Minutes of the 574th meeting of the State Level Expert Appraisal Committee held on 11/12/2019 at Committee Room, Gujarat Pollution Control Board, Sector 10-A, Gandhinagar.

The 574th meeting of the State Level Expert Appraisal Committee (SEAC) was held on 11th December 2019 at Committee Room, Gujarat Pollution Control Board, Sector 10-A, Gandhinagar. Following members attended the meeting:

1. Shri S. C. Srivastav, Vice Chairman, SEAC
2. Shri V. N. Patel, Member, SEAC
3. Shri. R. J. Shah, Member, SEAC
4. Dr. V. K. Jain, Member, SEAC
5. Shri Rajesh I. Shah, Member, SEAC

The agenda of Appraisal, Screening & Scoping and Reconsideration were taken up. The Committee considered the applications made by project proponents, additional details submitted as required by the SEAC and details furnished in the Form-1, PFR, EIA-EMP reports.

	Proposal No.	Name and Address of the Unit	Remarks
4.	SIA/GJ/IND2/30152/2018	**M/s. Star Oxochem Pvt Ltd** Plot. No.756/10A & 756/10B,GIDC Indu. Estate, Jhagadia, Bharuch	**Appraisal**

Category of the unit : 5(f)

Project status: New

- Project proponent (PP) has submitted online application vide no. SIA/GJ/IND2/30152/2018 on dated 13/11/2019 for obtaining Environmental Clearance.
- The SEAC had recommended TOR to SEIAA and SEIAA issued TOR to PP vide their letter dated 12/07/2019.
- Project proponent has submitted EIA Report prepared by Aqua – Air Environmental Engineers Pvt. Ltd. based on the TOR issued by SEIAA.
- This is existing unit and proposes for expansion in manufacturing of synthetic organic tabulated as below:

Sr. no.	Name of the Products	CAS no. / CI no.	Quantity (MT/Month)			End-use of the products
			Existing	Additional	Total	
1	Oxalic Acid	144-62-7	750	00	750	Textile Industries, Metal Industries

2	Ethyl Acetate	141-78-6	00	600	600	Pharma Industries, Dyes Industries
3	Di Ethyl Oxalate	95-92-1	00	150	150	Pharma Industries
Total			**750**	**750**	**1500**	

- The project falls under Category B of project activity 5(f) as per the schedule of EIA Notification 2006.
- PP was called for presentation in the SEAC meeting dated 11/12/2019.
- Salient features of the project including water, air and hazardous waste management as below:

Sr. no.	**Particulars**	**Details**
A	Total **cost of Proposed** Project (Rs. in Crores):	Existing:7 Crore Proposed: 8 Crore Total: 15 Crore

i **EMP details (Capital cost & Recurring cost)**

Brief details of EMP

COMPONENT	**CAPITAL COST OF EMP**	**RECURRING COST OF EMP (per Month)**
Cost	Rs. 149.5Lakhs	Rs.16.45 Lakhs

Bifurcation of EMP Cost

Sr. No	**Unit**	**Installed Capacity (KLD)**	**Capital Cost (Rs. in Lakhs)**	**Operating Cost (Lacs/Month)**	**Maintenance Cost (Lacs/Month)**	**Total Recurring Cost (Lacs/Month)**
1	Effluent Treatment Plant	57 KLD	100	13.0	1.25	14.25
2.	APCM	--	19	--	0.45	0.45
3.	Hazardous Waste (Expense)	--	10	1.4	--	1.4
4.	AWH Monitoring Cost	--	5.5	0.15	--	0.15
5.	Greenbelt	--	15	--	0.2	0.2
	Total		**149.5**			**16.45**

ii **CER details (As per MoEF&CC OM dated 01/05/2018)**

As per OM no. 22-65/2017 on dated 01/05/2018 regarding "Corporate Environment Responsibility" (CER), Brownfield projects have to contribute 1% of the Additional Capital Investment, the company will contribute Rs. 1.0 Lakhs as funds for CER activities

Component	**As per Norms**	**Allocation**
CER	Rs. 8.0 Lakhs (1 %)	Rs. 8.5 Lakhs (1 %)

Activities to be carried out under CER:

CER Activities	Fund (Rs.)
To give fund to M/s. AWML, Ankleshwar for R&D to explore the possibility to use of ETP sludge as gypsum in cement industries and organic residue for co-processing.	5,00,000/-
Solid waste management facilities and provision of sanitation [Public Toilet] at Village Talodara.	1,00,000/-
To supply the fodder to gaushala at Jhagadia.	2,50,000/-
Total	8,50,000/-

B	**Total Plot area** (sq. meter)	Existing: 21,637.53Sq. m. Proposed: 00 Sq. m. Total: 21,637.53Sq. m
	Green belt area (sq. meter)	Existing: 7357 Sq. m. Proposed: 260 Sq. m. Total:7617 Sq. m.
C	**Employment generation**	Existing:63 Proposed:25 Total:88
D	**Water**	
i	Source of Water Supply (GIDC Bore well, Surface water, Tanker supply etc...)	GIDC Water Supply
	Status of permission from the concern authority.	GIDC Water Supply letter No. NTA/CO/JHG/352 dated: 26/09/2019
ii	**Water consumption (KLD)**	

	Existing KLD	**Proposed (Additional)** KLD	**Total after Expansion** KLD	Remarks
(A) Domestic	17.0	5.0	22.0	
(B) Gardening	1.5	4.5	6.0	
(C) Industrial				
Process	33.63	23.37	57.00	
Washing	00	6.00	6.00	
Boiler	12.00	30.00	42.00	
Cooling	120.00	164.00	284.00	
Scrubber	00	00	00	
Industrial Total	**165.63**	**223.37**	**389.00**	
Grand Total (A+B+C)	**184.13**	**232.87**	**417.00**	

1) **Total water requirement** for the project: **417 KLD**
2) Quantity to be **recycled:28KLD**
3) Total **fresh water** requirement: **389KLD**

iii	**Waste water generation (KLD)**

Category	**Existing** KLD	**Proposed (Additional)** KLD	**Total after Expansion** KLD	Remarks
(A) Domestic	6.0	0.0	6.0	

	(B) Industrial				
	Process	0.00	26.0	26.0	
	Washing	0.00	6.0	6.0	
	Boiler	0.20	4.80	5.00	Blow down from existing cooling tower & Boiler is reused directly in cooling tower.
	Cooling	1.60	18.4	20.00	
	Others	0.00	0.00	0.00	
	Total Industrial waste water	**1.8**	**55.2**	**57.0**	

iv Treatment facility within premises with **capacity**
[In-house ETP (Primary, Secondary, Tertiary), MEE, Stripper, Spray Dryer, STP etc..

- ETP -25 KL/Day for Stream-I
  ETP -26 KL/Day for Stream-II

Treatment scheme including segregation at source.
Company will segregate the effluent stream at source of Process (Stream-1) and Boiler, Cooling tower blow down and washing (Stream-2).

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

- Not Applicable as treated effluent will be discharged into deep sea through NCT, Pipeline.

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

- Effluent from Washing, boiler and cooling tower blow down will passed through RO. RO permeate from RO will be reused in plant premises and RO Reject will be evaporated in Evaporator.

v Mode of Disposal & Final meeting point

Domestic:	Soak Pit
Industrial:	• 26 KL/Day effluent from process will be disposed into deep sea through M/s. NCT, Pipeline. • 28 KL/Day Effluent from Washing, boiler and cooling tower blow down will passed through RO. RO permeate from RO will be reused in plant premises and RO Reject will be evaporated in Evaporator.

vi In case of Common facility (CF) like CETP, Common Spray dryer, Common MEE, CHWIF etc.
Name of Common facility (CF)(For waste water treatment)

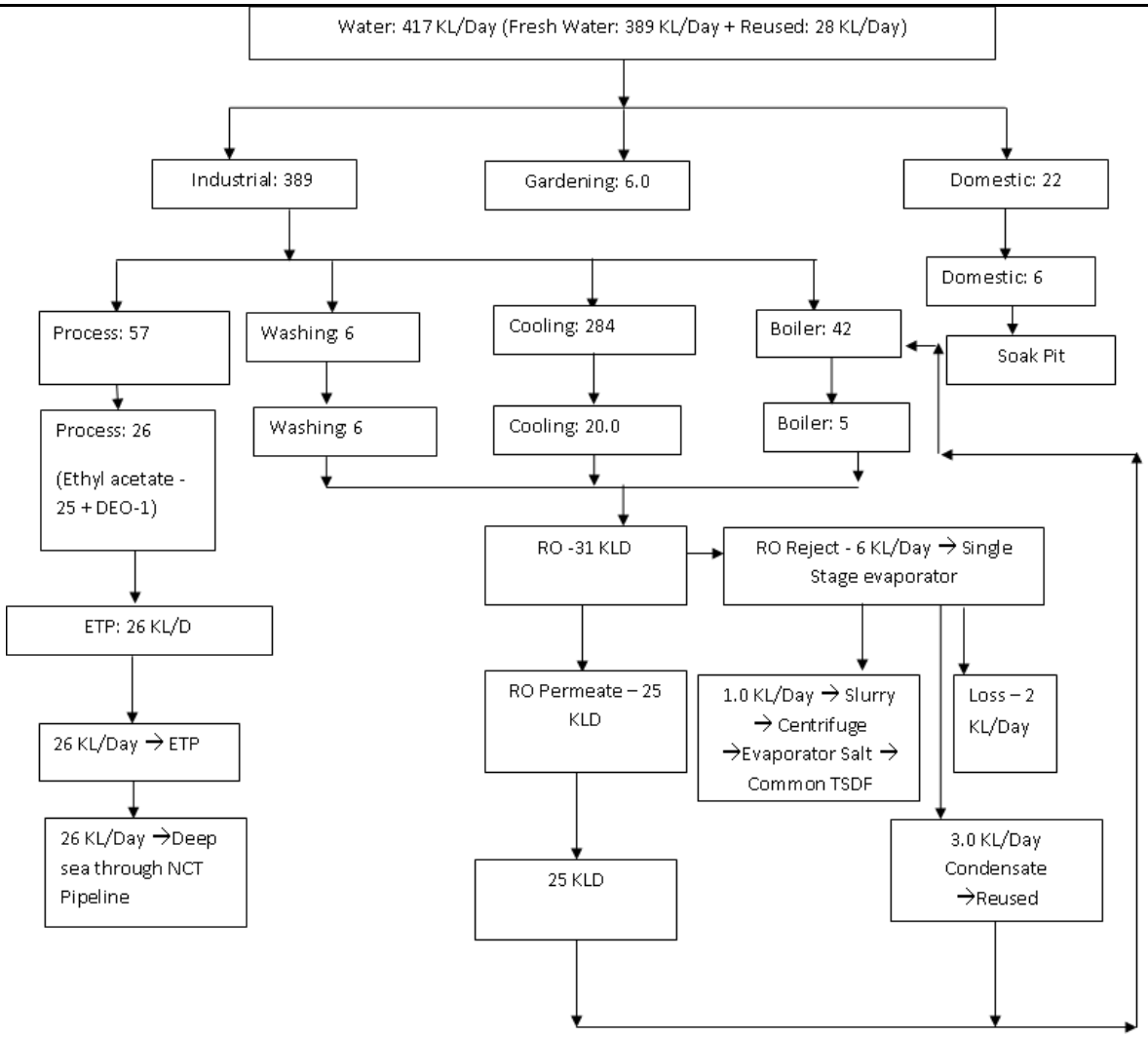
- Common facility (CF) like pipeline project of M/s. NCT, Jhagadia.

Membership of Common facility (CF) – NCT
letter – NCTL/MI/February-153 dated: 22/02/2019

(For waste water treatment)

-vii **Simplified water balance diagram with reuse / recycle of waste water**

Water Balance (Total after Proposed Expansion) (OPTION-1):
(All dimensions are in KL/day)



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

Total reuse28 KLD

Source of waste water for reuse with quantity in KLD	**Application area with quantity in KLD**	**Remarks regarding feasibility to reuse i.e. w/w characteristics (COD, BOD, TDS etc.)**	
RO Permeate – 25	Boiler	pH	6.5-8.5
		TDS (mg/lit)	80
		BOD (mg/lit)	30
		COD (mg/lit)	100
SSE (Condensed Water) [3 KL/Day]	Boiler	pH	6.5-8.5
		TDS (mg/lit)	200
		BOD (mg/lit)	50
		COD (mg/lit)	150

E	**Air**
i	Flue gas emission details No. of Boilers/TFH/Furnaces/DG sets etc. with capacities viz. TPH, Kcal/hr, MT/hr, KVA etc. **Existing & Proposed**

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Sr. no.	Source of emission With Capacity	Stack Height (meter)	Type of Fuel	Quantity of Fuel MT/Day	Type of emissions i.e. Air Pollutants	Air Pollution Control Measures (APCM)
Existing						
1.	Boiler (Non IBR) – Capacity: 600 Kg/Hr	30	Natural Gas	250 M^3/ Day	PM SO_2 NO_x	Adequate Stack height
3.	D.G. Set (500 KVA + 63 KVA)	11	HSD	111 Lit/Day		Adequate Stack height
Proposed						
1.	Boiler– Capacity: 6000 Kg/Hr	30	Coal	20 MT/Day	SPM SO_2 NOx	Multicyclone Separator + bag filter + Water Scrubber
2.	D.G. Set (300 KVA)	11	HSD	50 Liter/Day	SPM SO_2 NOx	Adequate Stack Height

ii	Process gas i.e. Type of pollutant gases (SO_2, HCl, NH_3, Cl_2, NO_x etc.) **Existing & Proposed**

Sr. no.	Source of emission	Stack Height (m)	Type of emissions	Air Pollution Control Measures	**Note: There is no additional process vent for expansion project.**
Existing					
1	Process Vent-1 (Nitration – Oxalic Acid)	25	NOx	Two Stage alkali Scrubber	

iii	**Fugitive emission** details with its mitigation measures.
	• Enclosed Processed • Minimum joints/flanges • Auto handling for charging Raw Materials • Pumps with double mechanical seals • Proper Ventilation ➢ PPEs
F	**Hazardous waste**

(As per the Hazardous and Other Wastes (Management and Transboundary Movement) Rules 2016.
Existing & Proposed

i

Sr. no.	Name of Hazardous waste	Source of generation	Category and Schedule	Existing Quantity	Additional Quantity	Total Quantity	Disposal Method
				(MT/Annum)			
1	ETP Sludge	ETP	SCH-I/35.3	0	120	120	Collection, Storage, Transportation and sent to common TSDF site for disposal.
2	Used Oil	Machineries & Utilities	SCH-I/5.1	0.05	0.05	0.10	Collection, Storage, Transportation and sell to GPCB registered reprocessor/ Refiner
3	Discarded Drums /Bags	Raw Materials & Products	SCH-I/33.1	40	30	70	Collection, Storage, Decontamination, Transportation & given to GPCB authorized Vendor
4	Spent Acid (50%)	Process (Oxalic Acid)	SCH-II/B-15	3600	00	3600	Collection, Storage, and reuse within plant premises in Oxalic Acid (Requirement – 7080 MT/Annum)
5	Distillation Residue	Distillation	SCH-I/20.3	0	24.0	24.0	Collection, Storage, Transportation and sent to cement industries for co-processing or to CHWIF.
6	Salt of Per Acids	Scrubber	SCH-I/28.1	1668	00	1668	Collection, Storage, Transportation

								and sell to end user who is having Rule-9 permission.
	7	Fly Ash	Boiler	--	00	240	240	Collection, Storage, Transportation and sell to brick manufacturer.
	8	Evaporation Salt	Evaporator	SCH-I/35.3	0	360	360	Collection, Storage, Transportation and sent to common TSDF site for disposal.
	9	Organic Waste	Process (DEO)	SCH-I/26.1	0	12	12	Collection, Storage, Transportation and sent to cement industries for co-processing or to CHWIF.
	10	Spent Solvent	Process	SCH-I/26.4	0	2448	2448	Collection, Storage, Transportation, distil in plant premises and reuse in plant premises.
	11	Off Specification Product	Process	SCH-I/28.4	0	24	24	Collection, Storage, Transportation and dispose to CHWIF.
	12	Spent Catalyst	Process (Ethyl Acetate)	SCH-I/26.5	0	12	12	Collection, Storage, Transportation and resent to regenerator who is having Rule-9 permission.
ii	Membership details of **TSDF, CHWIF** etc. **(For HW management)**			Membership of Common TSDF& incinerator of M/s. BEILvide letter - BEIL/ANK/2017 dated: 0707/2017.				

iii	Details of Non-Hazardous waste & its disposal(MSW and others)	No non-Hazardous waste will be generated.

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

Primary Condenser HE-01: Cooling Tower water or Chilled water will be used to condense the solvents depend on the vapor pressure at its operating conditions and the non-condensed vapors will be condensed in a Secondary Condenser

Secondary Condenser HE-02: Chilled Brine at - 5 ^{0}C will be used to condense the non-condensed vapors in the Secondary Condenser

Final venting will be done after passing through carbon column.

i Types of solvents, Details of Solvent recovery, % recovery, reuse of recovered Solvents etc. (Details in Table Format)

Sr No.	Name of the Product	Name of Solvent used	Solvent Quantity in (MT/Month)	Solvent Recovered quantity (MT/Month)	Percentage Recovery
1	DEO	Benzene	204	200	98%
		Ethanol	216	118	55% (Recover) + 44% in Product + 1% in Effluent

ii **VOC emission** sources and its mitigation measures

➢

VOC Control Measures

Vacuum Distillation

- Enclosed Processed
- Minimum joints/flanges
- Adequate Condenser
- Brine will be utilized as chilling agent
- Pumps with double mechanical seals
- Proper Ventilation

PPEs

H ➢ **Details regarding storage of Hazardous chemicals**

Storage details	Name of major Hazardous chemicals	Remarks
Storage tanks	Ethanol, Nitric Acid, Sulphuric acid, Acetic Acid	
Drum/Barrel storage	Benzene	
Cylinder		

➢ **Applicability of PESO** : Applicable

- During the meeting dated 11/12/2019, technical presentation made by project proponent (PP).
- 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 to December 2018. Ambient Air Quality monitoring was carried out for SPM,PM10, PM2.5, SO2, NOx, NH3, O3, Pb, As, Ni, C6H6, HBr, CO and VOC at nine locations, including the project site. Values conform to the prescribed standards for Ambient Air Quality. The incremental Ground Level Concentration (GLC) has been computed using ISCST3 . The resultant concentrations are within the NAAQS.

- Risk assessment including prediction of the worst-case scenario and maximum credible accident scenarios has been carried out. The detail proposed safeguard measures including On-Site / Off-Site Emergency Plan has been covered in the RA report.
- This proposal is for expansion of synthetic organic chemicals manufacturing at GIDC Industrial Estate, Jhagadia. PP informed that there is no public complaint and legal case pending against this unit. PP explained compliance report of existing CC&A.
- Effluent from Washing, boiler and cooling tower blow down will be passed through RO. RO permeate from RO will be reused in plant premises and RO Reject will be evaporated in Evaporator. Effluent from process will be disposed into deep sea through M/s. NCT, Pipeline.
- Committee noted that ToR no. 23 and 24 are not addressed satisfactorily keeping in view of worst case scenario and most polluting product.
- Multi-cyclone Separator + Bag Filter + Water Scrubber will be used in coal fired proposed steam boiler of capacity 6 TPH.
- PP has addressed hazardous waste management.
- Committee deliberated on CER, EMP and safety aspects.
- **After deliberation, committee unanimously decided to consider this proposal after submission of the following details.**

1. Readdress ToR no. 23 and 24.
2. Revised Segregation of industrial effluent and treatment in view of worst case scenario and most polluting product.

5.	SIA/GJ/IND2/44776/2019	**M/s. Armate Organics Pvt.Ltd.** Plot No. D-2/CH/283, GIDC, Dahej-II, Vagra, Bharuch	Appraisal

- This office has received an email from project proponent (PP) regarding their absence in SEAC meeting dated 11.12.2019. PP remained absent during presentation.
- **In view of above, Committee unanimously decided to consider this proposal in one of the upcoming meeting.**

6	SIA/GJ/IND2/25698/2018	**M/s. Pentagon Chemicals** Plot No.: C – 46, GIDC Saykha, Dahej, Vagra, Bharuch	Appraisal

- Committee noted that PP has not submitted Form-2, EIA report and relevant documents as per check-list.
- **Looking to casual approach of project proponent (PP) as well as Consultant of the project, Committee unanimously decided to consider this proposal in one of the upcoming meeting.**

7	SIA/GJ/IND2/34301/2019	**M/s. Fermenta Biotech Limited** Plot No. T-33, and T-34 in the Notified GIDC Estate, Saykha, inside the Dahej PCPIR Vagra, : Bharuch	Appraisal

- Project proponent remained present during meeting. However, project proponent requested committee to defer this proposal as of now and consider this proposal in one of the upcoming meeting as they are not well prepared.
- **In view of above, Committee unanimously decided to consider this proposal in one of the upcoming meeting.**

8	SIA/GJ/IND2/28359/2016	**M/s. Nutraplus India Ltd.(Unit-II)** Plot No. C-198, Saykha Industrial Estate, Vagra, Bharuch	**EC Reconsideration**

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

Project status: **New**

- Project proponent (PP) submitted online application vide no. SIA/GJ/IND2/28359/2016dated 29/07/19 for obtaining Environmental Clearance.
- SEIAA issued ToR & ToR – Amendment to PP vide their letter dated 29/12/2016 & 26/02/2018.
- Project proponent has submitted EIA Report prepared by Aqua Air Environmental Engineers Pvt Ltd, Surat based on the ToR & ToR – Amendment issued by SEIAA.
- This is a new unit proposes for manufacturing of Synthetic Organic Chemical as tabulated below:

SR. NO.	PRODUCT NAME	CAS NO.	PROPOSED CAPACITY (MT/MONTH)	END USE
1	Ibuprofen	15867-27-1		Anti-Inflammatory
2	Diclofenac Sodium	15307-79-6		Anti
3	Aceclofenac	89796-99-6		Anti
4	Nimesulide	51803-78-2		Anti

5	Chlorzoxasone	95-25-0		Anti
6	Mefenamic Acid	61-68-7		Anti
7	Mesalamine	89-57-6		Anti
8	Albendazole	54965-21-8		Anti-Worm medication
9	Febendazole	43210-67-9		Anti-Trematode therapeutic
10	Mebendazole	31431-39-7		Anti-Worm medication
11	Metronidazole	443-48-1		Antibiotics
12	Metronidazole Benzoate	22916-47-8	**400**	Antibiotics
13	Tinidazole	19387-91-8		Antibiotics
14	Ornidazole	16773-42-5		Antibiotics
15	Oxyclozanide	2277-92-1		Anthelmintic
16	Roxarsone	121-19-7		Anthelmintic
17	Chlorpheniramine Maleate (C.P. Maleate)	113-92-8		Antihistamines
18	Bromhexine Hcl	611-75-6		Antioxident/Expectorant
19	Ambroxol Hcl	23828-92-4		Secretolytic
20	Phenyleffrine Hcl	61-76-7		Decongestant
21	Dexo Metherphan Hbr	6700-34-1		Antihistamines
22	Salbutemol Sulphate	51022-70-9		Antihistamines
23	Theophyllin	58-55-9		Xanthines
24	Caffein	58-08-2		Ergotamine
25	Theobromine	83-67-0		Vasodilator
26	Ciprofloxacin	85721-33-1		Antibiotics
27	Oflaxacin	82419-36-1		Antibiotics
28	Enrofloxacin	93106-60-6		Antibiotics
29	Sildinafil Citrate	171599-83-0		pulmonary arterial hypertension
30	Tramadol Hcl	27203-92-5		Analgesic
31	Lumefantrine	82186-77-4		Antimalarial
32	Aluminium Hydroxide Gel/Powder	21645-51-2		Antacid
33	Ampicillin	69-53-4		Antibiotics
34	Amoxicillin	26787-78-0		Antibiotics
35	Cloxacillon	61-72-3		Antibiotics
36	Cephalexin	15686-71-2		Antibiotics
TOTAL			**400 MT/MONTH**	

- The project falls under Category B of project activity 5(f) as per the schedule of EIA Notification 2006.
- During the meeting dated 14/08/2019, technical presentation made by the Project proponent.
- During the meeting, the project was appraised based on the information furnished in the EIA Report and details presented during the meeting.

