12.	Total water requirement for the project shall not exceed 64.56 KLD. Unit shall reuse 53.65 KLD of treated effluent and boiler condensate within premises. Hence, fresh water requirement shall not exceed 10.91 KLD and **it shall be met through bore well supply only.**	Total water requirement for the project shall not exceed 64.56 KLD. Unit shall reuse 53.65 KLD of treated effluent and boiler condensate within premises. Hence, fresh water requirement shall not exceed 10.91 KLD and **it shall be met through GIDC Panoli only.**	SEAC has clearly mentioned that **D-1. Source of water supply** **Water will be sourced from GIDC Panoli.** in minutes of 357th presentation (page no. 400) on dated 04/02/2022.

3) Project proponent (PP) and their Technical Expert M/s Earth Care Enviro Solutions Pvt. Ltd. remain present during video conference meeting.
4) During meeting dated: 10.02.2023, PP presented GIDC water supply letter for 100 KLD dated: 16.02.2022.
5) Committee noted that there is a typographical error in mentioning the source of water supply, actual it is GIDC water supply but mentioned as borewell.
6) The facts were verified with SEAC meeting MOM dated: 04.02.2022 in which the EC case was appraised.
7) The typographical error in mentioning source of water supply in SEAC MOM dated: 04.02.2022 and SEAC recommendation letter No: EIA-10-2021/IND2/3076 dated: 21.04.2022 was inadvertent.
8) **After detailed deliberation, Committee unanimously decided to recommend grant of EC – Corrigendum to SEIAA, Gujarat with Change in "Condition No: 12" as follows and with remaining condition unchanged in EC granted by SEIAA, Gujarat vide Letter No. SEIAA/GUJ/EC/5(f)/1442/2022 dated: 25/05/2022.**

Condition No: 12 shall be amended as under:

12. Total water requirement for the project shall not exceed 64.56 KLD. Unit shall reuse 53.65 KLD of treated effluent and boiler condensate within premises. Hence, fresh water requirement shall not exceed 10.91 KLD and it shall be met through GIDC Panoli water supply only.

8.	SIA/GJ/IND3/295298/2022	**M/s. PHARMAGIC LIFESCIENCES PRIVATE LIMITED** Revenue Survey No.: 25 p2 Plot No: 1, 2 & 3 Village: Hadala, Tal & Dist: Rajkot-363650	EC-Corrigendum

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

Project Status: **EC-Corrigendum**

1) This is a Greenfield project proposed for manufacturing of "Synthetic Organic Chemicals" [API and API

Intermediates] for which was accorded Environmental Clearance vide letter no. SEIAA/GUJ/EC/5(f)/2154/2022 dated: 20/09/2022.

2) Now, project proponent has applied online vide proposal no. SIA/GJ/IND3/295298/2022 for EC-Corrigendum in EC letter no. SEIAA/GUJ/EC/5(f)/2154/2022 dated: 20/09/2022 in which there is a typographical error in source of water. The details are as under:

Condition no.	EC granted by SEIAA	To be correct as	Remarks
9	Total water requirement for the project shall not exceed 116.95 KLD. Unit shall reuse 52.59 KLD of treated industrial effluent within premises. Hence, fresh water requirement shall not exceed 64.36 KLD and it shall be met through **GIDC water supply** only. Prior permission from concerned authority for withdrawal of water shall be obtained	Total water requirement for the project shall not exceed 116.95 KLD. Unit shall reuse 52.59 KLD of treated industrial effluent within premises. Hence, fresh water requirement shall not exceed 64.36 KLD and it shall be met through **Borewell** only. Prior permission from concerned authority for withdrawal of water shall be obtained	It is requested to note that Source of water for the proposed project is Borewell. We have submitted details for Source of water as borewell only. **Uploaded Form-1 – Dated on 15/11/2021** **SEAC Minutes- 385th SEAC Meeting Dated 22-03-2022**

3) Project proponent (PP) and their Technical Expert M/s T R Associates remain present during video conference meeting.

4) During meeting dated: 10.02.2023, Committee noted that there is a typographical error in mentioning the source of water supply, actual it is borewell supply but mentioned as GIDC water supply.

5) The facts were verified with SEAC meeting MOM dated: 22.03.2022 in which the EC case was appraised.

6) The typographical error in mentioning source of water supply in SEAC MOM dated: 22.03.2022 (in Condition) and SEAC recommendation letter No: EIA-10-2022/IND2/3584 dated: 21.05.2022 was inadvertent.