- During the meeting dated 14/08/2019, committee noted that PP has not submitted EIA report in Hard copy and committee asked PP to clarify the same. PP mentioned that it got delayed and CTE – Fees for the project is also yet not paid however today they have brought the EIA report. Committee noted that due to delayed submission of EIA report in Hard Copy the committee members could not scrutinized the project along with whole report immediately.
- After detailed discussion, it was decided to defer the proposal and consider the same only after submission of EIA Report along with Receipt of Fees Paid to GPCB as per the circular of GPCB for EC to CTE.
- Project proponent submitted reply by revised format and presentation by e-mail dated 31/08/2019.
- During SEAC meeting dated 04/09/2019, committee asked about CTE fees receipt and hard copy of EIA, Technical expert of project proponent informed that they have submitted CTE fees receipt and hard copy of EIA. Committee asked about waste water treatment for proposed project, Technical expert of PP informed that High COD effluent will be treated in solvent stripper and distillation unit and MEE. MEE condensate along with low COD effluent will be treated in primary, secondary and tertiary ETP and RO plant. RO permeate will be recycled back and RO reject will be evaporated in spray dryer. Committee asked about technical details of distillation unit proposed for effluent containing solvent with solvent details, PP could not explained about it. Committee asked about clarification regarding adequacy of spray dryer salt disposal for co-processing in cement industry, technical expert of PP could not explained satisfactorily. Committee asked about ToR no-12 regarding BAT for proposed project, PP replied that they will adopt BAT for proposed project which is not considered by committee and asked them to submit revised ToR no- 12 with adequate details for BAT for proposed process mentioning about waste reduction due to BAT. Committee asked about bleed liquor from scrubber disposal, PP informed that they have shown source of bleed liquor from manufacturing process instead of scrubber hence committee asked to submit each bleed liquor from scrubber generation and its disposal details. Committee asked about LDAR for solvent stripper and distillation unit for effluent containing solvent, technical expert of PP has not addressed it and addressed about LDAR for solvent utilized in manufacturing process.
- After detailed discussion on the matter, It was decided to further appraise the project only after submission of the following:
    1. Adequacy of solvent stripper and distillation unit proposed for effluent containing solvent along with technical details of distillation unit.
    2. Adequacy of treatment scheme proposed for high COD effluent stream with stage wise reduction of pollutant.
    3. Adequacy of reuse of spent HCl and spent sulphuric acid generated from bulk drug products utilized in another bulk drug products.
    4. Adequate LDAR programme separately for effluent stream and manufacturing process with

technical details like solvent recovery and solvent losses.

5. Revised ToR no-12 regarding Best Available Technology (BAT) for proposed process considering waste reduction.
6. Project proponent made presentation for the above mentioned query dated 01/10/2019 for the above mentioned points.

- PP presented replied as below:
    1. Adequacy of solvent stripper and distillation unit proposed for effluent containing solvent along with technical details of distillation unit.
    2. Adequacy of treatment scheme proposed for high COD effluent stream with stage wise reduction of pollutant.
    3. Adequacy of reuse of spent HCl and spent sulphuric acid generated from bulk drug products utilesed in another bulk drug products.
    4. Adequate LDAR program me separately for effluent stream and manufacturing process with technical details like solvent recovery and solvent losses.
    5. Revised ToR no-12 regarding Best Available Technology (BAT) for proposed process considering waste reduction.
- Committee observed that reply submitted by PP is not satisfactory.
- During SEAC meeting dated 01/10/2019, committee asked about Adequacy of Solvent stripper and distillation unit proposed for effluent containing solvent along with technical details of distillation unit and Adequacy of treatment scheme proposed for high COD effluent stream with stage wise reduction of pollutant., PP informed that effluent first will be passed through solvent stripper and then distilled in distillation unit. Committee disagree with high COD effluent will be treated in solvent stripper and distillation unit and insisted for revised proposal for ZLD instead of solvent stripper and distillation unit.
- PP has addressed ToR 12 regarding BAT.
- Committee asked about adequacy of reuse of spent HCL and sulphuric acid generated from bulk drug products utilized in another bulk drug products, PP simply mentioned spent HCl and spent sulhuric acid generation and reuse in production plant. PP informed LDAR programme for solvent in details.
- After detailed discussion, it was decided to consider the project only after submission of the following documents.
    1. Submit revised proposal of MEE(ZLD) instead of solvent stripper and distillation unit for high COD/TDS effluent stream
    2. Adequacy of ETP and MEE for treatment of effluent with stage wise reduction in pollutants of effluent.
    3. Readdress Adequacy of reuse of spent HCl and spent sulphuric acid generated from bulk drug

products.

- Project proponent made presentation for the above mentioned query dated 11/12/2019 for the above mentioned points.
- Salient features of the project including Water, Air and Hazardous waste management (Revised):

Sr. no.	Particulars	Details
A		
A	Total **cost of Proposed** Project (Rs. in Crores):	55.0 Crores
ii	**EMP details (Capital cost & Recurring cost)** ➢	

Environment Issue/ Component	**Remedial Measures**	**Capital Cost of EMP (Rs.)**	**Component**	**Recurring Cost (Rs.)**
Hazardous waste generation & disposal	Proper collection, Safe Handling, Storage within premises (Hazardous waste storage yard)	5,00,000/-	TSDF facility	60,72,000 per year (Expense)
	BEIL membership charges	2,00,000/-	Incineration facility	1,58,40,000 /-Year
Earn from Hazardous waste			Aluminium Chloride	660000x 1.5= 9,90,000/-
			Sodium Bromide	816000x 2.0= 16,32,000/-
:			Ammonium Chloride	672000x 1.5= 6,72,000/-
			Aluminium Hydroxide	2760000x 1.0= 27,60,000/-
Effluent generation and treatment	**ETP : 85 KLD R.O : 85 KLD MEE : 48 KLD**	**MEE:5,00,00,000/- ETP – Rs. 85,00,000/- R.O : 15,00,000 /-**	**Total Treatment cost/Year**	**27,00,000/-year**
Details of Air Emission	Multi-Cylcone separator with bag filter and scrubber Adequate pollution control system and Two stage scrubber	Stack – 10,00,000/-	Maintenance of Cycloneseparator with bag filter	3,00,000 /-
Plantation	33.0 % of the plant area will be developed as	16,50,000/-	Maintenance of green belt fertilizers or damage plants	2,75,000/-

	greenbelt.			
Monitoring of Environmental parameters	Regular monitoring of various environmental parameters will be carried out to check the effectiveness of the control system.	10,00,000 /-	monitoring of various environmental parameters	3,50,000/-
	Total	**6,94,00,000/-**		**Expense: 2,55,37,000/year**
		Earn from Hazardous waste	**60,54,000 /-Year**	**21,28,083 /- Month**

iii **CER details (As per MoEF&CC OM dated 01/05/2018)**

- **Rs. 110,00,000**

As per OM no. 22-65/2017 on dated 01/05/2018 regarding "Corporate Environment Responsibility" (CER), Brownfield projects have to contribute 2% of the Additional Capital Investment, the company will contribute Rs 110.0 Lakhs as funds for CER activities

Activities to be carried out under CER:

- Education,
- Health,
- Environment,
- Agriculture

B	**Total Plot area** (sq. meter)	16067.36 Sq. m.
	Green belt area (sq. meter)	5300.36 Sq. m.
C	**Employment generation**	**Direct : 50 Nos.** **Indirect : 50 Nos.**
D	**Water**	
i	Source of Water Supply (GIDC Bore well, Surface water, Tanker supply etc...)	GIDC water Supply
	Status of permission from the concern authority.	

ii **Water consumption (KLD)**

Category	Quantity KLD	Remarks
(D) Domestic	21.0	
(E) Gardening	3.0	

(F) Industrial		
Process	50.0	
Washing	8.0	
Boiler	40.0	
Cooling	30.0	
Others(Scrubber)	2.0	
Industrial Total	130.0	
Total (A + B + C)	154.0	

1) **Total water requirement** for the project:154.0 KLD
2) Quantity to be **recycled**: 97.0 KLD
3) Total **fresh water** requirement: 57.0 KLD

iii **Waste water generation (KLD)**

Category	Waste water KLD	Remarks
(C) Domestic	21.0	
(D) Industrial		
Process	60.0	
Washing	8.0	
Boiler	7.0	
Cooling	5.0	
Others/Scrubber*	2.0	
Total Industrial waste water	82.0	
Total [A + B]	103.0	

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iv Treatment facility within premises with **capacity**
[In-house ETP (Primary, Secondary, Tertiary), MEE, Stripper, Spray Dryer, STP etc..

Process Description of Effluent Treatment Plant

M/s. Nutraplus India Ltd. shall have a ZLD Effluent treatment plant consisting of primary, secondary tertiary and advanced treatment units. The details of ETP are as follows.

Stream I (74 KLD Low COD + RO Reject 21.0 KLD)

First all non-toxic and biodegradable streams (low & medium COD) of wastewater shall pass through Screen Chamber (SC) where floating material shall be removed with help of Screen (S-01). Then effluent shall be passed through Oil & Grease Removal Tank (OGRT). Automatic mechanical Oil

Skimmer shall be provided in the OGRT to remove floating oil and grease from the wastewater to Oil & Grease Collection Tank (OGCT). Then effluent shall be collected in Collection cum Equalization tank (CET). Pipe grid is provided at bottom of the CET to keep all suspended solids in suspension and to provide proper mixing. 2 nos. of Air Blowers (1 stand-by) shall supply air through diffusers to pipe grid. Mother liquor Solvent Stripper shall be added in CET.

Then after, equalized wastewater shall be pumped to Neutralization Tank (NT) where the continuous addition and stirring of lime solution is done to maintain neutral pH of wastewater from Caustic Dosing Tanks (CDT) as per requirement by gravity. Then after, neutralized wastewater shall go to Flash Mixer (FM) by gravity. Alum and Polyelectrolyte shall be dosed from Flocculants Dosing Tank (FLDT) and Polyelectrolyte Dosing Tank (PEDT) respectively by gravity into FM-1 to carry out coagulation by using a Flash Mixer.

Then after, coagulated wastewater shall be settled in Primary Tube Settler (PTS). Clear supernatant from PTS shall be passed in Aeration Tank (AT-1) Here, biodegradation of organic matter of the wastewater shall be carried out by bacteria (suspended growth) in the AT-1 and for that oxygen shall be supplied by 2 nos. of air blowers (B-02) through diffusers. Air blowers also keep MLSS in suspension.

Then after, wastewater shall go to Secondary Settling Tank-1 (SST-1) from AT. Here, the suspende solids shall be settled. Sludge shall be removed from bottom of SST-1 and pumped to AT-1 to mainta MLSS and excess activated sludge shall be sent to Sludge Sump (SS). Clear supernatant from SST shall go to Aeration Tank-2 (AT-2). Here biodegradation of left out organic matter of the wastewater sh be carried out by bacteria (suspended growth) and for that oxygen shall be supplied by two nos. blowers (B-03) with help of diffusers. Then after, wastewater shall go to Secondary Tube Settler-2 (SS 2) from AT-2. Here, the suspended solids shall be settled. Activated sludge shall be removed fro bottom of SST-2 and pumped to AT-2 to maintain MLSS and remaining will be sent to SS. Nutrients w be added from NDTs to Aeration Tank-2 for growth of Bacteria. Clear effluent is the collected in Intermediate Sump (IS) by gravity.

Thereafter, the wastewater shall be passed through Pressure Sand Filter (PSF) to remove left out TS and Activated Carbon Filter (ACF) for final effluent polishing. After tertiary treatment, Filter water collected to RO Feed Tank (RFT) and then pumped to RO Unit (large capacity) for further treatmer Permeate water from RO will be reuse in process. RO reject will be sent to SD Feed Tank (SDFT) f further treatment. Then effluent shall be sent to Spray Dryer (SD). Solid from Spray Dryer shall b collected and stored in HWSA for ultimate disposal to TSDF.
Sludge settled in PTS-1 and excess sludge from SST-1 & 2 shall be collected in Sludge Sump then sludge shall be pumped to Filter Press (FP) where, dewatering shall be carried out before storage in HWSA and ultimate disposal to TSDF.

All high TDS streams of wastewater shall be collected in Solvent Feed Tank (SFT) then it will be sent to Solvent Stripper (STR) where solvent shall be removed from effluent and collected in Reactor (RE) before sent to Distillation Unit. Mother liquid from Solvent Stripper shall be sent in CET for further treatment.

Stream II (27 KLD High COD)

All High COD streams of wastewater shall be collected in Collection cum Neutralization Tanks-2 (CNTs-02). Mixer is provided in Tank. where Lime shall be added from Lime Dosing tank. Then after, effluent shall have sent to Flash Mixer-2 (FM-02) where Alum and poly shall be added from ADT and PDT-01 respectively. Then after, coagulated wastewater shall be settled in Primary

Clarifier-1 (PCL-01).

Clear effluent from PCL-01 shall be collected in Holding Tank (HT-01) before pumped to strippers (ST-01). Effluent from stripper collected in MEE Feed Tank (MFT-01) where RO reject will be mixed with it. Then effluent shall be sent to Multiple Effect Evaporator (MEE-01) for further treatment for solids dewatering. Condensate from MEE shall collect in Condensate Storage Tank (CST-01) before reuse in plant. Solids from SD-01 shall be collected and stored in HWSA for disposal in TSDF.

SIZE OF TANKS (Stream I and Stream II)

S.N.	Name of unit	Size (m x m x m) L x B x (LD+FB)	No.	MOC/ Remark
Stream I (Low COD Stream) 73 KLD +21 KLD Ro Reject				
1	Screen Chamber (SC-01)	1.5 m x 0.8 m (0.05 m+0.7 FB)	1	RCC M25+A/A Bk. Lining
2	Collection cum Equalization Tank (CET-01)	4.0 m x3.0 m x (3.0 m+1.0 FB)	1	RCC M25+A/A Bk. Lining
3	Neutralization Tank (NT-01)	1.0 m x 1.0 m x (2.5 m +0.5 FB)	1	RCC M25+A/A Bk. Lining
4	Flash Mixer (FM-01)	1.0 m x 1.0 m x (2.3 m +0.7 FB)	1	RCC M25
5	Primary Tube Settler (PTS-01)	2.75 m x2.0 m x (2.0 m + 0.5 HB+0.5 FB)	1	RCC M25
6	Aeration Tank-1 (AT-01)	8.0 m x 7.5 m x (4.0 m+0.7 m)	1	RCC M25
7	Secondary Settling Tank-1 (SST-01)	3.0 m x 2.0 m x (2.0 m + 0.5 HB+0.5 FB)	1	RCC M25
8	Aeration Tank-2 (AT-02)	7.5 m x 6.0 m x (4.0 m+0.7 m)	1	RCC M25
9	Secondary Settling Tank-2 (SST-02)	2.5 m x 2.0 m x (2.0 m + 0.5 HB+0.5 FB)	1	RCC M25
10	Intermediate Sump (IS-01)	2.0 m x 2.0 m x (2.5 m+0.5)	1	RCC M25
11	Pressure Sand Filter (PSF-01)	5 m3/hr	1	FRP
12	Activated Carbon Filter (ACF-01)	5 m3/hr	1	FRP
13	RO Feed Tank (ROFT-01)	4.0 m x3.5 m x (2.5 m+0.5 FB)	1	RCC M25

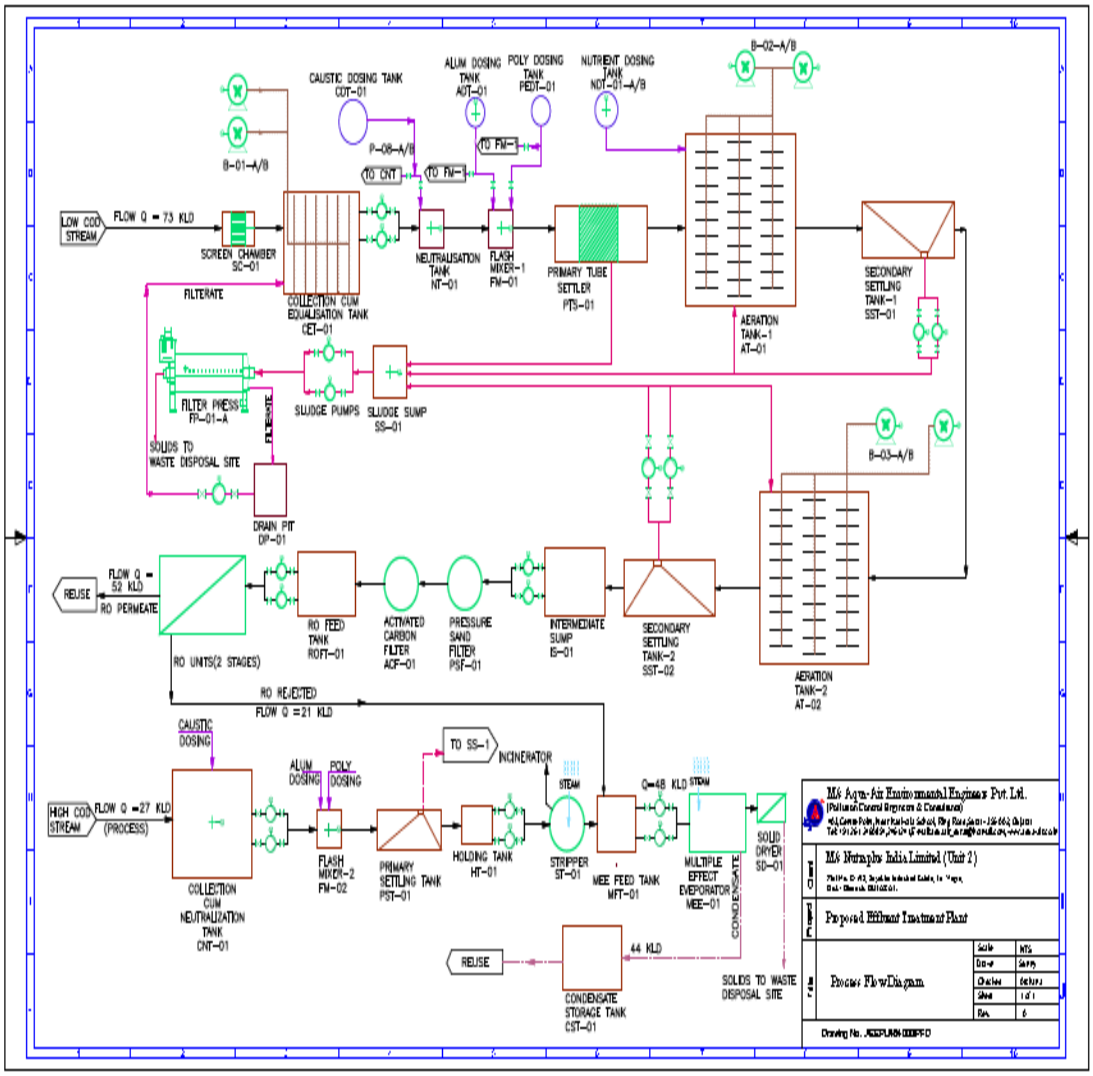
14	RO Unit	4.25 m^3/hr	1	As per spec.
15	Sludge Sump(SS-01)	2.0 m x 2.0 m x (2.5 m + 0.5)	1	RCC M25
16	Filter Press(FP-01)	7 m^3 / batch	1	PP
17	Drain Pit(DP-01)	1.0 m x1.0 m x (2.0 m+0.3 FB)	1	RCC M25
Stream II (High COD stream) 27 KLD				
18	Collection Cum Neutralization Tank (CNT-01)	4.0 m x3.5 m x (2.5 m+0.5 FB)	1	RCC M25+A/A Bk. Lining
19	Flash Mixer-2 (FM-02)	30 m3/D	1	RCC M25
20	Primary Settling Tank (PST-01)	30 KLD	1	RCC M30
21	Holding Tank (HT-01)	50 KL	1	RCC M30
22	Stripper (ST-01)	30 KL	1	SS316
23	MEE Feed Tank (MFT-01)	50 KL	1	RCC M30
24	Multiple Effect Eveporator(MEE -01)	200 M3/hr	1	SS316L
25	Solid Dryer (SD-01)	25 M3/Day	1	RCC M30/HDPE
26	Condensate Storage Tank (CST-01)	30 KL	1	RCC M30

RCC M25 = REINFORCED CEMENT CONCRETE (M 25 GRADE)
PCC = PLAIN CEMENT CONCRETE
PP = POLYPROPELENE
MSEP = MILD STEEL EPOXY PAINTED
SS = STAINLESS STEEL

DETAILS OF SOLVENT STRIPPER

- All the solvents shall be directly distilled from high COD effluent with the help of Solvent Stripper and Distillation.
- The solvent distillation system shall be designed so as to achieve minimum 92.0 % recovery of solvent.
- Pure solvent, crude solvent and distilled (recovered) solvent shall be stored only in storage tanks.
- Wherever required, the solvents shall be directly pumped into day tanks from the storage tanks and shall be charged into the reactors without involving any manual handling.
- All the pumps shall be mechanical seal type to avoid any leakage of solvent.
- All necessary fire fighting systems shall be provided with alarm system. Flame proof wiring and flame proof electrical accessories shall be provided to avoid any mishap.
- All the storage tank and day tank shall be connected to a vent system through cooling water and chilled brine condensers to prevent loss of solvents in the atmosphere.
- All the distillation column vents are also connected to cooling water/ chilled brine condensers for maximum possible recovery of the solvents.
- All the vents will be connected to a common carbon Adsorber for removing traces of solvent from vent gases.
- Residue generated from the distillation will be incinerated in-house or sent to BEIL incinerator site.

Flow Diagram of Effluent Treatment Plant:



Treatment scheme including segregation at source.

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Note: (In case of CETP discharge) :

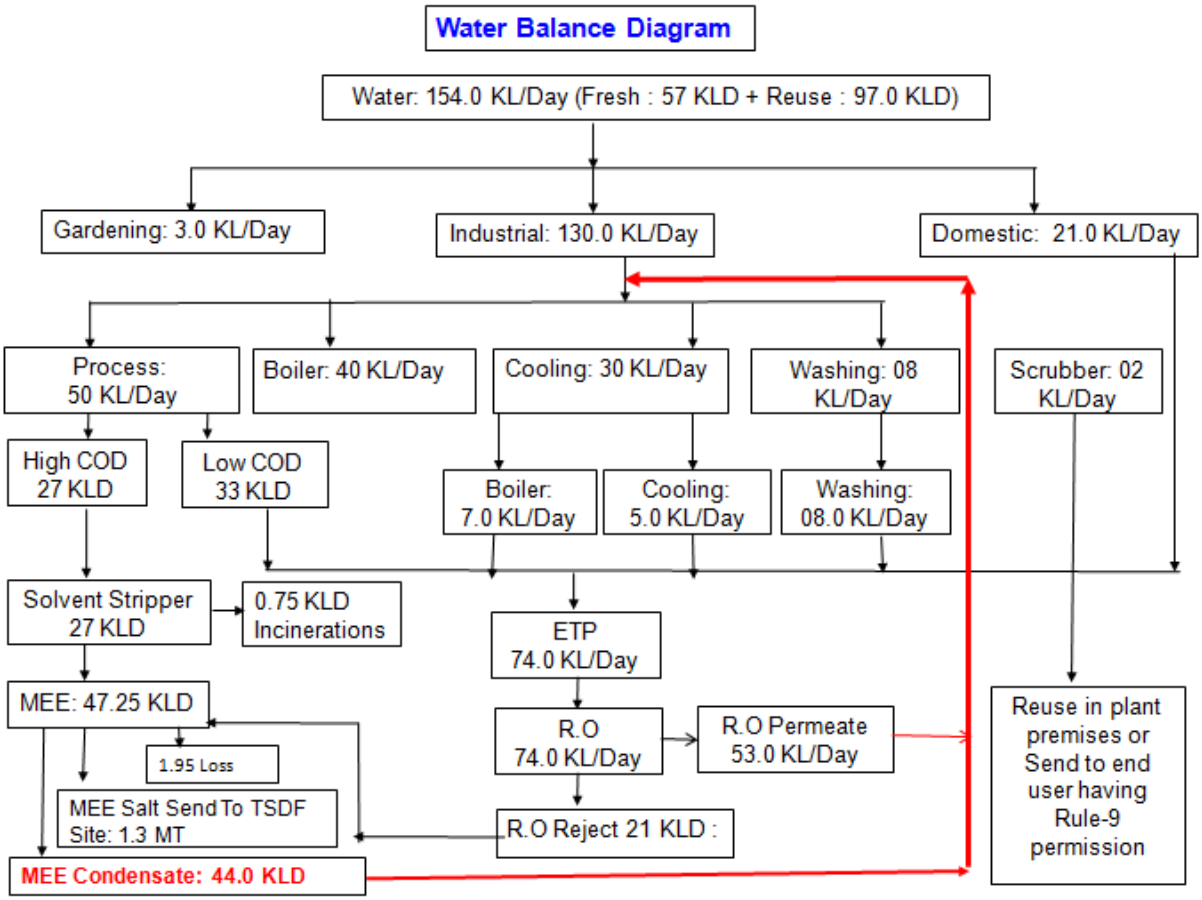
Management of waste water keeping in view direction under section 18 (1) (b) of the Water (Prevention and Control of Pollution) act, 1974 issued by CPCB regarding compliance of CETP.

- Not Applicable

v Mode of Disposal & Final meeting point

Domestic:	It will be added in biological treatment of ETP.
Industrial:	• Total water requirement will be 154 m^3/day (57 Fresh + 97 Recycled) which will be met through GIDC water supply. • The wastewater generation will be 102 m^3/day. • High COD stream (27.0 m^3/day) from process will be treated in MEE plant with solvent stripper.

		• Low COD stream from, Process, Boiler, Cooling, Washing/ & Domestic effluent (74 m^3/day) will be sent to proposed ETP consists of primary, secondary & tertiary treatments. To achieve the Zero Liquid Discharge, Treated effluent from ETP (74.0 m^3/day) shall be treated in R.O. plant. Then R.O. permeate (52.0 m^3/day) shall be reused in Boiler and Cooling while, R.O. reject (21 m^3/day) shall be treated in MEE Plant & salt will be sent to TSDF site for disposal. MEE Condensate 44.0 KLD will be reuse in Industrial Purpose. • Domestic wastewater will be added in biological treatment of ETP. • Scrubbing media will be reuse in plant premises and sent to end users having Rule-9 permission.
vi	In case of Common facility (CF) like CETP, Common Spray dryer, Common MEE etc. , Name of CF	
	--	
	Membership of Common facility (CF) **(For waste water treatment)**	
vii	**Simplified water balance diagram with reuse / recycle of waste water**	



viii	Reuse/Recycle details (KLD)	
	Total reuse 0.0 KLD	
	Source of waste water for reuse with quantity in KLD	**Application area with quantity in KLD**	**Remarks regarding feasibility to reuse i.e. w/w characteristics (COD, BOD, TDS etc.)**

R.O Permeate 53 KLD	Boiler & Cooling	PH : 7.5 COD :<25.0 TDS :<150.0
MEE Condensate 44 KLD	Industrial	PH : 7.5 COD :<50.0 TDS :<150.0

E **Air**

i Flue gas emission details
No. of Boilers/TFH/Furnaces/DG sets etc. with capacities viz. TPH, Kcal/hr, MT/hr, KVA etc.

-

Details Of Flue Gas Emission

Sr. No.	Source of emission With Capacity	Stack Height (meter)	Type of Fuel	Quantity of Fuel MT/Day	Type of emissions i.e. Air Pollutants	Air Pollution Control Measures
1	Steam Boiler 6 TPH *2 Nos.	30. 0 M	Coal/ Briquettes of Bio-Coal	24 MT/Day or 15 MT/Day	Pm<150 Mg/Nm^3 So_2< 100 ppm Nox< 50 ppm	Multi -Cylcone separator with bag filter and water scrubber
2	Thermopack Capacity (4000 U)	30. 0 M	Coal/ Briquettes of Bio-Coal	24 MT/Day or 15 MT/Day	PM<150 Mg/Nm^3 So_2< 100 ppm Nox< 50 ppm	Multi -Cylcone separator with bag filter and water scrubber
3	D. G Set 1000 KVA	11. 0 M	Diesel	2000 Lit/Day	PM<150 Mg/Nm^3 So_2< 100 ppm Nox< 50 ppm	Adequate Height Provided.

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

-

Details Of Process Gas Emission

Particulars	Height	Emission Norms	APCM
Process Vent*-1 (Product :15 : **Oxyclozanide)** (Product :10 : **Mebendazole)**	15 m	HCl < 20 mg/Nm^3 SO2 < 40 mg/Nm^3	Two Stage Scrubber (Water + Alkali)
Process Vent*-2 (Product :10 : **Mebendazole)** (Product :23 : **Theophylline)** (Product :24 : **Caffein)**	15 m	CL2< 9.0 mg/Nm^3	Two Stage Scrubber (Water + Alkali)
Process Vent*-3 : (Product :20 **Phenylpherine)** (Product :29 **Sildinafil Citrate)** (Product :34 **Amoxicillin Trihydrate)**	15 m	NH3< 175.0 mg/Nm^3	Two Stage Acid Scrubber

	Process Vent*-4 : (Product :21 **Dexometherphan)**	15 m	HBR< 30.0 mg/Nm^3	Two Stage Alkali Scrubber

iii **Fugitive emission** details with its mitigation measures.
As below:

- Airborne dust at all transfers operations/ points will be controlled either by spraying water or providing enclosures.
- Care will be taken to store construction material properly to prevent fugitive emissions, if any
- Regular maintenance of valves, pumps, flanges, joints and other equipment will be done to prevent leakages and thus minimizing the fugitive emissions of VOCs.
- Entire process will be carried out in the closed reactors with proper maintenance of pressure and temperature.
- Periodic monitoring of work area will be carried out to check the fugitive emission.
- Close feeding system will be provided for centrifuges. Centrifuge and filtrate tank vents will be connected to vent chillers.
- Minimum number of flanges, joints and valves in pipelines.

Enclosures to chemical storage area, collection of emission from loading of raw materials.

F **Hazardous wastes**
(as per the Hazardous and Other Wastes (Management and Transboundary Movement) Rules 2016.

i

Sr. no.	Type/Name of Hazardous waste	Specific Source of generation (Name of the Activity, Product etc.)	Category and Schedule as per HW Rules.	Quantity (MT/Annum)	Management of HW
1	ETP Sludge	From ETP plant	Sch-I/35.3	636 MT/Year	Collection, Storage, Transportation & sent for co-processing in cement industries or disposal at nearest TSDF Site.
2	Discarded Container/ Bags/Drums	From raw material	Sch-I/33.1	36.0 MT/Year	Collection, Storage, Transportation, Decontamination & Sell to authorized vendors
3	HDPE Bags	From raw material	Sch-I/33.1	12.0 MT/Year	Collection, Storage, Transportation, Decontamination & Sell to authorized vendors
4	Distillation Residue	From Solvent Recovery plan	Sch-I/33.1	360.0 MT/Year	Collection, Storage, Transportation & sent for co-processing in cement industries or disposal at common incineration site

5	Spent Solvent	From mfg. Process	Sch-I/36.1	12000.0 MT/Year	Collection, Storage, and in-house solvent recovery plan & Reuse in plant premises.
6	Used Oil	From plant machinery	Sch-I/5.1	6.0 MT/Year	Collection, Storage, Transportation & Reuse or sale to registered re-processors
7	Process Waste	From plant machinery	Sch-I/28.1	480.0 MT/Year	Collection, Storage, Transportation & sent for co-processing in cement industries or disposal at common incineration site
8	Spent Carbon	From mfg. process Product no.02,04,10-16,18,19,21,25,26-30,36	Sch-I/28.3	192 MT/Year	
9	Iron Sludge	From mfg. process Product no.04,18,23,24,29	Sch-I/28.1	1200 MT/Year	Collection, Storage, Transportation & sent for co-processing in cement industries
10	Spent Catalyst	From mfg. process Product no.09,22	Sch-I/28.2	24.0 MT/Year	Collection, Storage, Transportation & return back to supplier for re-generation or Sent to nearest common Incineration Site.
11	MEE Salt	MEE	Sch-I/35.3	430.0 MT/Year	Collection, Storage, Transportation & sent for co-processing in cement industries or disposal at nearest TSDF Site.
12	HCl (32%)	From mfg. process Product no.07,08 & Scrubber	Sch-I/28.1	4800.0 MT/Year	Collection, Storage, Transportation And Reuse in **Roxarsone** (Require Quantity of HCL (32%)–5400 MT/Annum)
13	H_2SO_4 (70%)	From mfg. process Product no.09,22	Sch-I/28.1	3840.0 MT/Year	Collection, Storage, Transportation And Reuse in **Sildinafil Citrate** (Require Quantity of H2SO4 (70%)–5328.0 MT/Annum).

14	Sodium Sulphite	From mfg. process Product no.15,10 & Scrubber	Sch-I/28.1	360.0 MT/Year	Collection, Storage, Transportation & sell to end user having Rule-9 Permission.
15	Sodium hypochlorite	From mfg. process Product no.15,10 & Scrubber	Sch-I/28.1	180.0 MT/Year	Collection, Storage, Transportation & sell to end user having Rule-9 Permission.
16	Ammonium Chloride	From mfg. process Product no.08,22	Sch-I/28.1	672.0 MT/Year	
17	Sodium Sulphate	From mfg. process Product no.17,23	Sch-I/28.1	1800.0 MT/Year	
18	Sodium Bromide	From mfg. process Product no.08 & Scrubber	Sch-I/28.1	816.0 MT/Year	
19	KCl Salt	From mfg. process Product no.04	Sch-I/28.1	288.0 MT/Year	
20	Sodium Carbonate	From mfg. process Product no.07,22	Sch-I/28.1	1200 MT/Year	Collection, Storage, Transportation And Reuse in **MESALMINE** (Require Quantity of Sodium Carbonate (1200.0 MT/Annum) or **SALBUTAMOL SULPHATE** (Require Quantity of Sodium Carbonate (144.0 MT/Annum) Send to End users having Rule 9 permission.
21	$AlCl_2$	From mfg. process Product no.22,26	Sch-I/28.1	660.0 MT/Year	Collection, Storage, Transportation And Send to End users having Rule 9 permission.
22	$Al(OH)_3$	From mfg. process Product no.01,02,10,32	Sch-I/28.1	2760.0 MT/Year	Collection, Storage, Transportation & sell to end user having Rule-9 Permission.
23	NaOH	From mfg. process Product no.07	Sch-I/28.1	768.0 MT/Year	Collection, Storage, Transportation And Reuse in **MESALMINE** (Require Quantity of Sodium Hydroxide (864.0 MT/Annum) or Send to End users

						having Rule 9 permission.
	24	MnO_2	From mfg. process Product no.19	Sch-I/28.1	1920.0 MT/Year	Collection, Storage, Transportation & sell to end user having Rule-9 Permission.
	25	Methane Sulfonic Acid	From mfg. process Product no.21	Sch-I/28.1	2160.0 MT/Year	
	26	Methyl Sodium Sulphate	From mfg. process Product no.24	Sch-I/28.1	3060.0 MT/Year	
	27	MMA Solution	From mfg. process Product no.25	Sch-I/28.1	624.0 MT/Year	
	28	Ether	From mfg. process Product no.26	Sch-I/28.1	2400.0 MT/Year	
	Non-Hazardous Waste					
	1.	Fly Ash	From APCM	--	360.0 MT/Year	Collection, Storage, Transportation and sell to brick manufacturer

ii	Membership details of **TSDF, CHWIF** etc. **(For HW management)**	(Detox Group)
iii	Details of Non-Hazardous waste & its disposal (MSW and others)	Fly Ash : Collection, Storage, Transportation and sell to brick manufacturer

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

i Types of solvents, Details of Solvent recovery, % recovery. reuse of recovered Solvents

Primary Condenser HE-01: Cooling Tower water or Chilled water will be used to condense the solvents depend on the vapor pressure at its operating conditions and the non condensed vapors will be condensed in a Secondary Condenser

Secondary Condenser HE-02: Chilled Brine at - 5 ^{0}C will be used to condense the non condensed vapors in the Secondary Condenser

Final venting will be done after passing through carbon column.

95.0 % up of Spent solvent will be recovered

ii VOC emission sources and its mitigation measures

- All the solvents are directly distillate from product mix and purified in packed column with the help of reflux and therefore there is no generation of any distillation residue from the solvent distillation.
- The solvent distillation system is designed so as to achieve minimum 95% recovery of solvent.
- Pure solvent, crude solvent and distilled (recovered) solvent shall be stored only in storage tanks and we shall not be using drums at any stage in the Solvent Management System.
- Wherever required, the solvents shall be directly pumped into day tanks from the storage tanks and shall be charged into the reactors without involving any manual handling.
- All the pumps shall be mechanical seal type to avoid any leakage of solvent.

	• All necessary fire fighting systems shall be provided with alarm system. Flame proof wiring and flame proof electrical accessories shall be provided to avoid any mishap. • All the storage tank and day tank shall be connected to a vent system through chilled water condensers to prevent loss of solvents in the atmosphere. All the distillation column vents are also connected to chilled water condensers for maximum possible recovery of the solvents. Vacuum Distillation • Enclosed Processed • Minimum joints/flanges • Adequate Condenser • Brine will be utilized as chilling agent • Pumps with double mechanical seals • Proper Ventilation • PPEs

- PP has readdressed adequacy of reuse of spent HCl and spent sulphuric acid generated from bulk drug products with mass/material balance.
- High COD stream from process will be treated in MEE plant with solvent stripper. Low COD stream from, Process, Boiler, Cooling, Washing/ & Domestic effluent will be sent to proposed ETP consists of primary, secondary & tertiary treatments. To achieve the Zero Liquid Discharge, Treated effluent from ETP shall be treated in R.O. plant. Then R.O. permeate will be reused in Boiler and Cooling while, R.O. reject will be treated in MEE Plant & salt will be sent to TSDF site for disposal. MEE Condensate will be reuse in Industrial Purpose. Product wise process effluent characteristics, its segregation based on concentration and management is not addressed. Upon asking PP could not explained which product is considered as worst case scenario.
- COD of effluent before and after solvent stripper shown 27500 mg/l and 1500 mg/l respectively which is not convincible. PP could not furnished any supporting documents regarding it. Discrepancy is also observed in characteristics of reuse effluent and utility bleed off.
- It is noted that quantity and management of stripped solvent is not addressed.
- **After detailed discussion, it was decided to consider the project only after submission of the following documents.**

    1. Product wise process effluent characteristics, its segregation based on concentration and management.
    2. Effluent treatability, stage wise reduction of pollutant in ETP and adequacy of ZLD system validated by GPCB auditor.
    3. Address quantity and management of stripped solvent as per the HWM Rules, 2016.

9	SIA/GJ/IND2/44378/2019	**M/s. Manbro Polymers Limited** Plot No. D-2/CH-275, Industrial Estate Dahej 2, Bharuch	**EC Reconsideration**

Category of the unit : 5(f)

Project status: New

- Project proponent (PP) has submitted online application vide no. SIA/GJ/IND2/44378/2019 on dated 07/10/2019 for obtaining Environmental Clearance.
- The SEAC had recommended TOR to SEIAA and SEIAA issued TOR to PP vide their letter dated 01/08/2019.
- Project proponent has submitted EIA Report prepared by M/s. Aqua Air Environmental Engineering Pvt. Ltd. based on the TOR issued by SEIAA.
- This is new unit proposes for manufacturing of synthetic organic chemical as tabulated below:

Sr. No.	Name of the Products	CAS no. /CI no.	Quantity MT/Month	End-use of products
1	Mono glycerides	---	200	Synthetic Chemicals
2	Acetic Anhydride	108-24-7	400	Synthetic Organic Chemicals
3	Acetem (I)Acetic Acid ester of Monoglyceride	---	200	Synthetic Organic Chemicals
4	Ethyl Acetate	141-78-6	100	Synthetic Organic Chemicals
		Total	**900 MT/Month**	

- The project falls under Category B of project activity 5(f) as per the schedule of EIA Notification 2006.
- PP was called for presentation in the SEAC meeting dated 14/11/2019.
- During the meeting dated 14/11/2019, technical presentation made by project proponent.
- 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 October to December 2018. Ambient Air Quality monitoring was carried out for PM2.5,PM10, SO2,NOx, O3, Pb, NH3, C6H6, BaP, Ni, As, HCl, HBr, Cl2, VOC, HC, CO at ten 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. The resultant concentrations are within the NAAQS.
- Risk assessment including prediction of the worst-case scenario and maximum credible accident scenarios has been carried out. The detail proposed safeguard measures including On-Site / Off-Site Emergency Plan has been covered in the RA report.
- During SEAC meeting, committee noted that the proposal is for Greenfield Project in GIDC Dahej. PP

mentioned that all the effluent generated will be treated in primary ETP and primary treated effluent further evaporated in single stage evaporator. Committee asked for stage wise reduction of pollutant in ETP and adequacy of single stage evaporation for effluent evaporation, PP could not answered satisfactorily during meeting. Committee asked clarification regarding disposal of spent HCl generated from plant will be reused in plant for PCl_5 manufacturing, PP has not submitted technical details with mass balance and quantity for reuse of spent HCl in PCl_5 manufacturing. Committee asked about MoU for selling of acetic acid and spent HCl as Hazardous waste, PP has not produced MoU for it during meeting. PP informed that acetic anhydride mentioned as proposed product, Committee asked about status regarding Narcotic department permission for manufacturing acetic anhydride, PP has not produced status of Narcotic department permission for it.