7) **After detailed deliberation, Committee unanimously decided to recommend grant of EC – Corrigendum to SEIAA, Gujarat with Change in "Condition No: 9" as follows and with remaining condition unchanged in EC granted by SEIAA, Gujarat vide Letter No. SEIAA/GUJ/EC/5(f)/2154/2022 dated: 20/09/2022.**

Condition No: 9 shall be amended as under:

9. Total water requirement for the project shall not exceed 116.95 KLD. Unit shall reuse 52.59 KLD of treated industrial effluent within premises. Hence, fresh water requirement shall not exceed 64.36 KLD and it shall be met through Borewell only. Prior permission from concerned authority for withdrawal of water shall be obtained.

9.	SIA/GJ/IND3/295202/2022	**M/s. Durva Chem** Survey/ Block No.: 466 , (Old Survey/Block No.: 1490/p2), Village - Manknaj, Tal.: Jotana, Dist. Mehsana - 384421,	EC-Corrigendum

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

Project Status: **EC-Corrigendum**

1) This is a Greenfield project proposed for manufacturing of "Synthetic Organic Chemicals" [API and API Intermediates] for which was accorded Environmental Clearance vide letter no. SEIAA/GUJ/EC/5(f)/2365/2022, dated: 17/10/2022.
2) Now, project proponent has applied online vide proposal no. SIA/GJ/IND3/295202/2022 for EC-Corrigendum in EC letter no. SEIAA/GUJ/EC/5(f)/2365/2022, dated: 17/10/2022 in which there is a quantity of bleed liquor. The details are as under:

Sr. no.	Condition no. in which Corrigendum is proposed.	As per EC	As per proposed corrigendum	Justification
1	Detail under The Water Act / Section A.2 Water **Condition 14**	**Condition No. 14:** **Low concentration Effluent:** ➢ Low Concentration Effluent 0.6 KLD from boiler blow down, 1.9 KLD cooling blow down, **1.3 KLD scrubber**, 2.0 KLD washing and 0.8 domestic wastewater i.e. total 6.4 KLD shall be treated in ETP and 6.1 KLD treated effluent shall be reused within premises.	**Condition No. 14:** **Low concentration Effluent:** ➢ Low Concentration Effluent 0.6 KLD from boiler blow down, 1.9 KLD cooling blow down, **1.1 KLD scrubber**, 2.0 KLD washing and 0.8 domestic wastewater i.e. total 6.4 KLD shall be treated in ETP and 6.1 KLD treated effluent shall be reused within premises.	Details of Water consumption & Wastewater generation were presented during presentation on dated 22/03/2022

3) Project proponent (PP) and their Technical Expert M/s Envycraft Environmental Services remain present during video conference meeting.
4) During meeting dated: 10.02.2023, Committee noted that there is a typographical error in mentioning the quantity of bleed liquor to be treated in ETP, actual quantity is 1.1 KLD but mentioned as 1.3 KLD.
5) The facts were verified with SEAC meeting MOM dated: 22.03.2022 in which the EC case was appraised.
6) The typographical error in mentioning quantity of bleed liqpur to be treated in ETP in SEAC MOM dated: 22.03.2022 (in comments as well as in Condition) and SEAC recommendation letter No: EIA-10-2022/IND2/3580 dated: 21.05.2022 was inadvertent.
7) **After detailed deliberation, Committee unanimously decided to recommend grant of EC – Corrigendum to SEIAA, Gujarat with Change in "Condition No: 14" as follows and with remaining condition unchanged in EC granted by SEIAA, Gujarat vide Letter No. SEIAA/GUJ/EC/5(f)/2365/2022, dated: 17/10/2022.**

Condition No: 14 shall be amended as under:

14. Industrial effluent from process shall be segregated into high Concentration & Low Concentration Effluent.

High Concentration:

- Process High Concentration Effluent (Group-A) 6.5 KLD shall be subjected to Solvent Stripper & 6.4 KLD output from stripper subjected to In-house Evaporator.

Low Concentration Effluent:

- Low Concentration Effluent from Fermentation Process (Group-B) 9.0 KLD sent to authorized Bio-Fertilizer vendor OR shall be combine with 6.4 KLD Concentrate stream (output of stripper) and 3.4 KLD Reject water from DM/RO i.e., total 18.8 KLD effluent subjected to in-house Evaporator. Evaporator condensate 16.4 KLD shall be reused within premises.
- Low Concentration Effluent 0.6 KLD from boiler blow down, 1.9 KLD cooling blow down, 1.1 KLD scrubber, 2.0 KLD washing and 0.8 domestic wastewater i.e. total 6.4 KLD shall be treated in ETP and 6.1 KLD treated effluent shall be reused within premises.
- 1.9 KLD Scrubbing Solution will be sent to end users registered under Rule-9 and 0.5 KLD reused within Premises.
- Unit shall send waste water to in-house MEE for evaporation only after achieving inlet norms prescribed by GPCB ensuring content of effluent for COD so as not to get air borne during evaporation after APCM in order to achieve no adverse impacts on Environment and Human Health.
- Complete Zero Liquid Discharge [ZLD] status shall be maintained all the time and there shall be no drainage connection from the premises.