- Committee noted that PP has not addressed ToR No. 12 satisfactorily regarding BAT for proposed products process in details.
- Committee insisted for revised details regarding adequate CER cost as per Greenfield project and need based CER activity in details for nearby villages in proposed project.
- Committee deliberated on ambient air baseline data and surface water data for proposed project. PP has addressed in details regarding for baseline data of proposed project.
- **After detailed discussion, it was decided to defer the proposal and consider the same in one of the upcoming meeting of SEAC only after submission of the following documents,**
    1. Technical clarification with mass balance regarding reuse of spent HCl for manufacturing of PCl_5 manufacturing with mass balance and its quantity.
    2. Submit MoU for disposal of Hazardous Waste like Acetic acid and spent HCl as selling to end users having Rule- 9 permission.
    3. Readdress ToR no- 12 regarding BAT for proposed products process in details with mentioning reduction in waste.
    4. Submit adequacy of single stage evaporator with stage wise reduction in pollutants in ETP units and feasibility for reuse of condensate of evaporator in plant.
    5. Submit status regarding Narcotic department permission for manufacturing Acetic anhydride.
    6. Submit Adequate CER cost with need based CER activity in nearby area of proposed project.
- Project proponent made presentation for the above mentioned query dated 11/12/2019 for the above mentioned points.
- Committee observed that reply submitted by PP is satisfactory.
- Salient features of the project including Water, Air and Hazardous waste management (Revised):

Sr.	Particulars	Details

no.		
A	Total **cost of Proposed** Project (Rs. in Crores):	3.6 Crores

ii **EMP details (Capital cost & Recurring cost)**

Brief Details of EMP

COMPONENT	CAPITAL COST OF EMP	RECURRING COST OF EMP (Per Month)
Cost	Rs.77 Lakhs	Rs. 11.57 Lakhs

Bifurcation of EMP Cost

No.	Unit	Installed Capacity (KLD)	Capital Coast (Rs. In Lakhs)	Operating Cost (Lakh/ Month)	Maintenance Cost (Lakhs/ Month)	Total Recurring Cost (Lakhs/Month)
1	Effluent Treatment Plant	5.5 KLD	33	3.66	0.1	3.67
2	APCM	**--**	10	1.0	0.25	1.25
3	Hazardous Waste (Expense)	**--**	10	6.42	--	6.42
4	Hazardous Waste (Expense)	**--**	17	0.125	--	0.125
5	Greenbelt	**--**	7	**--**	0.1	0.1
	Total		**77**			**11.57**

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

As per OM no. 22-65/2017 on dated 01/05/2018 regarding "Corporate Environment Responsibility" (CER), Greenfield projects have to contribute 2% of the Additional Capital Investment, the company will contribute Rs. 40.0 Lakhs as funds for CER activities.

Component	As per Norms	Allocation
CER	Rs.7.2 Lakhs (2 %)	Rs. 7.2 lakhs (2 %)

Activities to be carried out under CER:

BUDGETARY ALLOCATION FOR CER ACTIVITIES
The unit has planned to spend 2% of the total cost of the project over a period of Two years towards CER activity. So, as per the project cost Rs. 7.2 Lakhs used in the

CER activities.

Budgetary allocation is given in below table.

Revised :- BUDGETARY ALLOCATION FOR CER ACTIVITIES

Sr. No.	Activity	Fund Earmarked For Activity in Lakhs		
		Total for 2 Years	**Y1**	**Y2**
1	**Need based development in Near village;-Jolva**	**Rs. 4.1 Lakh**	**2.3**	**1.8**
1.1	Public Toilet [5-8 Nos.]	1.1	0.80	0.3
1.2	Door to Door Health Check up	3.0	1.5	1.5
2	**Education (Standard basic amenities, Water purifier distribution and promotion of safe drinking water practices)**	**Rs. 3.1 Lakh**	**2.05**	**1.05**
2.1	Standard basic amenities, Water purifier distribution and promotion of safe drinking water practices Safe drinking water R.O. to school or village	2.0	1.5	0.5
2.2	Provision of necessary Food supplements to malnourished/ undernourished children in nearby village	1.1	0.55	0.55
TOTAL		**Rs. 7.2 Lakh**		

B	**Total Plot area** (sq. meter)	7054.11 Sq. m.
	Green belt area (sq. meter)	2327 Sq. m.
C	**Employment generation**	**60.0**
D	**Water**	
i	Source of Water Supply (GIDC Bore well, Surface water, Tanker supply etc...)	GIDC Water Supply
	Status of permission from the concern authority.	Unit have obtained permission for water supply.
ii	**Water consumption (KLD)**	

	Category	Quantity KLD	Remarks	

(G) Domestic	5.0	Fresh Water
(H) Gardening	4.53	Fresh Water
(I) Industrial		
Process	0.0	-
Washing	0.0	
Boiler	6.0	
Cooling	6.0	
Others [Boiler Scrubber]	2.0	
Others [Scrubber]	5.47	Recycle
Industrial Total	**19.47**	
Total (A + B + C)	**29.0**	

1) **Total water requirement** for the project: 29.0 KLD
2) Quantity to be **recycled**: 5.47KLD
3) Total **fresh water** requirement: 23.52 KLD

(Total water requirement 29.0 KLD = Fresh water 23.52 KLD + Recycled water 5.47 KLD)

iii **Waste water generation (KLD)**

Category	Waste water KLD	Remarks
(E) Domestic	4.5	
(F) Industrial		
Process	0.0	
Washing	0.0	
Boiler	2.5	
Cooling	2.0	
Others [Boiler Scrubber]	1.0	
Others [Scrubber]	0.0	
Total Industrial waste water	**5.5**	**5.5 KL/Day:** - Effluent from utilities will be treated into RO + In-house Single stage evaporator & the condensate will be reused in plant premises.
Total [A + B]	**10**	

-

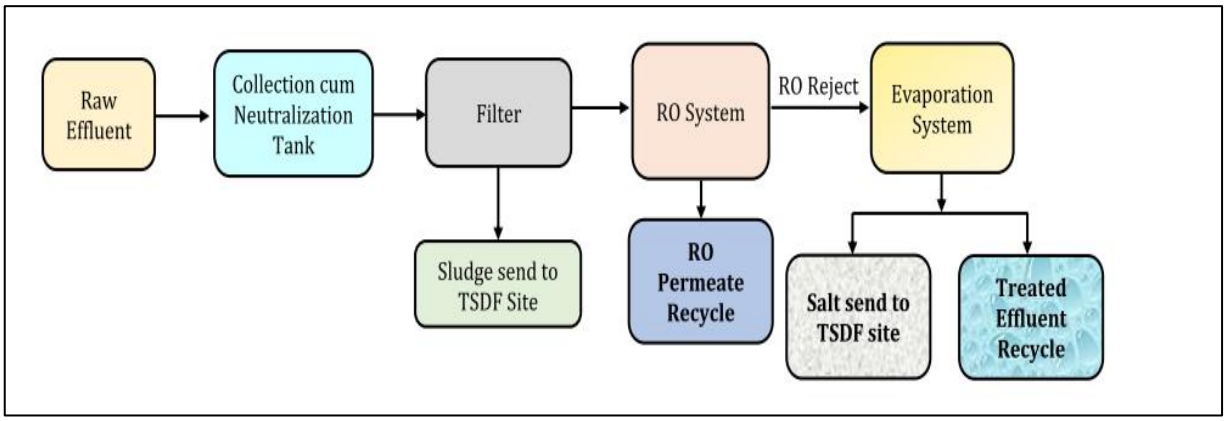
iv Treatment facility within premises with **capacity**

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

- ETP (Primary) + Single Stage Evaporation

Treatment scheme including segregation at source.

- Industrial waste water will be collected in collection cum Neutralizing tank and after treatment effluent will subjected to RO system. Generated RO reject will be subjected to in-house Single stage Evaporation system. After adequate treatment RO Permeate and condensed will be recycle within premises. Hence unit will strictly adhere to zero discharge.



Note: (In case of CETP discharge) :

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

Not Applicable

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

- Industrial Effluent of 5.5 KL/Day is treated in RO+ In-house evaporator & the condensate will be reused.

v Mode of Disposal & Final meeting point

Domestic:	Domestic waste water will send to septic/ soak pit tank.
Industrial:	➢ Industrial waste water will be collected in collection cum Neutralizing tank and after treatment effluent will subjected to RO system. Generated RO reject will be subjected to in-house Single stage Evaporation system. After adequate treatment RO Permeate and condensed will be recycle within premises. Hence unit will strictly adhere to zero discharge.

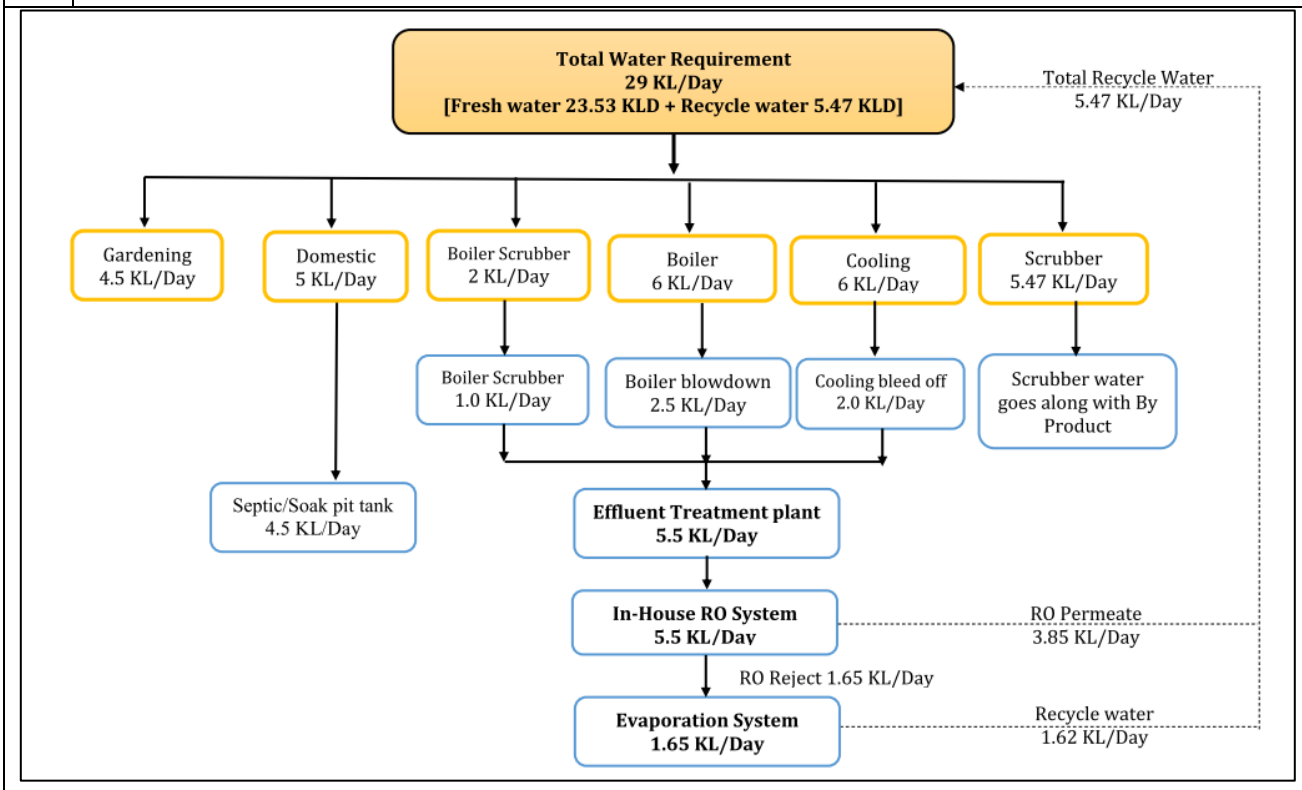
vi In case of Common facility (CF) like CETP, Common Spray dryer, Common MEE etc. Name of CF

- Not Applicable.

Membership of Common facility (CF)

(For waste water treatment)

	Not Applicable.
vii	**Simplified water balance diagram with reuse / recycle of waste water**



viii	Reuse/Recycle details (KLD)				
	Total reuse:- 5.47 KLD				
	Source of waste water for reuse with quantity in KLD (From where it is coming)	**Application area with quantity in KLD (Where it is used)**	**Characteristics of waste water to be reused (COD, BOD, TDS etc.)**		**Remarks regarding feasibility to reuse i.e.**
	Evaporation system (5.47 KLD)	Scrubber	pH	7-8	---
			TDS	250-500	
			COD	200-400	
E	**Air**				
i	Flue gas emission details No. of Boilers/TFH/Furnaces/DG sets etc. with capacities viz. TPH, Kcal/hr, MT/hr, KVA etc.				

	- <table><tr><th>Sr. no.</th><th>Source of emission With Capacity</th><th>Stack Height (meter)</th><th>Type of Fuel</th><th>Quantity of Fuel MT/Day</th><th>Type of emissions i.e. Air Pollutants</th><th>Air Pollution Control Measures (APCM)</th></tr><tr><td>1</td><td>Boiler [Cap. 2TPH]</td><td>12 m</td><td rowspan="2">Briquettes of Bio-coal</td><td rowspan="2">3.5 MT/Day.</td><td rowspan="3">SPM SO_2 NO_x</td><td rowspan="2">Multi Cyclone Separator With Water scrubber</td></tr><tr><td>2</td><td>Thermic Fluid Heater [Cap. 2 Lac kcal/Hr.]</td><td>11 m</td></tr><tr><td>3</td><td>DG Set [For Emergency purpose only] [Cap. 200 KVA]</td><td>10 m</td><td>Diesel</td><td>40 Ltr./Hr</td><td>Adequate stack height</td></tr></table>
ii	Process gas emission details i.e. Type of pollutant gases (SO_2, HCl, NH_3, Cl_2, NO_x etc.)
	- <table><tr><th>Sr. no.</th><th>Specific Source of emission (Name of the Product & Process)</th><th>Type of emission</th><th>Stack/Vent Height (meter)</th><th>Air Pollution Control Measures (APCM)</th></tr><tr><td>1</td><td>Process reactor 1</td><td>HCl</td><td>10</td><td>Water scrubber followed by Alkali Scrubber</td></tr></table>
iii	**Fugitive emission** details with its mitigation measures: As below:
	➢ Minimum Joints & flanges ➢ Pumps with mechanical seals ➢ Proper ventilation ➢ Adequate PPEs
F	**Hazardous wastes** (as per the Hazardous and Other Wastes (Management and Transboundary Movement) Rules 2016.

i

Sr. no.	Type/Name of Hazardous waste	Specific Source of generation (Name of the Activity, Product etc.)	Category and Schedule as per HW Rules.	Quantity (MT/Annum)	Management of HW
1	Used/Spent oil	Lubrication	5.1	2.0	Collection, Storage, Transportation and send to PCB registered re-processor.
2	Discarded drums Discarded Bags/Liners	Raw Material and Packaging	33.1	50	Collection, Storage, Decontamination Transportation and Sold to GPCB authorized users.
3	ETP Sludge	ETP	35.1	10	Collection, Storage, Transportation and disposed at TSDF Site.
4	Evaporation Salt	Evaporation system	35.1	11	
5	Process Residue	Process no 1	28.1	42	Collection, Storage, Transportation and Disposal to Co-Processing/CHWIF Incineration.
6	Acetic Acid [40-50%]	Process no 3	---	1284	Collection, Storage sell to authorized end users registered under rule-9.
7.	Hydrochloric Acid [28-33%]	Scrubber	---	4800	Collection, Storage and recycle for manufacturing of Phosphorus Penta Chloride, or sell to authorized end users registered under rule-9.

						1560TPY quantity will be reused in manufacturing of PCl5. **3240 TPY** quantity will be sell to authorized end users registered under rule-9.	
	8.	Fly-Ash	Boiler	---	100	Collection, Storage, Transportation and send to Brick manufacturer or Low lying area.	

ii	Membership details of **TSDF, CHWIF** etc. **(For HW management)**	BEIL, Ankleshwar.
iii	Details of Non-Hazardous waste & its disposal (MSW and others)	Not Applicable
G	**Solvent management**, VOC emissions etc.	
i	Types of solvents, Details of Solvent recovery, % recovery, reuse of recovered Solvents etc. (Details in Table Format)	
	Not Applicable. Solvent are used as reactant.	
ii	VOC emission sources and its mitigation measures	

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

H

- **Details regarding storage of Hazardous chemicals**

Storage details	Name of major Hazardous chemicals	Remarks
Storage tanks	Acetic Acid	Tank
	Ethanol	Tank
	Phosphorus pentachloride	Tank
	Acetic Anhydride	Tank

Drum/Barrel storage	Fatty acid	HDPE Drum/Bags
	Glycerol	HDPE Drum/Bags
	Potassium hydroxide	HDPE Drum/Bags
	Phosphorus pentachloride	HDPE Drum
	Monoglyceride	HDPE Bags
	Potassium hydroxide	HDPE Drum

- **Applicability of PESO** : Not Applicable

- PP presented as below:

1. Technical clarification with mass balance regarding reuse of spent HCl for manufacturing of PCl_5 manufacturing with mass balance and its quantity submitted.
2. Submitted MoU for disposal of Hazardous Waste like Acetic acid and spent HCl as selling to end users having Rule- 9 permission.
3. Readdressed ToR no- 12 regarding BAT for proposed products process in details with mentioning reduction in waste.
4. Submitted adequacy of single stage evaporator with stage wise reduction in pollutants in ETP units and feasibility for reuse of condensate of evaporator in plant.
5. PP has revised water balance and wastewater management.
6. PP assured that they will obtain necessary permission from the Narcotic department.
7. Submitted adequate CER cost with need based CER activity in nearby area of proposed project.

- Committee found reply satisfactory.
- **<u>After detailed deliberation, Committee unanimously decided to forward this proposal for grant of Environment Clarence.</u>**

10	SIA/GJ/IND2/44217/2019	**M/s. Keaum Organics Pvt. Ltd.** Plot No. 1613 &1614, GIDC Sarigam, Umbergaon, Valsad .	**Screening and scoping**

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

Project status: **Expansion**

- This office has received an application vide their online proposal no. SIA/GJ/IND2/44217/2019 dated 13/11/2019 made by project proponent (PP) regarding grant of Terms of Reference [ToR] for preparation of EIA/EMP report.
- Project proponent (PP) has submitted Form-1, PFR and relevant details/information.

- This is existing unit and proposes for expansion in manufacturing of synthetic organic chemicals as tabulated below:

Sr. No.	Name of Products	CAS. No.	Quantity MT/Month			End-Use of the Products
			Existing	Proposed	Total	
Product does not require prior Environmental Clearance:						
1.	Rectification and Distillation of Industrial Solvents.	--	500.00	0.00	500.00	Industrial
2.	Thinner by blending and mixing operation.	--	0.00	400.00	400.00	Painting and coating
Product require prior Environmental Clearance (EC):						
3.	Phenol Derivatives:- Ortho Chloro Phenol & Para Chloro Phenol	106-48-9, 95-57-8	0.00	350.00	350.00	Used as an intermediate in organic synthesis of dyes and drugs.
4.	2- Amino Acetophenone	551-93-9	0.00	100.00	100.00	
	Total (of EC products)		**0.00**	**450.00**	**450.00**	--

- The project falls under Category B of project activity 5(f) as per the schedule of EIA Notification 2006.
- PP was called for presentation in the SEAC meeting dated 11/12/2019.
- Salient features of the project including Water, Air and Hazardous waste management :

Sr. No.	Particulars	Details
A	Total **cost of Proposed** Project (Rs. in Crores):	Existing: 9.2498 Proposed: 1.6723 Total: 10.9221
B	**Total Plot area** (sq. meter)	5321.22 Sq. m.
	Green belt area (sq. meter)	Existing: 1400.00 Sq. m. Proposed: 400.00 Sq. m. Total: 1800.00 Sq. m.
C	**Employment generation**	Existing: 23 nos. Proposed: 12 nos. Total: 35 nos.
D	**Water**	
i	Source of Water Supply (GIDC Bore well, Surface water, Tanker supply etc...)	GIDC water supply dept., Sarigam
	Status of permission from the concern authority.	Will be obtained.
ii	**Water consumption (KLD)**	

Category	Existing KLD	Proposed (Additional) KLD	Total after Expansion KLD	Remarks
(J) Domestic	1.50	0.50	2.00	Fresh water
(K) Gardening	1.00	5.30	6.30	--
(L) Industrial				
Process	0.00	16.92	16.92	Fresh water
Washing	0.50	0.50	1.00	Fresh water
Boiler	5.00	5.00	10.00	Fresh water
Cooling	1.00	0.50	1.50	Fresh water
Others (Scrubber)	0.00	20.21	20.21	Fresh water
Industrial Total	**6.50**	**43.13**	**49.63**	--
Grand Total (A+B+C)	**9.00**	**48.93**	**57.93**	--

1) **Total water requirement** for the project: 57.93 KLD
2) Quantity to be **recycled:** 0.00 KLD
3) Total **fresh water** requirement: 57.93 KLD

iii **Waste water generation (KLD)**

Category	Existing KLD	Proposed (Additional) KLD	Total after Expansion KLD	Remarks
(G) Domestic	1.00	0.20	1.20	Septic tank & Soak pit.
(H) Industrial				
Process	0.00	17.86	17.86	To inhouse ETP (@19.78 KLD)
Washing	0.50	0.50	1.00	
Boiler	0.35	0.35	0.70	
Cooling	0.15	0.07	0.22	
Scrubbing	0.00	20.21	20.21	Sale to Registered recycler under Rule no.9 of the Hazardous and Other Wastes.
Total Industrial waste water	**1.00**	**38.99**	**39.99**	--

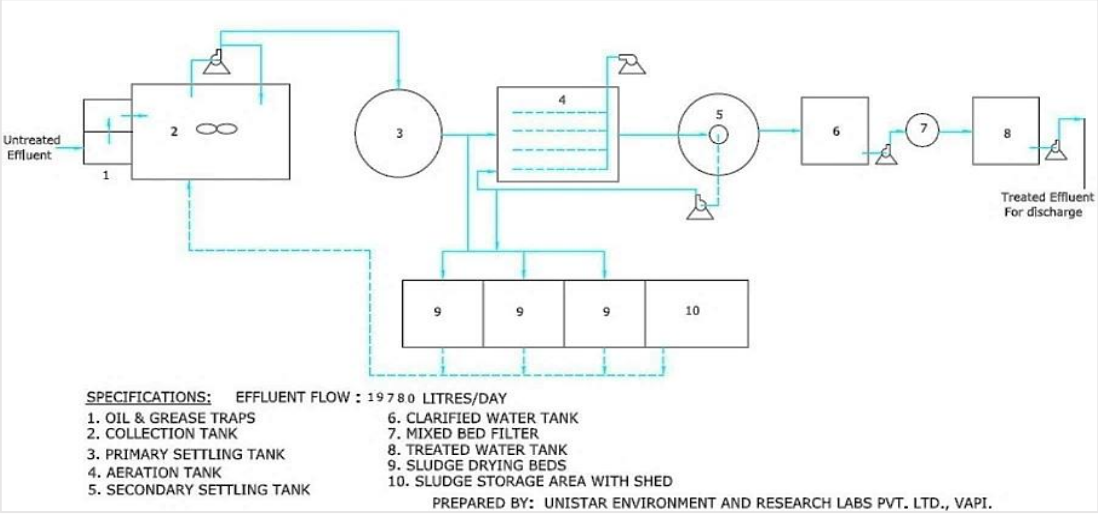
iv Treatment facility within premises with **capacity**
[In-house ETP (Primary, Secondary, Tertiary), MEE, Stripper, Spray Dryer, STP etc.

- Proposed In-house ETP with Primary, Secondary and tertiary treatment facility.

Treatment scheme including segregation at source.

- Domestic wastewater: @1.20 KL/day; Disposal through S.T and S.P.
- Industrial wastewater treatment scheme:
  - Scrubber bleed off @20.21 KL/day - Sale to Registered recycler under Rule no.9 of the Hazardous and Other Wastes.
  - Details of Proposed In-house ETP:
    Source of Effluent: Process, Washing, Boiler, Cooling and utility etc.
    Hydraulic loading rate: 19.78 KL /Day Max.
    Capacity of ETP: 20.00 KL /Day Max. with Primary, Secondary and tertiary treatment facility.

Layout plan of proposed ETP



Note: (In case of CETP discharge) :

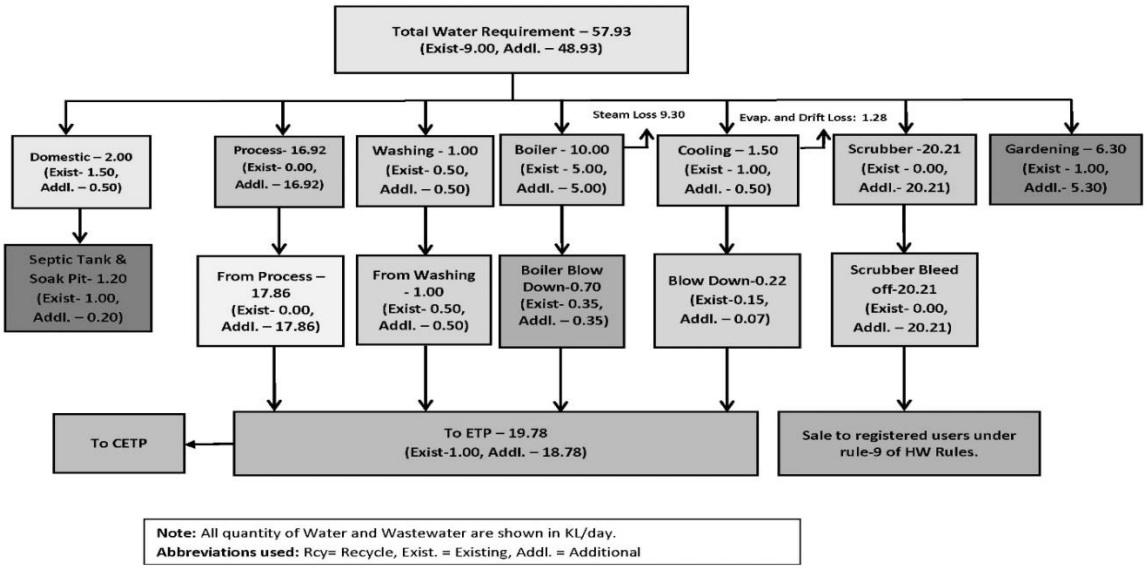
Management of waste water keeping in view direction under section 18 (1) (b) of the Water (Prevention and Control of Pollution) act, 1974 issued by CPCB regarding compliance of CETP.

- Wastewater @19.78 KLD from Process as well as from Washing, boiler & cooling tower blow down will be treated in the Effluent Treatment Plants with Primary, Secondary & Tertiary units and treated effluent meeting the discharge norms will be sent to CETP, Sarigam.

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

- Not Applicable, as treated effluent meeting the discharge norms will be sent to CETP, Sarigam.

v	Mode of Disposal & Final meeting point	
	Domestic:	Septic tank/Soak pit
	Industrial:	Generated wastewater will be treated in the in house Effluent Treatment Plants with Primary, Secondary & Tertiary units and treated effluent meeting the discharge norms will be sent to CETP, Sarigam.
vi	In case of Common facility (CF) like CETP, Common Spray dryer, Common MEE, CHWIF etc. **Name of Common facility (CF) (For waste water treatment)**	
	➢ CETP – Sarigam	
	Membership of Common facility (CF)	
	(For waste water treatment) CETP, Sarigam Membership will be obtained before operation.	
vii	**Simplified water balance diagram with reuse / recycle of waste water**	



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

Total reuse 0.00 KLD

-

Source of waste water for reuse with quantity in KLD (From where it is coming)	Application area with quantity in KLD (Where it is used)	Characteristics of waste water to be reused (COD, BOD, TDS etc.)	Remarks regarding feasibility to reuse i.e.
--	--	--	--

E Air

i Flue gas emission details
No. of Boilers/TFH/Furnaces/DG sets etc. with capacities viz. TPH, Kcal/hr, MT/hr, KVA etc.
Existing & Proposed

-

Sr. No.	Source of emission With Capacity	Stack Height (meter)	Type of Fuel	Quantity of Fuel MT/Day	Type of emissions i.e. Air Pollutants	Air Pollution Control Measures (APCM)
Existing:						
1	Thermo Pack- 1 No., 10 Lac K. Cal/hr)	30	Natural Gas/LDO	132.00 SCM/HR. Or LDO: 100.00 L/Hr.	PM < 150 MG/NM^3 SO_2 < 100 PPM NOx < 50 ppm	Adequate stack ht.
2	D.G. Set- 1 No., 125 KVA	11	Diesel	30.00 Lit/Hr.	PM < 150 MG/NM^3 SO_2 < 100 PPM NOx < 50 ppm	Adequate stack ht.
3	Steam Boiler - 1No., 3000.00 Kg/hr.	30	Baggase Briquettes	765.00 Kg/Hr.	PM < 150 MG/NM^3 SO_2 < 100 PPM NOx < 50 ppm	Cyclone separator followed by Bag Filter system with adequate stack ht.

Proposed:

1	Steam Boiler - 1No., 3000.00 Kg/hr)	30	Baggase Briquettes	765.00 Kg/Hr.	PM < 150 MG/NM^3 SO_2 < 100 PPM NOx < 50 ppm	Cyclone separator followed by Bag Filter system with adequate stack ht.
2	D.G. Set- 3 Nos., 125 KVA	11	Diesel	90.00 Lit/Hr.	PM < 150 MG/NM^3 SO_2 < 100 PPM NOx < 50 ppm	Adequate stack height

-

ii Process gas i.e. Type of pollutant gases (SO_2, HCl, NH_3, Cl_2, NO_x etc.)
Existing & Proposed

-

Sr. no.	Specific Source of emission (Name of the Product & Process)	Type of emission	Stack/Vent Height (meter)	Air Pollution Control Measures (APCM)
1	Process Stack (Capacity of 2 pumps 3 HP)	HCl< 20 mg/Nm^3 SO_2< 100 ppm	11	Two stage scrubber (water + Alkali)

-

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

- All production activities are to be carried out in closed conditions minimizing the possibility of fugitive emission.
- Proper storage of raw materials, products and fuels.
- Ensuring closed feeding and sampling.
- Establishing SOPs for start-up, shut down and maintenance operational procedures.
- Regular workplace monitoring and ambient air quality monitoring as per post project monitoring plan.

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

i

Sr. No.	Type/ Name of Hazardous waste	Specific Source of generation (Name of the Activity, Product etc.)	Category and Schedule as per HW Rules.	Quantity (MT/Annum)			Management of HW
				Existing	Proposed	Total	
1.	ETP Waste	From ETP	35.3	0.600	36.00	36.60	Collection, Storage, Transportation, Disposal at TSDF– Saurashtra Enviro Proiects Pvt. Ltd. (SEPPL) Kutch.
2.	Used oil	From plant and	5.1	0.100	1.00	1.10	Collection, Storage,

		machinery					Transportation, Disposal to Registered Re-processors.
3.	Discarded materials Drum, Liners/ Bags/ Carboys	Raw Materials	33.1	1.20	3.50	4.70	Collection, Storage, Transportation, Disposal to Registered Re-user.
4.	Distillation Residue	Distillation and manufacturing process of all products.	20.3	12.00	0.00	12.00	Collection, Storage, Transportation, Disposal to coprocessing (RSPL, Panoli)
5.	Spent Solvent	Mfg. Process	20.2	6600.00	0.00	6600.00	Collection, Storage, Transportation, Reception & recovery of solvent.
6.	Spent Carbon	From Mfg. Process	36.2	0.00	74.00	74.00	Collection, Storage, Transportation, Disposal at Co-processing/ incineration.
7.	Hydro Chloric Acid (30%)	From scrubber	(Sch. II B,15)	0.00	4000.00	4000.00	Collection, sale to Registered recycler under Rule no.9 of the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016.
8.	Na_2SO_3 / $NaHSO_3$ Solution (45%)	From scrubber	--	0.00	9033.64	9033.64	

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ii	Membership details of **TSDF, CHWIF** etc. **(For HW management)**	➢ Acceptance letter of TSDF – Saurashtra Enviro Projects Pvt. Ltd. (SEPPL), Kutch Will be obtained. ➢ Membership Certificate of Recycling Solutions Pvt. Ltd. (RSPL), Panoli is obtained for Common Incineration facility.
iii	Details of Non-Hazardous waste & its disposal(MSW and others)	Not Applicable
G	**Solvent management**, VOC emissions etc.	

i | Types of solvents, Details of Solvent recovery, % recovery, reuse of recovered Solvents etc. (Details in Table Format)

Sr. No.	Name of Solvent	Consumption per Month (KL/Month)	Recovery per Month (KL/Month)	Recovery %
1.	Industrial Solvent Mixture (Spent solvent)	550.00	500.00	90.91
2.	EDC	171.00	154.41	90.30
3.	Methanol	264.39	256.10	96.86

- Solvents used in process will be recovered, distilled and reused back in the process.

ii | **VOC emission** sources and its mitigation measures

- Closed handling & charging system will be provided.
- Mechanical seals to pumps will be provided to prevent leakages.
- Regular monitoring of VOCs will be done.

H

- **Details regarding storage of Hazardous chemicals**

Storage details	Name of major Hazardous chemicals	Remarks
Storage tanks	Phenol, Ethylene Dichloride(EDC), Methanol, MTO,	--
Drum/Barrel storage	Butyl Acetate, Ethyl Acetate, Isopropyl Alcohol, Aluminium Chloride, Caustic Flakes/Lye, Hydrogen gas.	--
Bags	Caustic Flakes/Lye	--

- **Applicability of PESO**: Applicable and Obtained.

- Technical presentation was made by the project proponent with consultant/expert Unistar Environment & Research Labs Pvt. Ltd. during SEAC meeting dated 11/12/2019.
- Committee noted that this proposal is for expansion. Unit is located at GIDC Sarigam, Valsad. PP informed that there is no public complaint and legas case pending against this unit. PP explained compliance report of existing CC&A.
- Wastewater from process as well as from washing, boiler & cooling tower blow down will be treated in the Effluent Treatment Plants with Primary, Secondary & Tertiary units and treated effluent meeting the discharge norms will be sent to CETP, Sarigam.
- PP could not explained reduction of TDS from 7000 mg/l in raw composite effluent to 2100 mg/l after treatment in conventional ETP. Characteristics of effluent shown is found not convincing.
- Cyclone Separator followed by Bag Filter system will be provided as APCM with proposed Baggase Briquettes fired 3 TPH Steam boiler. Two stage scrubber will be provided as APCM with process stacks.
- PP has addressed hazardous wastes management.
- **After deliberation, committee unanimously decided to consider the proposal only after submission of the following details.**

  1. Characteristics of process effluent and its treatability in proposed ETP.
  2. Justification of reduction of TDS from 7000 mg/l in raw composite effluent to 2100 mg/l after treatment in

conventional ETP.

3. Specific treatment for Phenol removal from effluent.

11	SIA/GJ/IND2/44454/2019	**M/s. Narayan Organics Pvt. Ltd. (Unit-Iv)** Plot No.DP-26, Saykha GIDC Industrial Estate, Vagra, Bharuch	**Screening and scoping**

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

Project status: **New**

- This office has received an application vide their online proposal no. SIA/GJ/IND2/44454/2019 dated 09/10/2019 made by project proponent (PP) regarding grant of Terms of Reference [ToR] for preparation of EIA/EMP report.
- Project proponent (PP) has submitted Form-1, PFR and relevant details/information.
- This is new unit proposes for manufacturing of synthetic organic product as tabulated below:

Sr. No.	Name of Product	CAS No.	Proposed capacity (MT/Month)	End Use of Product
1	Copper Phthalocyanine Crude	147-14-8	500	Used in inks, coatings, & many plastics
2	Pigment Alpha Blue (15: 0/15: 1/15: 2)	147-14-8	50	
3	3,3'-Dichloro[1,1'-biphenyl]-4,4'-diamine (3,3 DCB)	612-83-9	200	Dyes & Pigments Intermediate
4	1-Amino-4-chloro-5-methylbenzene-2-sulfonic acid (CLT Acid)	88-53-9	150	
5	1-Amino-3-chloro-4-methylbenzene-6-sulfonic acid (2B Acid) **and/or**	88-51-7	50	
6	1-Amino-4-methylbenzene-2-sulfonic acid (4B Acid)	88-44-8		
7	Para Nitro Toluene Ortho Suphonic acid (PNTOSA)	121-03-9	100	
8	4-4 Diamino Stilbene 2-2 disulphonic Acid (DASDA) **and/or**	81-11-8	100	
9	4-4 Nitro Stilbene 2-2 disulphonic Acid (DNSDA) **and/or**	128-42-7		
10	4-Amino 4 Nitro Stilbene 2-2 disulphonic Acid (NASDA)	119-72-2		
		Total(1 to 10)	1150	
Pyrazolone based Intermediates				
	Group-I			
11	1-Phenyl 3 Methyl 5 Pyrazolone	89-25-8	80	Dyes & Pigments
12	Pera Tolyl 3 Methyl 5 Pyrazolone	86-92-0		

13	1-3- Chlorophenyl)-3 Methyl 5 Pyrazolone	90-31-3		Intermediate
14	3 Methyl 5 Pyrazolone	108-26-9		
15	1-2 Methyl 4- Sulphophenyl 3 Methyl 5 Pyrazolone	118-07-0		
16	1-3 Sulphoamido Phenyl 3 Methyl 5 Pyrazolone	89-29-2		
17	1-4 Sulphoamido Phenyl 3 Methyl 5 Pyrazolone	13269-73-3		
18	1-Phenyl 3 Methyl 5 Amino Pyrazolone	1131-18-6		
	Group-II			
19	1-3 Sulphophenyl 3 Methyl 5 Pyrazolone	119-17-5	60	
20	1-4 Sulphophenyl 3 Methyl 5 Pyrazolone	89-69-1		
21	Ortho Chloro Aniline (OCA)	95-51-2	26	
	Total (1 to 10 + 11 to 21)		1316	
By- Products				
1	Ammonium Carbonate solution	10361-29-2	500	-
2	Ammonium Sulphate	7783-20-2	246	-

- The project falls under Category B of project activity 5(f) as per the schedule of EIA Notification 2006.
- PP was called for presentation in the SEAC meeting dated 11/12/2019.
- Salient features of the project including Water, Air and Hazardous waste management :

Sr. no.	Particulars	Details
A	Total **cost of Proposed** Project (Rs. in Crores):	35 Crores
B	**Total Plot area**(sq. meter)	11324.607 Sq. m.
	Green belt area (sq. meter)	3740 Sq. m.
C	**Employment generation**	**155 nos.**
D	**Water**	
i	Source of Water Supply (GIDC Bore well, Surface water, Tanker supply etc.)	GIDC, Water Supply
	Status of permission from the concern authority.	Will be obtained before starting production activity
ii	**Water consumption (KLD)**	

Description	Water Consumption KL/Day	Remark
(A) Domestic	**20.0**	**-**
(B) Gardening	**0.0**	**-**
(C) Industrial		
Process	378.4	
Washing & Misc	10.0	-
Cooling	40.0	-
Boiler + RO	115.0	-
APCM	68.32	-
Total Industrial(C)	**611.72**	**-**
Total A+B+C	**631.72**	
Recycle (MEE and RO permeate)	**355.5**	**-**
Total Fresh water	**276.22**	**-**

1) **Total water requirement** for the project: 631.72 KLD
2) Quantity to be **recycled**:355.5 KLD
3) Total **fresh water** requirement: 276.22 KLD

iii **Waste water generation (KLD)**

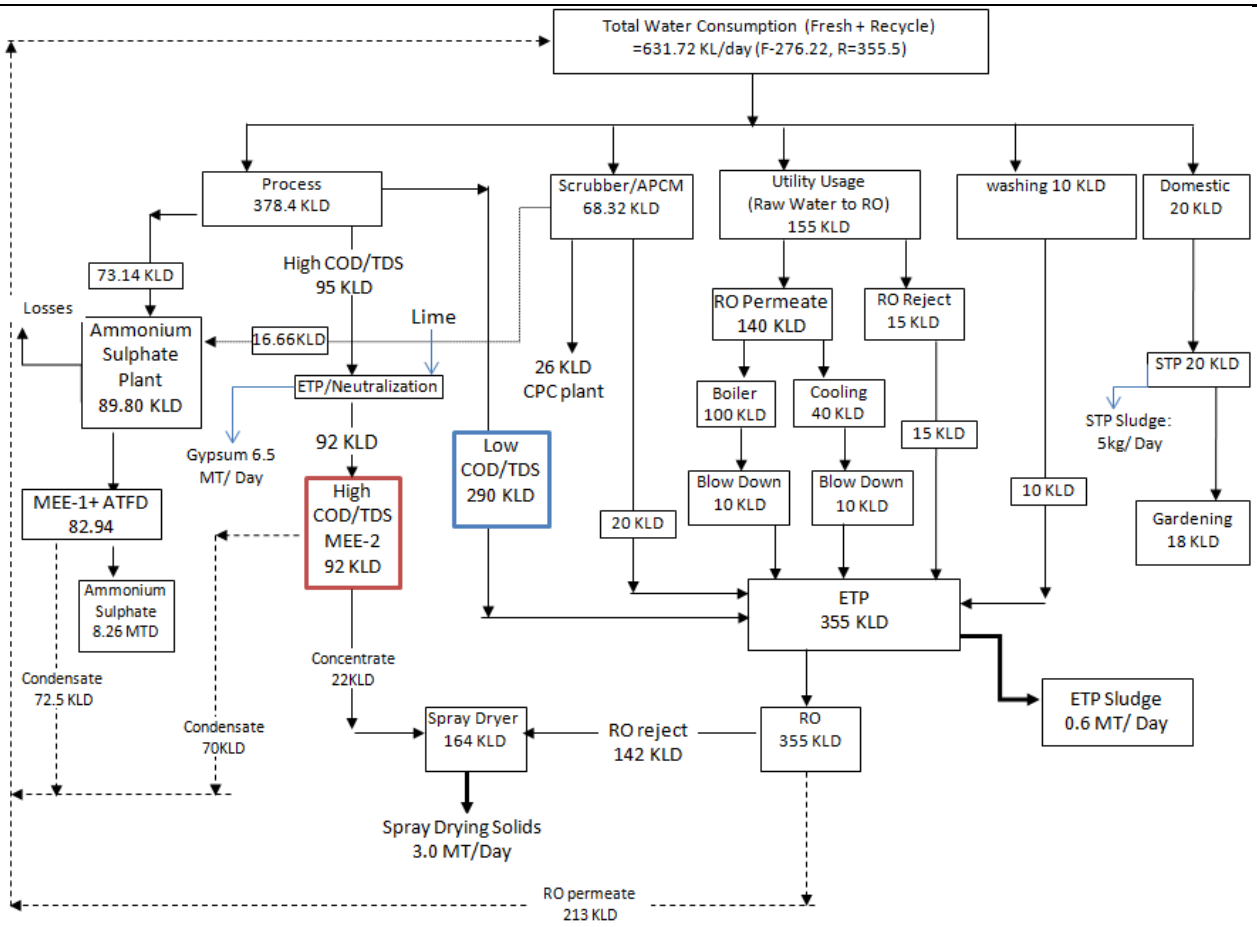
Description	Wastewater Generation KL/Day	Mode of Disposal
(A) Domestic	**20.0**	Sent to STP and reused in Gardening
(B) Gardening	**0.0**	**-**
(C) Industrial		
Process	385.0	High COD: 95 KLD to Neutralization /ETP and then MEE Low COD: 290 KLD to ETP
Washing & Misc	10.0	Industrial wastewater will be given treatment in ETP, RO, MEE and Spray Drier
Cooling	10.0	
Boiler + RO Reject (Raw Water)	25.0	
APCM	20.0	
Total Industrial(C)	**450.0**	
Total A+B+C	**470.0**	**-**

iv Treatment facility within premises with **capacity**

[In-house MEE, ATFD, Softening plant etc.

A. ETP: 400 KLD (Low COD/TDS stream)
B. MEE-2: 5000 lit/hr (High COD/TDS stream)
C. MEE -1 & ATFD: 5000 lit/hr for Ammonium Sulphate plant

	D. Spray Dryer : 8000lit /hr E. STP: 20 KLD	
v	Mode of Disposal & Final meeting point	
	Domestic:	Domestic effluent will be sent to Sewage Treatment Plant for treatment. Treated effluent from STP, will be used in Gardening. STP sludge will be used as manure within premises
	Industrial:	**Stream-1:** High COD/TDS process effluent @ 95 KLD from production will be collected separately in collection tank and sent to neutralization tank. This neutralized effluent will be sent to MEE. Condensate from MEE will be reused for industrial purpose and concentrate will be sent to Spray Dryer. **Stream-2:** Low COD effluent from process 290 KLD**,** 20 KLD from APCM, domestic 20 KLD, Washing 10 KLD, Utility 20 KLD will be sent to ETP consisting of primary, secondary and tertiary treatment units followed by RO. Gypsum will be removed from ETP. ETP - RO reject and MEE concentrate will be sent to Spray Dryer. Salts from Spray dryer will be disposed off to TSDF site. **Ammonium Sulphate Plant** : By product (From CPC and CLT Acid Manufacturing) Ammonium Carbonate solution from scrubber and acidic mother liquor from CPC Blue are mixed in the reactor. Carbon dioxide gas and water vapors are librated due to stirring and ammonium sulphate solution is formed. Ammonium sulfate solution is sent to multi effect evaporator (4FC+ATFD). Pure ammonium sulfate will be generated from MEE-1 and condensate water will be reused in manufacturing process of CPC.
vi	In case of Common facility (CF) like CETP, Common Spray dryer, Common MEE etc. , Name of CF **NOT APPLICABLE.**	
	Membership of Common facility (CF) **(For waste water treatment): NOT APPLICABLE.**	
vii	**Simplified water balance diagram with reuse / recycle of waste water**	



viii Reuse/Recycle details (KLD)

Total reuse 355.5 KLD

Source of waste water for reuse with quantity in KLD (From where it is coming)	Application area with quantity in KLD (Where it is used)	Characteristics of waste water to be reused (COD, BOD, TDS etc.)	Remarks regarding feasibility to reuse i.e.
ETP RO permeate: 213.0 KLD	Process: 144.68 KLD Scrubber: 68.32 KLD Total : 213.0 KLD	BOD:50-100 mg/lit COD:150-200 mg/lit TDS: 200-300 mg/lit	-
MEE Condensate 142.5 KLD	Process:142.5 KLD	BOD:50-100 mg/lit COD:200-300 mg/lit TDS: 300-400 mg/lit	-

E Air

i Flue gas emission details

No. of Boilers/TFH/Furnaces/DG sets etc. with capacities viz. TPH, Kcal/hr, MT/hr, KVA etc.