10.	SIA/GJ/IND3/296579/2023	**M/s 4HEALTH LLP** Survey no. 406, Village- Rupal, Taluka-Bavla, District- Ahmedabad, Gujarat-382220.	EC-Corrigendum

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

Project Status: **EC-Corrigendum**

1) This is a Greenfield project proposed for manufacturing of "Synthetic Organic Chemicals" [API and API Intermediates] for which was accorded Environmental Clearance vide letter no. SEIAA/GUJ/EC/5(f)/1718/2022 dated: 05/07/2022.
2) Now, project proponent has applied online vide proposal no. SIA/GJ/IND3/296579/2023 for EC-Corrigendum in EC letter no. SEIAA/GUJ/EC/5(f)/1718/2022 dated: 05/07/2022 in which there is a typographical error in source of water. The details are as under:

Condition no.	EC granted by SEIAA	To be correct as	Remarks

Paragraph below product table	The project activity is covered in 5(f) and is of 'B' Category. Since, the proposed project is categorized as B2 category project by SEAC and **located in notified industrial area**, public consultation is not required as per paragraph 7(i) (lll) (i) (b)&(e) of the Environment impact Assessment Notification-2006.	The project activity is covered in 5(f) and is of 'B' Category. Since, the proposed project is categorized as B2 category project by SEAC and **not located in notified industrial area**, public consultation is not required as per paragraph 7(i) (lll) (i) (b)&(e) of the Environment impact Assessment Notification-2006.	It is requested to note that the unit is not located within notified industrial estate. The Rent Agreement and Non-Agricultural permission copy is attached
Condition No. 9	Total water requirement for the project shall not exceed **94.01 KLD**, Unit shall reuse **61.09 KLD** of treated industrial effluent within premises. Hence, fresh water requirement shall not exceed **32.92 KLD** and it shall be met through **GIDC water supply** only. Prior permission from concerned authority for withdrawal of water shall be obtained.	Total water requirement for the project shall not exceed **94.01 KLD**, Unit shall reuse **61.09 KLD** of treated Industrial effluent within premises. Hence, fresh water requirement shall not exceed **32.92 KLD** and it shall be met through **Borewell** only. Prior permission from concerned authority for withdrawal of water shall be obtained.	Source of water for the proposed project is Borewell. We have submitted the source of water as the Borewell only. 381 SEAC Minutes

3) Project proponent (PP) and their Technical Expert M/s T R Associates remain present during video conference meeting.
4) During meeting dated: 10.02.2023, PP presented and Committee noted the following
   - ✓ There is a typographical error in mentioning the source of water supply, actual it is borewell supply but mentioned as GIDC water supply.
   - ✓ There is a typographical error in mentioning the location of the project, actual it is located outside the notified industrial estate but mentioned as located in notified industrial estate.
5) The facts were verified with SEAC meeting MOM dated: 15.03.2022 in which the EC case was appraised.
6) The typographical error in mentioning source of water supply in SEAC MOM dated: 15.03.2022 (in Condition) and SEAC recommendation letter No: EIA-10-2022-IND2/3536 dated: 13.05.2022 was inadvertent.
7) Further, the typographical error in mentioning location of project (actual it is located outside the notified industrial estate but mentioned as located in notified industrial estate) was in EC letter only.
8) **After detailed deliberation, Committee unanimously decided to recommend grant of EC – Corrigendum to SEIAA, Gujarat with Change in Para-3 and "Condition No: 9" as follows and with**

remaining condition unchanged in EC granted by SEIAA, Gujarat vide Letter No. SEIAA/GUJ/EC/5(f)/1718/2022 dated: 05/07/2022.

Para-3 Shall be amended as under:

The project activity is covered in 5(f) and is of 'B' Category. Since, the proposed project is categorized as B2 category project by SEAC as per MoEF&CC's notification dated: 27.03.2020 & its amendments, public consultation is not required as per paragraph 7(i) (lll) (i) (b) & (e) of the Environment impact Assessment Notification- 2006.

Condition No: 9 shall be amended as under:

9. Total water requirement for the project shall not exceed 94.01 KLD, Unit shall reuse 61.09 KLD of treated Industrial effluent within premises. Hence, fresh water requirement shall not exceed 32.92 KLD and it shall be met through Borewell only. Prior permission from concerned authority for withdrawal of water shall be obtained.

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

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Minutes approved by:

1.	Shri Akshay Kumar Saxena, Chairman, SEAC	
2.	Dr. S. C. Pant, Vice Chairman, SEAC	
3.	Shri D. C. Chaudhari, Member, SEAC	
4.	Shri J. K. Vyas, Member, SEAC	
5.	Shri Anand Zinzala, Member, SEAC	
6.	Shri B. M. Tailor, Member, SEAC	