Sr. No.	Source of emission With Capacity	Stack Ht. (m)	Type of fuel	Quantity of Fuel MT/Day	Type of emission	Emission	Air Pollution Control Measures (APCM)
1.	Steam Boiler (6 TPH)	30 m	Imp. Coal	12 MT/Day	SPM SO_2 NOx	<150 mg/NM^3 <100 PPM <50 PPM	Cyclone separator+ Bag filter + Water Scrubber
2.	Thermic Fluid Heater (30 Lac Kcal)			8 MT/Day	SPM SO_2 NOx	<150 mg/NM^3 <100 PPM <50 PPM	Cyclone separator+ Bag filter + Water Scrubber
3.	Steam Boiler (5 TPH)	30 m	Imp. Coal	10 MT/Day	SPM SO_2 NOx	<150 mg/NM^3 100 PPM 50 PPM	Cyclone separator+ Bag filter + Water Scrubber
4	Thermic Fluid Heater (30 Lac Kcal)			8 MT/Day	SPM SO_2 NOx	<150 mg/NM^3 <100 PPM <50 PPM	Cyclone separator+ Bag filter + Water Scrubber
5	D. G. Set (150 KVA)	15 m	Diesel	125 Lit/hrs	SPM SO_2 NOx	<150 mg/NM^3 <100 PPM <50 PPM	--
6	HAG (For Effluent Spray Dryer) (30 Lacs kilocalorie)	30 m	Imp. Coal	20 MT/day	SPM SO_2 NOx	<150 mg/NM^3 <100 PPM <50 PPM	Cyclone separator + Water Scrubber

--

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

Sr. No.	Stack Attached To	Type of emission	Stack/ Vent Height (m)	Air Pollution Control System
1.	Reactor Vessels (10 Nos) (CPC plant)	NH_3:<175 mg/Nm^3	30 m	2 stage Water Scrubber + Acid Scrubber
2.	Chlorine reaction Vessel (CLT Acid)(2 No.)	HCl: <20mg/Nm^3 SO_2:<40mg/Nm^3	30 m	Alkali Scrubber
3.	Spin Flash Dryer (2Nos) (For products)	PM:<150 mg/Nm^3	30 m	Bag Filter
4.	Sulphonation vessels (5 No.)	SO_2:<40mg/Nm^3	30 m	Water + Alkali scrubber
5.	Spray Dryer (For Effluents)	PM < 40 mg/m^3	30	Cyclone Separator with Bag Filter Followed by Scrubbing System

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

- Regular sprinkling of water is carried out & green belt is provided within premises to prevent fugitive emissions due to vehicular movement. Regular maintenance of vehicles.

- Management to ensure proper handling of the spillages during transfer, charging operation and provision of a Dust Collection System for collection of the air borne material wherever applicable.
- Preventive maintenance of flange connections and glands of pumps.
- Management will also ensure proper usage of the Personnel Protective Equipment by the workers.
- Closed handling system shall be provided for chemicals.

Fugitive emissions in the work zone environment, product raw material storage area will be monitored regularly.

F **Hazardous wastes**

(as per the Hazardous and Other Wastes (Management and Transboundary Movement) Rules 2016.

i

Sr. No.	Type / Name of Hazardous waste	Specific Source of generation (Name of the Activity, Product etc.)	Category and Schedule as per HW Rules.	Quantity (MT/ Annum)	Management of HW
1	Discarded bag/ containers	Raw material storage and handling	33.3	3850 Nos HDPE Bags, 350 drums.	Collection, Storage, transportation, sent to Registered recyclers.
2	Used oil	Plant and machinery	5.1	0.500	Collection, Storage, transportation, Sent to register refiners
3	Gypsum Sludge from ZLD	Neutralization of acidic effluent and waste water in ZLD	35.3	2232	Fabricated roof with HDPE Liner laying under the 6 inch RCC impervious Layer with PCC, sell to cement industries.
5	ETP sludge/Spray Drying solids	After Concentration and Evaporation remaining Salt + Spray drying solids+ Organic waste from ZLD	35.3	1260	Collection under the steel fabricated roof with HDPE Liner laying under the 6 inch RCC impervious Layer with PCC, send to authorized TSDF .
6	Fly ash	From FBC boiler	--	2000	Collect in specially designed silo and pack in HDPE bags, sell to cement industries and road construction company.
7	Iron Sludge	Mfg of CLT Acid	26.1	5142	Collection, storage and Transportation and disposal by co processing at Cement industries.
8	Spent Acid	Manufacturing of Copper Phthalocyanice Crude,	26.3	Total Generation **49561.8 MT** Reused in	**Total 49561.8 MT/Annum** Spent Acid will be generated. Out of 49561.8 MT/Annum, **40668**

			Pigment Alpha Blue (15 0/15 1/15 2), 33 DCB, CLT Acid, 2B Acid or 4B Acid, Para Nitro Toluene ortho suphonic acid (PNTOSA), 1-3 sulphophenyl 3 methyl 5 Pyrazolone, 1-4 Sulphophenyl 3 methyl 5 pyrazolone		process **40668 MT** Qty to be sent under rule 9 **8893.2MT**	**MT/Annum will be reused** in manufacturing process of products. Balance **Quantity 8893.2 MT/Annum will be Sold to actual** users under rule 9. Product-wise break-up is attached as Annexure -1

ii	Membership details of **TSDF, CHWIF** etc. **(For HW management)**	**Membership from TSDF site will be taken after environmental Clearance**
iii	Details of Non-Hazardous waste & its disposal (MSW and others)	STP – 1.8 MT/ear Sludge will be converted to manure and reused within premises for gardening purpose. Other waste: Collection, storage and disposal at municipal dumping site through municipal collection system.

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

i Types of solvents, Details of Solvent recovery, % recovery. reuse of recovered Solvents

Sr. No.	Name of Product	Name of Solvent	Solvent (kg/ month)	Solvent Recovery (kg/ month)	% recovery	Losses per Kg /Batch	Method of recovery
1	Copper Phthalocyanice Crude	(Solvent: (ONT/DCT/ Hysol-P))	600000	575000	96	50	Vacuum Distillation Followed by double condenser system
2	Pigment Alpha Blue (15 0/15 1/15 2)	-	-	-	-	-	--
3	33 DCB	-	-	-	-	-	
4	CLT Acid	-	-	-	-	-	
5	2B Acid or	-	-	-	-	-	
	4B Acid	-	-	-	-	-	
6	Para Nitro Toluene ortho suphonic acid (PNTOSA)	-	-	-	-	-	
7	4-4 Diamino Stilbene 2-2 disulphonic Acid (DASDA)	-	-	-	-	-	
8	4-4 Nitro Stilbene 2-2 disulphonic Acid (DNSDA)	-	-	-	-	-	

9	4-Amino 4 Nitro Stilbene 2-2 disulphonic Acid (NASDA)	-	-	-	-	-	
10	**Pyrazolone based Intermediates**		-	-	-	-	
	Group-I (Solvent: Methanol)		-	-	-	-	
(i)	1-Phenyl 3 methyl 5 Pyrazolone	Methanol	24	22.8	95	0.015	Vacuum Distillation Followed by double condenser system
(ii)	Pera Tolyl3 methyl 5 Pyrazolone		24	22.8	95	0.015	
(iii)	1-3- Chlorophenyl)-3 methyl 5 Pyrazolone		24	22.8	95	0.015	
(iv)	3 Methyl 5 Pyrazolone		24	22.8	95	0.015	
(v)	1-2 Methyl 4- sulphophenyl 3 methyl 5 Pyrazolone		24	22.8	95	0.015	
(vi)	1-3 sulphoamido phenyl 3 methyl 5 Pyrazolone		24	22.8	95	0.015	
(vii)	1-4 sulphoamido phenyl 3 methyl 5 Pyrazolone		24	22.8	95	0.015	
(viii)	1-phenyl 3 methyl 5 amino Pyrazolone		24	22.8	95	0.015	
	Group-II						
(ix)	1-3 sulphophenyl 3 methyl 5 Pyrazolone	-	-	-	-	-	-
(x)	1-4 Sulphophenyl 3 methyl 5 pyrazolone	-	-	-	-	-	-

ii VOC emission sources and its mitigation measures

- To eliminate chances of leakages from glands of pumps, mechanical seal will be provided at all solvent pumps.
- Entire process will be carried out in the closed reactors with proper maintenance of pressure and temperature.
- Periodic monitoring of work area will be carried out to check the VOC emission.
- Solvent recovery system will be provided with chilled water condenser system.
- Reflux condenser to be provided over the reactor.
- The raw materials shall be taken from storage tanks to reactor through closed pipeline. Storage tanks shall be vented through trap receiver

H

- **Details regarding storage of Hazardous chemicals**

Storage Details			**Name of Hazardous Chemical**	**Remark**
Storage type	**Storage MOC**	**Storage Capacity per unit**		
MS Tank	MS	30 KL	Ammonium Carbonate	-
Tank	PP/HDPE	25 KL	Hydrochloric acid	-
Cylinder	Hydrogen car kart	Std size	Hydrogen Gas	PESO permission will be taken
Cylinder	MS	900 kgs	Liquid Chlorine	
Tank	MS	25,000	Methanol	
Tank	Aluminium	20,000	Nitric Acid	-
Tank	MS	20,000	Oleum (23%)	-
Tank	MS	50,000	Toluene	-

Drum/Barrel storage	-	-	All other raw materials will be stored in HDPE Bags or HDPE Drums	

- **Applicability of PESO** : Will be taken as per table above

- Technical presentation was made by the project proponent with consultant/expert Excel Enviro Tech during SEAC meeting dated 11/12/2019.
- Committee noted that this proposal is for new unit located at GIDC Saykha, Bharuch.
- High COD/TDS process effluent from production will be collected separately in collection tank and sent to neutralization tank. This neutralized effluent will be sent to MEE. Condensate from MEE will be reused for industrial purpose and concentrate will be sent to Spray Dryer. Low concentration effluent will be treated in ETP consisting of primary, secondary and tertiary treatment units followed by RO. Gypsum will be removed from ETP. RO reject and MEE concentrate will be sent to Spray Dryer. Salts from Spray dryer will be disposed off to TSDF site.
- ESP will be provided as APCM with Imported Coal fired 8 TPH Stem Boiler. 2 stage Water Scrubber will be provided as APCM with CPC Plant.
- Iron Sludge and Gypsum Waste will be sent for co-processing or TSDF.
- **Considering the above project details, after detailed discussion, the terms of reference (ToR) were prescribed as below and as per the standard TOR for the Synthetic Organic Chemical projects recommended by SEAC vide letter no. EIA-10-GEN-21/1480 dated 14/09/2017 and approved by SEIAA in its 12th meeting dated 16/09/2017 for the EIA study to be done covering 10 Km radial distance from the project boundary.**

  1. Revised quantity of ETP sludge and MEE / Spray dryer salt against treatment of industrial effluent considering the worst case scenario.
  2. Adequacy assessment report of ETP to treat industrial effluent (with ETP stage wise reduction in pollutants)
  3. Feasibility study report to reuse treated industrial effluent within premises.
  4. Provision of adequate treatment for removal of Ammonical Nitrogen pollutant.
  5. Provision of two stage high efficiency scrubber with Chlorination Reactor.
  6. Compliance of MoEFCC's OM dated 01/05/2018 regarding "Corporate Environment Responsibility" (CER). Fund allocation for Corporate Environment Responsibility (CER) shall be made as per MoEFCC's O.M. No. 22-65/2017-IA.III dated 01/05/2018 for various activities therein. The details of fund allocation and activities for CER shall be incorporated in EIA/EMP report.
  7. Explore the use of renewable energy to the maximum extent possible. Details of provisions to make the project energy-efficient through of energy efficient devices and adoption of modes of alternative eco-

friendly sources of energy like solar water heater, solar lighting etc. Measures proposed for energy conservation.

8. Qualitative and quantitative analysis of hazardous waste streams generation from the manufacturing process (Product wise) and scrubber. Explore the possibility to reuse such waste streams within premises as raw materials for other products. Sound management of such waste streams as per the HW Rules 2016 as amended time to time. Feasibility study report for utilization shall be incorporated in EIA report.
9. PP shall furnish status of all the applicable rules, acts, regulation, clearances in a tabular form.

- The TOR prescribed as above and as per the standard TOR approved by SEIAA and the model ToRs available in the MoEF&CC's sector specific EIA Manual for 'Synthetic Organic Chemical Industry' shall be considered as generic TORs for preparation of the EIA report in addition to all the relevant information as per the generic structure of EIA given in Appendix III in the EIA Notification, 2006.
- Further Project Proponent may be advised to submit final EIA Report with EC application within 100 days from the date of issuance of this ToR to expedite processing of Environment Clearance application.
- The project proponent shall have to apply for Environmental clearance through online portal http://environmentclearance.nic.in/ along with final EIA report.

12	SIA/GJ/IND2/38280/2019	**M/s. BEC Chemicals Pvt Ltd** Plot No.C-7, GIDC Saykha, Vagra, Bharuch.	**Screening and scoping**

Category of the unit: 5(f)

Project status: New

- This office has received an application vide their online proposal no. SIA/GJ/IND2/38280/2019 dated 31/07/2019 made by project proponent (PP) regarding grant of Terms of Reference [ToR] for preparation of EIA/EMP report.
- Project proponent (PP) has submitted Form-1, PFR and relevant details/information.
- This is new unit proposes for manufacturing of synthetic organic product as tabulated below:

Sr. No.	Name of the Products	CAS no. /CI no.	Quantity MT/Month	End-use of products
1	Ketoprofen	22071-15-4	29	Nonsteroidal Anti-inflammatory drugs (NSAIDS)

	Ketoprofen Lysinate Salt	57469-78-0		NSAIDS
	Dex Ketoprofen Salt	156604-79-4		NSAIDS
2	Ketoprofen Nitrile	42872-30-0	29	Intermediate for Ketoprofen& Salts
3	3-(1-cyanoethyl) benzoic acid (CEBA)	5537-71-3	42	Primary Raw Material For Ketoprofen Nitrile
4	5-Amino Salicyclic Acid Mesalazine/ Mesalamine	89-57-6	50	Anti Ulcerative
5	Carboxy Methyl Cysteine	–	42	Bronchodilator
	Carboxy Methyl Cysteine – Lysinate Salt	638-23-3		Bronchodilator
6	3-Hydroxy Tetrahydrofuran (HTHF)	453-20-3	4	Inter mediate for Benzoyl 3-Hydroxy Tetrahydrofuran
	Benzoyl 3-Hydroxy Tetrahydrofuran	-		Intermediate for Empagliflozin
7	Montelukast	158966-92-8	2	Anti-asthmatic
	Total		**198**	--

- The project falls under Category B of project activity 5(f) as per the schedule of EIA Notification 2006.
- PP was called for presentation in the SEAC meeting dated 11/12/2019.
- Salient features of the project including Water, Air and Hazardous waste management :

Sr. no.	**Particulars**	**Details**
A	Total **cost of Proposed** Project (Rs. in Crores):	Rs. 102 Crores
B	**Total Plot area** (sq. meter)	23466.000 Sq. Mt.
	Green belt area (sq. meter)	7744.00 sq. Mt. (33%)
C	**Employment generation**	200 nos. (150 skilled ,50 unskilled)
D	**Water**	
i	Source of Water Supply (GIDC Bore well, Surface water, Tanker supply etc...) Status of permission from the concern authority.	GIDC, Saykha -

ii **Water consumption (KLD)**

Category	Quantity KLD	Remarks
(M) Domestic	14	
(N) Gardening	12	
(O) Industrial		
Process	400	
Washing	-	
Boiler	160	
Cooling	154	
Hot Water Generator	1	
Industrial Total	715	
Total (A + B + C)	**741**	

1) **Total water requirement** for the project: 741 KLD
2) Quantity to be **recycled**: 0.0 KLD
3) Total **fresh water** requirement: 741 KLD

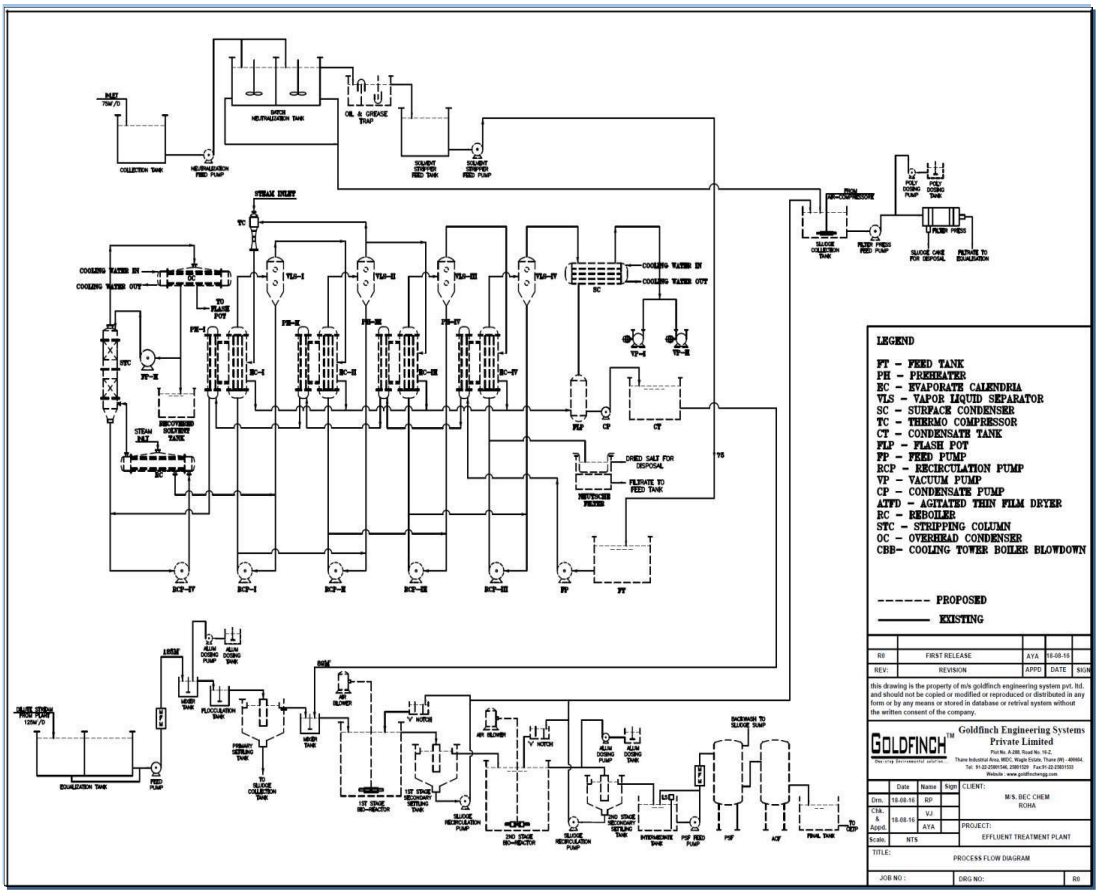
(Total water requirement = Fresh water + Recycled water)

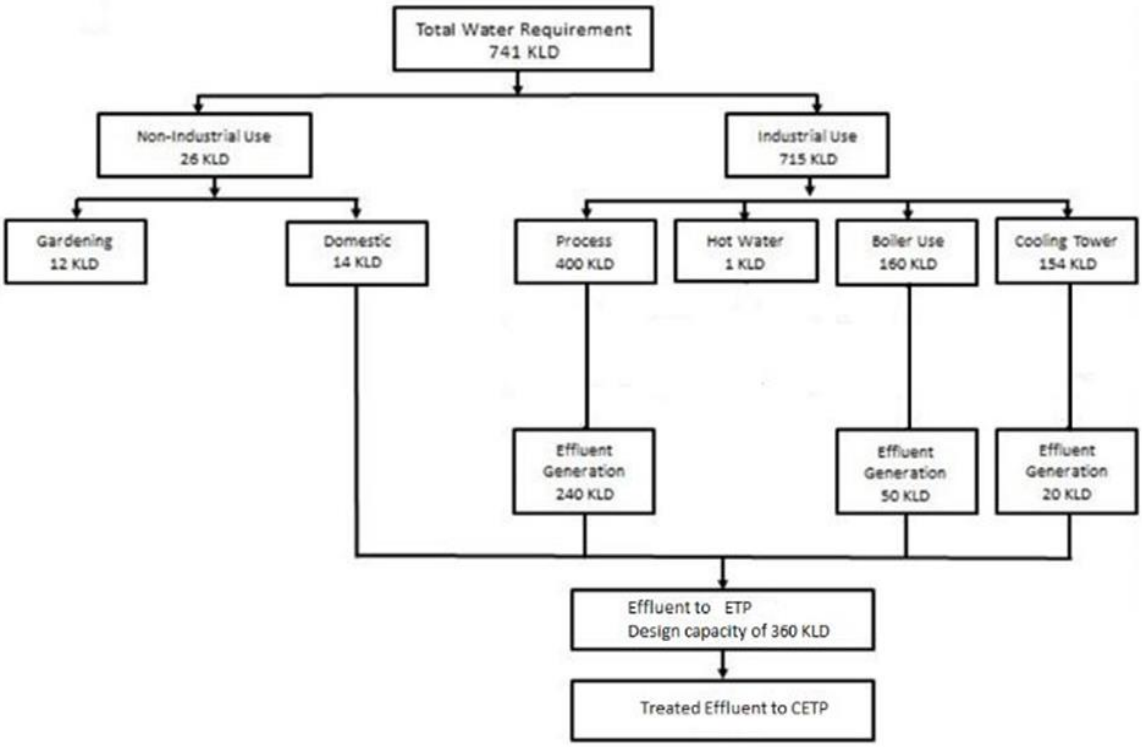
iii **Waste water generation (KLD)**

Category	Waste water KLD	Remarks
(I) Domestic	14	
(J) Industrial		
Process	240	
Washing	-	
Boiler	50	
Cooling	20	
Total Industrial waste water	310	
Total [A + B]	324	

iv Treatment facility within premises with **capacity**

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

	➢ **Primary, Secondary & Tertiary Treatment ETP with capacity of 360 KLD**  	
	Treatment scheme including segregation at source.	
	Note: (In case of CETP discharge) : **Management of waste water keeping in view direction under section 18 (1) (b) of the Water (Prevention and Control of Pollution) act, 1974 issued by CPCB regarding compliance of CETP.**	
	Brief note on adequacy of ZLD (In case of Zero Liquid Discharge): **Not Applicable**	
v	Mode of Disposal & Final meeting point	
	Domestic:	CETP
	Industrial:	CETP
vi	In case of Common facility (CF) like CETP, Common Spray dryer, Common MEE etc. **Name of CF** ➢ Applied for Membership in CETP Saykha.	
	Membership of Common facility (CF) **(For waste water treatment)**	
vii	**Simplified water balance diagram with reuse / recycle of waste water**	



viii Reuse/Recycle details (KLD)

Total reuse…….KLD

Source of waste water for reuse with quantity in KLD (From where it is coming)	**Application area with quantity in KLD (Where it is used)**	**Characteristics of waste water to be reused (COD, BOD, TDS etc.)**	**Remarks regarding feasibility to reuse i.e.**
-	-	-	-

E Air

i Flue gas emission details

No. of Boilers/TFH/Furnaces/DG sets etc. with capacities viz. TPH, Kcal/hr, MT/hr, KVA etc.

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

							(APCM)
		1	Boiler 10 TPH	32	Briquettes/ Coal	40	PM,SO2, NOx	Multi cyclone Dust collector followed by Bag filter
		2	D. G. Set 1000 KVA-2Nos.	Building Height + 6.5 m	HSD	200 Lit/Hour	PM,SO2, NOx	Adequate stack Height
		3	Tharmopac 2 Lakh-K-Cal	11	LDO	10 MT/Day	PM,SO2, NOx	Adequate stack Height

-

ii Process gas emission details i.e.Type of pollutant gases (SO_2, HCl, H_2S, NH_3,Cl_2?NO_x etc.)

-

Sr. no.	**Specific Source of emission (Name of the Product &Process)**	**Type of emission**	**Stack/Vent Height (meter)**	**Air Pollution Control Measures (APCM)**
1	Ketoprofen Nitrile (Reaction vessel of Ketoprofen Nitrile)	HCl,SO_2	Adequate	Two stage water scrubber followed by Alkali Scrubber
2	5-Amino Salicylic Acid/Mesalazine/Mesalamine (Reaction Vessel)	H_2S	Adequate	Two Stage Alkali Scrubber
3	Ketoprofen	NH_3	Adequate	Ammonia Recovery System/ Two stage water scrubber

-

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

As below:

F	**Hazardous wastes** (As per the Hazardous and Other Wastes (Management and Transboundary Movement) Rules 2016.
i	

Sr. no.	Type/Name of Hazardous waste	Specific Source of generation (Name of the Activity, Product etc.)	Category and Schedule as per HW Rules.	Quantity (MT/Annum)	Management of HW
1.	Used Oil	Lubrication of plant machineries	5.1	0.050	Collection, Storage and sale to authorized user
2.	Discarded containers/ Barrels/ Liners	Raw material storage area	33.1	8	Collection, storage, reuse and disposal at decontamination facility or by sent to authorize suppliers
3.	Spent Organic Solvent	From Distillation Process	28.6	680	Sent to authorized recycler/reprocesor
4.	Distillation Residue	During Distillation Residue	20.3	108	Collection, storage, transportation and disposal at TSDF site
5.	ETP Sludge	From Effluent Treatment Plan	35.3	600	Collection, storage, transportation and disposal at TSDF site
6.	Out of specification and date expired Raw Material and Finished Products	Date-expired, discarded and off-specification drugs/ medicines	28.4 & 28.5	10	Collection, storage, transportation and disposal at TSDF site
7.	Boric Acid+ NaCl	From	-	60	Collection, storage, transportation and

			Filtration during process of 3-(Hydroxytetra hydrofuran)-HTHF			disposal at TSDF site
	8.	Aluminium Chloride Solution (30-40%)	During the process of Ketoprofen Nitrile	26.1	1210	Collection, storage, transportation and disposal by selling to authorized recyclers having rule 9 permission
	9.	Hydrochloric Acid Solution (20-30%)	From scrubber system during the process of Ketoprofen Nitrile	21.1	315	Collection, storage, transportation and disposal by selling to authorized recyclers having Rule 9 permission.
	10.	Acetic Acid (25-30%)	From Process/ Acetylation	26.1	1800	Collection, storage, transportation and disposal by selling to authorized recyclers having Rule 9 permission.
	11.	Sodium Sulphide Solution (15-25%)		26.1	682	Collection, storage, transportation and disposal by selling to authorized recyclers having Rule 9 permission.
	12.	Triethyl Amine (TEA) Hydrochloride	From process of 3-(Hydroxytetra hydrofuran)-HTHF	26.1	118	Collection, storage, transportation and disposal by selling to authorized recyclers having Rule 9 permission.
ii	Membership details of **TSDF, CHWIF** etc. **(For HW management)**					-
iii	Details of Non-Hazardous waste & its disposal					NA

	(MSW and others)	
G	**Solvent management**, VOC emissions etc.--	
i	Types of solvents, Details of Solvent recovery, % recovery, reuse of recovered Solvents etc. (Details in Table Format) : **All solvents required for the respective products will be recovered by simple distillation with proper condensers by providing chilling and cooling arrangements. The expected recovery will be 95-98%. The recovered samples will be reused in the process of respective products.**	
	➢	
ii	VOC emission sources and its mitigation measures :	
	➢ There is no major chance of VOC Emission and if we found that we will take corrective and preventive action.	

- Technical presentation was made by the project proponent with consultant/expert M/s. Green Circle Inc. during SEAC meeting dated 11/12/2019.
- Committee noted that this proposal is for new unit located at GIDC Saykha, Bharuch.
- Industrial effluent will be treated in ETP consists of primary, secondary and tertiary treatment units. Treated effluent will be sent to cetp, Saykha for further treatment. It is noted that PP has not proposed effluent stream segregation based on concentration. PP could not justify treatability in conventional ETP considering product profile (bulk drugproducts).
- Two stage scrubber will be provided as APCM with process stacks. Multi cyclone dust collector followed by Bag filter will be provided as APCM with coal fired steam boiler of capacity 10 TPH. It is noted that proposal for APCM is not in-line with GPCB circular/guidelines.
- PP has addressed hazardous waste management.
- **After deliberation, committee unanimously decided to consider the proposal only after submission of the following details.**
    1. Revised water balance diagram and wastewater management with stream segregation keeping in view of worst case scenario.
    2. Revised disposal mode of treated effluent as CETP, Saykha shall accept industrial effluent of small enterprises as condition mentioned in its EC order.
    3. Revised proposal for APCM in-line with GPCB circular/guidelines.
    4. Revised HW matrix.

13	SIA/GJ/IND2/44206/2019	**M/s. Crystal Quinone Pvt. Ltd.** Plot No. T – 44, Saykha GIDC, Bharuch.	**Screening and Scoping**

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

Project status: **New**

1. This office has received an application vide their online proposal no. SIA/GJ/IND2/44206/2019 dated 13/10/2019 made by project proponent (PP) regarding grant of Terms of Reference [ToR] for preparation of EIA/EMP report.
2. Project proponent (PP) has submitted Form-1, PFR and relevant details/information.
3. This is new unit proposes for manufacturing of synthetic organic product as tabulated below:

Sr. No.	Group	Name of Product	CAS No.	Quantity (MT/ Month)	End of Use
1	Odd VS. &Sulphonamides Group 1	OAVS	10079-20-6	160.0	Dyes Intermediate
2		PCVS	21635-69-8		
3		2,5 DMAVS	26672-24-2		
4		Meta base condesne	2494-88-4		
5		Meta base ester	2494-88-4		
6	Odd VS. & Sulphonamides Group 2	N Ethyl meta base VS	83574-63-4	50.0	
7		N Ethyl para base VS	89986-40-3		
8		2,5 Dimethoxy aniline N methyl sulphonamide	52298-44-9		
9		Bronners VS	52218-35-6		
10		2,5 Dimethoxy aniline sulphonamide	52298-44-9		
11		2,5 Dimethoxy aniline 4 sulphonanilide	52298-44-9		
12		Para cresidine 4 N methyl sulphonamide	49564-57-0		
13		Benzanilide VS ester	66056-51-7		
14	Speciality Amines - Group 1	4 Chloro2,5 dimethoxy aniline	6358-64-1	200.0	Dyes Intermediate & Dyes
15		5 Amino 6 methyl benzimdazolone	67014-36-2		
16		MPDSA	88-63-1		
17		5 Chloro 2,4 dimethoxy aniline	97-50-7		
18		Meta Ureido Aniline (MUA)	59690-88-9		
19		2 Amino dimethyl	5372-81-6		

		teraphthalate			Dyes Intermediate & Dyes	
20		Nitro DMT (Dimethylterephthalate)	5292-45-5			
21		Amino dimethyl terapthlate	5372-81-6			
22		2,5 Dimethoxy aniline	102-56-7			
23	Speciality Amines Group 2	5 NAP	121-88-0	60.0		
24		Para cresidine	120-71-8			
25		NMJ	51-84-3			
26		2,4,5 tri chloro aniline	636-30-6			
27		3 Amino 4 Methoxy Acetanilide	6375-47-9			
28		PAABSA	104-23-4			
29		2 Nitro Monomethyl Terepthalate	5292-45-5			
30		1 Amino Anthraquinone	82-45-1			
31		4 NAPSA	93-67-3			
32		6 NAPSA	96-93-5			
33		2 Amino Dimethyl Teraphthalate	5372-81-6			
34		Mix Cleaves Acid	5372-81-6			
35		4 Chloro 2 Aminophenol	95-85-2			
36		3,5 Diamo Benzoic Acid	535-87-5			
37		Anthranalic Acid	118-92-3			
38		DEMAP	91-68-9			
39		Nitro NMT	75-52-5			
40		Para Amino Benzamide	2835-68-9			
41		Meta Amino Phenol (MAP)	7722-76-1			
42		2 Pyridone	142-08-5			
43	Bromamine Acid	Bromamine Acid	116-81-4	50.0		
44	Beta Napthol Derivatives	GAMMA Acid	90-51-7	35.0		
45		J Acid	87-02-5			
46		BON Acid	92-70-6			
47		SCHAFFERS Acid	93-01-6			
48		BRONNERS Acid	93-00-5			
49		G Salt	842-18-2			
50		Tobias Acid	81-16-3			
51		K acid	118-03-6			
52	Fast Bases	4 Methoxy 2 nitro aniline	96-96-8	50.0		
53		Meta Nitro Aniline	99-09-2			
54	Sulfonation Products	Aniline 2,5 disulphonic acid	98-44-2	100.0		
55		Meta amino acetanilide	102-28-3			
56		Sulpho Tobias acid	117-62-4			
57		Para cresidine Ortho Sulphonic acid	6471-78-9			
58		Aniline 2,4 Disulphonic acid	137-51-9			

59		5 Sulpho anthranilic acid	137-51-9			
60		EBAMSA	101-11-1			
61		Metanillic acid	121-47-1			
62	Chlorination Product	Chloranil	118-75-2	80.0		
63	Pyrazolones	1 Phenyl 3 methyl 5 pyrozolone	89-25-8	30.0	Used as a Intermediated for manufacturing dyes.	
64		1-2 Methyl 4 sulphopheyl 3 mehtyl 5 pyrozolone	118-07-0			
65		1 Phenyl 3 methyl 5 amino pyrozolone	1131-18-6			
66		Para tolyl 3 methyl 5 pyrozolone	86-92-0			
67		1-(3 Chlorophenyl)-3 methyl 5 pyrozolone	20629-90-7			
68		3 Methyl 5 pyrozolone	119-17-5			
69		1-4 sulphomido phenyl 3 methyl 5 pyrozolone	13269-73-3			
70		1-3 sulphomido phenyl 3 methyl 5 pyrozolone	89-29-2			
71		1-4 sulphophenyl 3 methyl 5 pyrozolone	89-36-1			
72		1-3 sulphophenyl 3 methyl 5 pyrozolone	119-17-5			
73	Anti-oxidants	BHA	121-00-6	80.0	Pharma Industries & Primary Antioxidants/stabilizes in Plastic Industries	
74		TBHQ	1948-33-0			
75	Aromatic Products	Methyl Anthralite	134-20-3	50.0		
76	Ethoxylates	HQEE	104-38-1	350.0		
77	Naphtols	Naphthol ASD	135-61-5	60.0	Dyes Intermediate & Dyes	
78		Naphthol ASBS	135-65-9			
79		Naphthol ASOL	135-62-6			
80		Naphthol AS-ITR	92-72-8			
81		Naphthol ASCL	137-52-0			
82		Naphthol AS-LC	4273-92-1			
83		Naphthol ASE	92-78-4			
84		Naphthol AS	135-19-3			
85		Naphthol AS-IRG	4433-79-8			
86		Naphthol ASBO	132-68-3			
87	Reactive Dyes - Group 1	Red 95	33239-19-9	200.0	Dyes Intermediate	
88		Red 120	61951-82-4			
89		Orange W3R	12225-83-1			
90	Reactive Dyes - Group 2	Red 76	68391-30-0	100.0		
91		Reactive Blue 250	93951-21-4			
92		Reactive Red 218	113653-03-5			
93		Reactive Red 194	23354-52-1			
94		Reactive Blue 220	128416-19-3			
95		Reactive Ble 171	77907-32-5			
96		Reactive Red W3R	12236-86-1			

97		Reactive Red 111	88232-20-6		
98		Reactive Red 23	12769-07-2		
Total				**1655.00**	---

- The project falls under Category B of project activity 5(f) as per the schedule of EIA Notification 2006.
- PP was called for presentation in the SEAC meeting dated 11/12/2019.
- Salient features of the project including Water, Air and Hazardous waste management :

Sr. no.	Particulars	Details
A		
A	Total **cost of Proposed** Project (Rs. in Crores):	25.3470 Crores
B	**Total Plot area** (sq. meter)	25695.02 Sq. m.
	Green belt area (sq. meter)	8500.00 Sq. m.
C	**Employment generation**	@200 persons
D	**Water**	
i	Source of Water Supply (GIDC Bore well, Surface water, Tanker supply etc...)	GIDC Supply
	Status of permission from the concern authority.	Permission Obtained
ii	**Water consumption (KLD)**	

Category	Quantity, KLD	Remarks
(P) Domestic	7.00	
(Q) Gardening	30.00	
(R) Industrial		
Process	346.00	
Washing	13.00	
Boiler	80.00	
Cooling	12.00	
Others	30.00	
Industrial Total	481.00	
Total (A + B + C)	518.00	

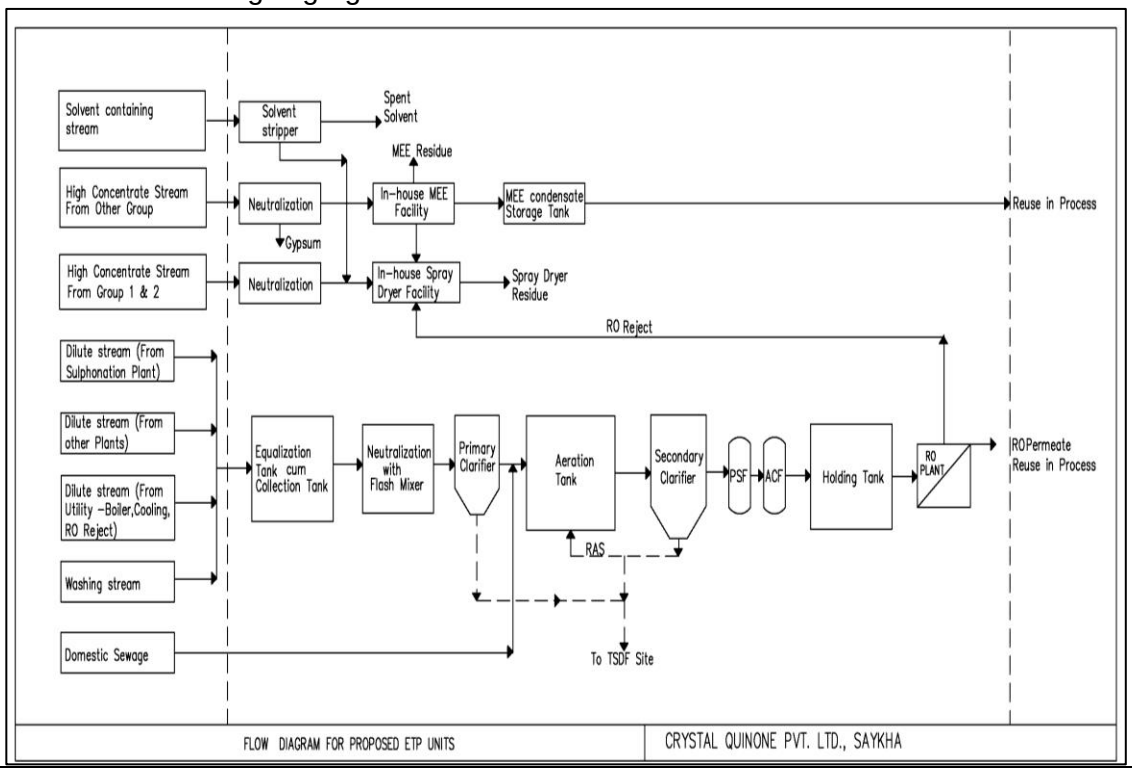
1. **Total water requirement** for the project: 518.0 KLD
2. Quantity to be **recycled**:141.0 KLD + 127.0 KLD direct reuse
3. Total **fresh water** requirement:250.0 KLD

(Total water requirement = Fresh water + Recycled water)

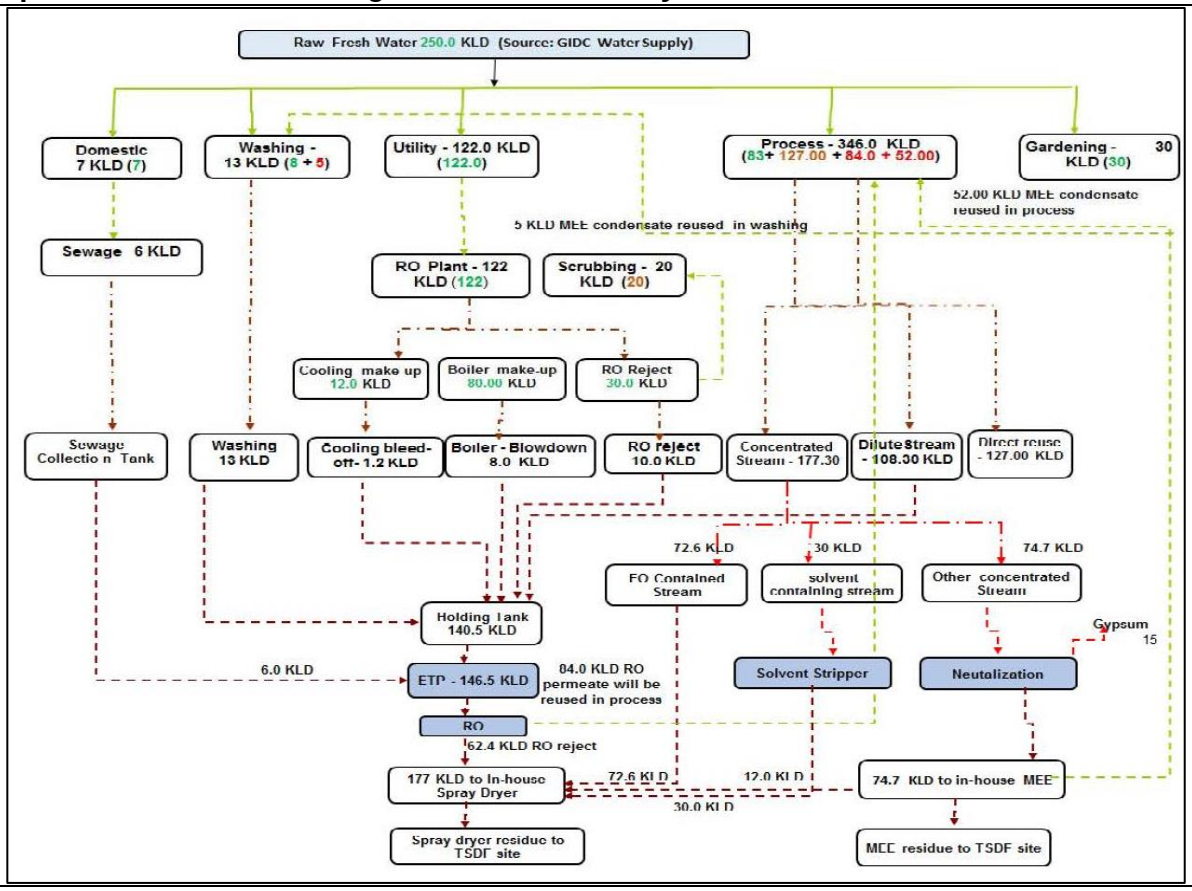
iii **Wastewater generation (KLD)**

Category	Wastewater, KLD	Remarks
(K) Domestic	6.00	
(L) Industrial		
Process	285.6	
Washing	13.0	
Boiler	8.0	
Cooling	1.2	
Others	10.0	
Total Industrial wastewater	317.8	
Total [A + B]	323.8	

iv Treatment facility within premises with **capacity**
[In-house ETP (Primary, Secondary, Tertiary), MEE, Stripper, Spray Dryer, STP etc.

	➢ ETP (Consisting of Primary, Secondary, Tertiary) – 175.0 KLD ➢ MEE - 4.0 KL/Hr. ➢ Spray Dryer – 5.0 KL/Hr of each (2 Nos.)	
	Treatment scheme including segregation at source.  	
	Note: (In case of CETP discharge) : **Management of waste water keeping in view direction under section 18 (1) (b) of the Water (Prevention and Control of Pollution) act, 1974 issued by CPCB regarding compliance of CETP**. ➢ Not Applicable	
	Brief note on adequacy of ZLD (In case of Zero Liquid Discharge): ➢ 323.8 KLD will be generated from industry. **Out of @323.8 KLD,** ➢ **146.5 KLD** (including sewage @6.0 KLD) will be sent to ETP followed by RO. ➢ **74.7 KLD** conc. stream will be disposed off through in-house MEE facility. ➢ **102.6 KLD** wastewater will be spray dried within in-house spray drying facility. (72.6 KLD of EO contained stream + 30.0 KLD of solvent containing stream) also in house spray drying 62.4 KLD ETP RO reject + 12.0 KLD from MEE plant, Total **177 KLD** will be spray dried within in-house spray drying ➢ 84.0 KLD RO permeate will be reused in process& 57.0 KLD MEE condensate will be reused in process(52.0 KLD) & washing(5.0 KLD)	
v	Mode of Disposal & Final meeting point	
	Domestic	➢ Domestic effluent will be sent to directly aeration tank of ETP.
	Industrial	➢ 323.8 KLD will be generated from industry. **Out of @323.8 KLD,** ➢ **146.5 KLD** (including sewage @6.0 KLD) will be sent to ETP followed by RO. ➢ **74.7 KLD** conc. stream will be disposed off through in-house MEE facility. ➢ **102.6 KLD** wastewater will be spray dried within in-house spray drying facility. (72.6 KLD of EO contained stream + 30.0 KLD of solvent containing stream) also in house spray drying 62.4 KLD ETP RO reject + 12.0 KLD from MEE plant, Total

		177 KLD will be spray dried within in-house spray drying ➢ 84.0 KLD RO permeate will be reused in process&57.0 KLD MEE condensate will be reused in process (52.0 KLD) & washing (5.0 KLD) ➢ 127.0 KLD will be generated from 2,5 Dimethoxy Aniline and TBHQ and will be reused directly in same products.
vi	In case of Common facility (CF) like CETP, Common Spray dryer, Common MEE etc. **Name of CF** ➢ Not Applicable	
	Membership of Common facility (CF) **(For waste water treatment)**	
	➢ Not Applicable	
vii	**Simplified water balance diagram with reuse / recycle of waste water**	



viii	Reuse/Recycle details (KLD)	
	Total reuse 288KLD	

Source of waste water for reuse with quantity in KLD (From where it is coming)	**Application area with quantity in KLD (Where it is used)**	**Characteristics of waste water to be reused (COD, BOD, TDS etc.)**	**Remarks regarding feasibility to reuse i.e.**
57.0 KLD MEE Condensate	Process + Washing	COD: @30-50 mg/L TDS: @100-150 mg/L	Feasible
127.0 KLD from process	Process	COD: @2500-3000 mg/L TDS: @4500-5000 mg/L	Feasible
84.00 KLD RO	Process	COD: @20-50 mg/L	Feasible

permeate of ETP RO		TDS: @100-150 mg/L		
20.00 KLD RO reject of Utility RO	Scrubber system	COD: @10-20 mg/L TDS: @2500-3000 mg/L	Feasible	

E **Air**

i Flue gas emission details
No. of Boilers/TFH/Furnaces/DG sets etc. with capacities viz. TPH, Kcal/hr, MT/hr, KVA etc.

Sr. No.	Stack attached to	Stack Height in Meter	Type/ Name of Fuel	Fuel consumption rate in MT/Day	Type of Emissions	APC Measures
1	Steam Boiler - 1 (3 TPH)	20	Imported Coal/ Agro Waste	8.00	SPM SO_2 NO_x	Bag filter followed by water scrubber
2	Steam Boiler - 2 (3 TPH)	20	Imported Coal/ Agro Waste	8.00		Bag filter followed by water scrubber
3	Steam Boiler - 3 (3 TPH)	20	Imported Coal/ Agro Waste	8.00		Bag filter followed by water scrubber
4	D.G. set - 1 No. (1000 KVA)	9	Diesel	1.00		Acoustic enclosure
5	Hot Air Generator (40 Lac Kcal) (2 Nos.)	20	Imported Coal/ Agro Waste	16 (For each)		Multi-cyclone with bag filter followed by water scrubber

ii Process gas emission details i.e. Type of pollutant gases (SO_2, HCl, NH_3, Cl_2, NO_x etc.)

Sr. No.	Specific Source of Emission (Name of the Product & Process)	Type of emission	Stack Height in meter	Air Pollution Control Measures (APCM)
1	Reactor Vessel - 1 (VS Plant)	HCl, SO_2	11	Two Stage Alkali Scrubber
2	Reactor Vessel - 2	HCl, SO_2		
3	Reactor Vessel - 3			
4	Reactor Vessel - 4			
5	Reactor Vessel - 5	SO_2	11	Two Stage Alkali Scrubber

6	Reactor Vessel - 6				
7	Reactor Vessel – 7 (For 2-pyridone & NMJ Acid)	NH3	11	Two Stage Water Scrubber	
8	Spray Dryer	PM	12	Water Scrubber	
9	Spray Dryer (5 KL/Hrof each)(2 Nos.)	PM	30	Cyclone separator followed by wet scrubber	

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

- Normally, fugitive emissions are envisaged from the handling of chemicals and manufacturing operations. The chemical handling & feed systems are automated & pneumatic, and moreover the reactions take place in closed vessels, hence the fugitive emissions will not be significant. Additionally, the unit has adopted effective engineering practices to mitigate the fugitive emissions.

F **Hazardous wastes**
(as per the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016.

i

Sr. No.	Type of Waste	Source of Generation	Category	Quantity, MT/Annum	Disposal Management &Method
1	ETP Sludge	ETP Plant	35.3	1100.00	Collection, Storage, Transportation and Disposal to authorized TSDF facility.
2	MEE residue	MEE	36.1	400.00	Collection, Storage, Transportation and Disposal to authorized TSDF facility.
3	Spray Dryer Residue	Spray Dryer for w/w	35.3	2500.00	Collection, Storage, Transportation and Disposal to authorized TSDF facility.
4	Used Oil	Plant Machineries	5.1	2.00	Collection, Storage, Transportation and Disposal by Sold out to the registered recyclers.
5	Discarded Container/ Liners/Bags/Drums	Storage of Raw material & Products	33.1	120.00	Collection, Storage, Transportation and Disposal by Sold out to the registered recyclers.

	6	Spent Solvent	Solvent recovery System	28.3	85.00	Collection, storage, transportation and process in in-house distillation process.	
	7	Distillation Residue	Distillation Unit	28.3	45.00	Collection, Storage, Transportation and Disposal to authorized CHWIF facility.	
	8	Spent Catalyst	Manufacturing Process	26.5	110.00	Collection, Storage, Transportation and Disposal to authorized CHWIF facility or send to co-process cement industries.	
	9	Spent Acid	Manufacturing Process	26.3	24640.0	Collection, Storage, Transportation and sold to end user having permission under rule-9.	
	10	Sodium bisulphite Sol.	Scrubbing system	B15	17500.0	Collection, Storage, Transportation and reused in manufacturing process or/and sold to actual users under HWM Rules, 2016..	
	10	HCl Sol.	Scrubbing system	B15	5700.00	Collection, Storage, Transportation and reused in manufacturing process or/and sold to actual users	

						under HWM Rules, 2016.
	11	Process Sludge	Manufacturing Process (Product No. 1 to 3, 8 to 12, 23,24,47,51,54, 57,80,81)	28.3	400.00	Collection, Storage, Transportation and Disposal to authorized CHWIF facility.
	12	Dilute Acetic Acid	Manufacturing Process (Product No.1, 2, 3 & 11)	26.3	1100.00	Collection, Storage, Transportation and sold to end user having permission under rule-9 of HWM Rules, 2016.
	13	Ammonium Bi Sulphide	Manufacturing Process Product No.48, 52 & 53)	35.3	1700.00	Collection, Storage, Transportation and reused in manufacturing process and sold to end user having permission under rule-9 of HWM Rules, 2016.
	14	Gypsum Sludge	Manufacturing Process (Metanillic acid, Mix Cleaves Acid & neutralization of conc. stream)	26.1	11700.0	Collection, Storage, Transportation and Disposal to authorized TSDF facility and/or send to co-process cement industries.
ii	Membership details of **TSDF, CHWIF** etc.**(For HW management)**		Will be obtained			
iii	Details of Non-Hazardous waste & its disposal(MSW and others)		Fly Ash @9152.00 MT/Annum will be generated and disposed to authorized send to Bricks manufacturing units or reused in within premises.			
G	**Solvent management**, VOC emissions etc.					
i	Types of solvents, Details of Solvent recovery, % recovery, reuse of recovered Solvents etc. (Details in					

Table Format)

Sr. No.	Solvent Name	Consumption MT/Month	Recovered MT/ Month	Fresh MT/ Month	% Recovery
1	Methanol	1103.21	1050.26	52.95	95.20
2	EDC	395.20	380.18	15.02	96.20
3	Xylene	1242.80	1206.76	36.04	97.10
4	Acetic Anhyride	163.65	155.46	8.18	95.00
5	Toluene	496.26	472.44	23.82	95.20
6	ODCB	223.00	214.97	8.03	96.40
7	EDCI	113.96	110.77	3.19	97.20
8	MDC	125.00	119.86	5.14	95.89
9	Aniline	22.50	21.42	1.08	95.20

ii VOC emission sources and its mitigation measures

It will be incorporated in REIA report.

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

Storage details	Name of major Hazardous chemicals	Remarks
Storage tanks	Methanol, Xylene, Toluene, ODCB, EDCI, Aniline, HCL,etc.	--
Drum/Barrel storage	Caustic Flaks, Sodium Sulphate, Activated Carbon, Schaffers Salt, etc	--

- **Applicability of PESO**: PESO permission will be obtained at time of commencement of project.

- Technical presentation was made by the project proponent with consultant/expert M/s. Green Circle Inc. during SEAC meeting dated 11/12/2019.
- This proposal is for new synthetic organic chemical manufacturing unit at Saykha GIDC, Bharuch.
- Low concentration stream will be treatability ETP (P+S+T) followed by RO. High concentration stream will be treated in MEE and Spray Dryer. RO permeate and MEE condensate will be reused for industrial purpose within premises.
- Bag filter followed by water scrubber will be provided as APCM with Imported Coal/Agro Waste fired 3 TPH Steam Boiler. Two Stage Alkali Scrubber will be provided as APCM with HCl and SO2 process gas emission.
- ETP sludge, MEE salt and Spray dried salt will be sent to TSDF. Gypsum sludge will be sent for co-processing or TSDF.
- **Considering the above project details, after detailed discussion, the terms of reference (ToR) were prescribed as below and as per the standard TOR for the Synthetic Organic Chemical projects recommended by SEAC vide letter no. EIA-10-GEN-21/1480 dated 14/09/2017 and approved by SEIAA in its 12th meeting dated 16/09/2017 for the EIA study to be done covering 10 Km radial distance from the project boundary.**

1. Technical justification of quantity of ETP sludge and salt against treatment of industrial effluent.

2. Adequacy assessment report of ETP to treat industrial effluent (with ETP stage wise reduction in pollutants)
3. Feasibility study report to reuse treated industrial effluent within premises.
4. Compliance of MoEFCC's OM dated 01/05/2018 regarding "Corporate Environment Responsibility" (CER). Fund allocation for Corporate Environment Responsibility (CER) shall be made as per MoEFCC's O.M. No. 22-65/2017-IA.III dated 01/05/2018 for various activities therein. The details of fund allocation and activities for CER shall be incorporated in EIA/EMP report.
5. Explore the use of renewable energy to the maximum extent possible. Details of provisions to make the project energy-efficient through of energy efficient devices and adoption of modes of alternative eco-friendly sources of energy like solar water heater, solar lighting etc. Measures proposed for energy conservation.
6. Qualitative and quantitative analysis of hazardous waste streams generation from the manufacturing process (Product wise) and scrubber. Explore the possibility to reuse such waste streams within premises as raw materials for other products. Sound management of such waste streams as per the HW Rules 2016 as amended time to time. Feasibility study report for utilization shall be incorporated in EIA report.
7. PP shall furnish status of all the applicable rules, acts, regulation, clearances in a tabular form.

- The TOR prescribed as above and as per the standard TOR approved by SEIAA and the model ToRs available in the MoEF&CC's sector specific EIA Manual for 'Synthetic Organic Chemical Industry' shall be considered as generic TORs for preparation of the EIA report in addition to all the relevant information as per the generic structure of EIA given in Appendix III in the EIA Notification, 2006.
- Further Project Proponent may be advised to submit final EIA Report with EC application within 100 days from the date of issuance of this ToR to expedite processing of Environment Clearance application.
- The project proponent shall have to apply for Environmental clearance through online portal http://environmentclearance.nic.in/ along with final EIA report.

14	SIA/GJ/IND2/30741/2019	**M/s. K L J Plasticizers Ltd** Plot No. 769/14, 15 & 16, GIC Jhagadia Dist. Bharuch.	**ToR Amendment**

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

Project status: **ToR Amendment**

- This office has received an application vide their online proposal no. SIA/GJ/IND2/30741/2019 made by

project proponent (PP) regarding grant of Terms of Reference [ToR] for preparation of EIA/EMP report.

- Project proponent (PP) has submitted Form-1, PFR and relevant details/information.
- This is new unit proposes for manufacturing of synthetic organic product as tabulated below:

Sr. No.	Name of Products	CAS No.	Production capacity (MTPA)	End-use of products
	PRODUCTS AS PER EXISTING TOR			
1	**Phosphate Ester**	**1330-78-5**	**3,000**	Plasticizers are used in PVC, giving this material improved flexibility and durability. The majority is used in films, All PVC articles and cables.
2	**Distillation of Paraffin Oil**	**64742-47-8**	**12,000**	
3	**Epoxydizsed Soya bean Oil (ESBO)**	**08-07-13**	**18,000**	
4	**Acetates**		**12,000**	
i	Butyl Acetate	123-86-4		
ii	Propyl Acetate	109-60-4		
iii	Butyl Glycol Acetate	-		
5	**Phthalate, Maleates & Adipates Plasticizers**		**50,000**	
i	Di Octyl Phthalate (DOP)	117-81-7		
ii	Di Isononyl Phthalate (DINP)	28553-12-0		
iii	Di Butyl Phthalate (DBP)	84-74-2		
iv	Di Propyl Heptyl Phthalate (DPHP) K-1010	53306-54-0		
v	Di Ethyl Phthalate (DEP)	84-66-2		
vi	Di Methyl Phthalate (DMP)	131-11-3		
vii	Di Octyl Tere Phthalate (DOTP) K-8080	6422-86-2		
viii	Di Octyl Maleates (DOM)	2915-53-9		
ix	Di Butyl Maleates (DBM)	105-76-0		
x	Di OctylAdipate (DOA)	1223-79-5		
6	**Speciality Plasticizers**		**8,000**	
i	Tri Octyl Tri-Maleate (TOTM)	3319-31-1		

ii	Di Ethylene Glycol Di Benzoate (K-DGB)	120-55-7		
iii	Acetyl Tri-butyl Citrate (ATBC)	77-90-7		
	Total		**1,03,000**	
	ADDITIONAL PRODUCTS			
7	Benzyl Benzoate (BB)	120-51-4	**6,000**	
8	Bezyl Acetate (BAC)	140-11-4	**6,000**	
9	Cinnamic Aldehyde (CNMD)	104-55-2	**2,400**	
	Total		**14,400**	
Grand Total Production Capacity (1 to 9) in MTPA			**1,17,400**	

Non EC Products:

Sr. No.	Name of Products	CAS No.	Production capacity (MTPA)	End-use of products
1	Calcium Chloride	**1001005-04-08**	**36,000**	**Dust control & de-icing, gas & oil, contraction, and niche applications such as metallurgical & food processing industries.**

- The project falls under Category B of project activity 5(f) as per the schedule of EIA Notification 2006.
- PP was called for presentation in the SEAC meeting dated 11/12/2019.
- Salient features of the project including Water, Air and Hazardous waste management :

Sr. no.	Particulars	Details
A	Total **cost of Proposed** Project (Rs. in Crores):	120 Crores
B	**Total Plot area** (sq. meter)	64872.3 Sq. m.
	Green belt area (sq. meter)	17420 Sq. m.

C	**Employment generation**	**Construction Phase –** 150 nos. **Operation phase –** 350 nos.
D	**Water**	
i	Source of Water Supply (GIDC Bore well, Surface water, Tanker supply etc...)	GIDC
	Status of permission from the concern authority.	Given in Annexure 11, figure 5 of Form 1

ii **Water consumption (KLD)**

Category	Quantity KLD	Remarks
(S) Domestic	18	
(T) Gardening	44	
(U) Industrial		
Process	109	
Washing	25	
Boiler	94	
Cooling	123	
DM Plant	9	
Scrubbing	28	
Industrial Total	388	
Total (A + B + C)	450	

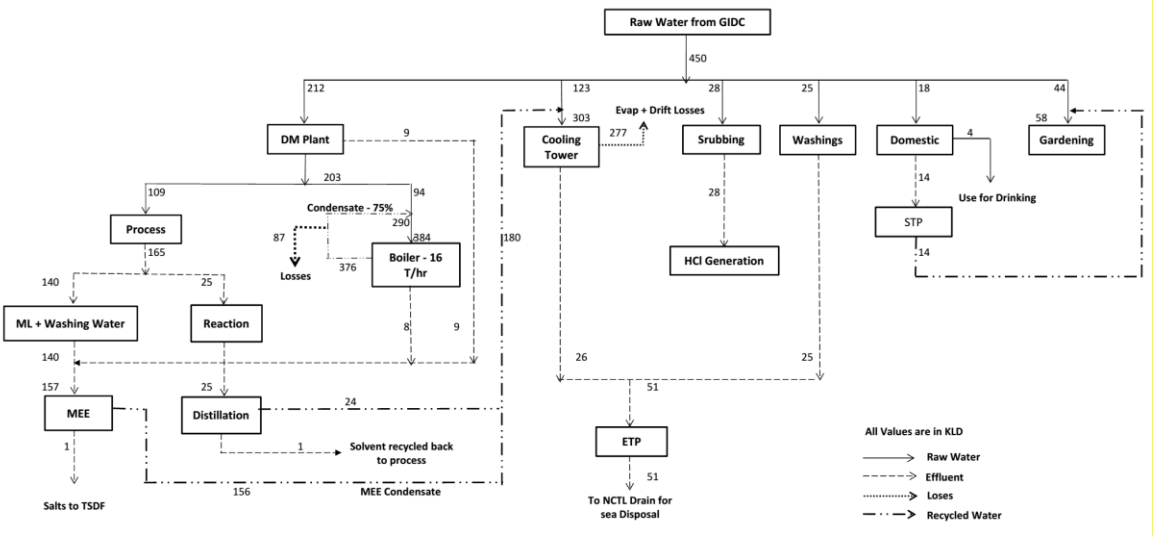
1) **Total water requirement** for the project: 644 KLD
2) Quantity to be **recycled**: 194 KLD
3) Total **fresh water** requirement: 450 KLD

iii **Waste water generation (KLD)**

Category	Waste water KLD	Remarks
(M) Domestic	14	Sewage will be treated in STP and treated sewage to be used for gardening.
(N) Industrial		
Process		

			165	
		Washing	25	
		Boiler	8	
		Cooling	26	
		Others (DM Plant + Scrubbing)	37	
		Total Industrial waste water	261	1) 156 KLD MEE condensate reuse in plant 2) 24 KLD reuse in cooling tower after distillation 3) 28 KLD scrubbing water will be reused in HCL process 4) 1 KLD Solvent reuse back in process 5) 1 KLD goes with MEE salt 6) 51 KLD utilities blow downs will be treated in ETP and then discharge into GIDC drain
		Total [A + B]	275	
	Note: ± 1 error in water & Wastewater generation figures due to round off the figures.			
iv	Treatment facility within premises with **capacity** [In-house ETP (Primary, Secondary, Tertiary), MEE, Stripper, Spray Dryer, STP etc..			
	ETP – 100 KLD Capacity MEE – 160 KLD Capacity STP – 20 KLD Capacity			
v	Mode of Disposal & Final meeting point			
	Domestic:	Sewage will be treated in STP and treated sewage to be used for gardening.		
	Industrial:	Industrial effluent will be treated in proposed ETP and MEE and treated water will be discharged into NCTL drain for sea discharge.		
vi	In case of Common facility (CF) like CETP, Common Spray dryer, Common MEE etc. , Name of CF			
	NA			
	Membership of Common facility (CF) **(For waste water treatment)**			
	NA			

vii	**Simplified water balance diagram with reuse / recycle of waste water**



viii	Reuse/Recycle details (KLD)

Total reuse Water - 194 KLD

Source of waste water for reuse with quantity in KLD	**Application area with quantity in KLD**	**Remarks regarding feasibility to reuse i.e. w/w characteristics (COD, BOD, TDS etc.)**
24 KLD from reaction water after distillation	Use for Cooling tower make up water	COD <100 ppm BOD <30 ppm TDS < 500 ppm
156 KLD MEE condensate	Use for Cooling tower make up water	COD <250 ppm BOD <50 ppm TDS < 500 ppm
14 KLD Treated sewage from STP	Use for Gardening	COD <50 ppm BOD <10 ppm TDS < 2100 ppm

E	**Air**
i	Flue gas emission details No. of Boilers/TFH/Furnaces/DG sets etc. with capacities viz. TPH, Kcal/hr, MT/hr, KVA etc.

-

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

1	Thermic Fluid Heater (66LKCAL/hr)	30	Lignite/Coal/ Biofuels	2000 kg/hr	PM<=150 mg/Nm3, SO2<= 100 ppm, NOx<=50 ppm	Bag Filter
2	DG Set (500 KVA)	12	HSD	200 lit/hr		Adequate stack height
	Proposed Unit (EC Products)					
1	DG Set (1500 KVA)	10	HSD	200 lit/hr	PM<=150 mg/Nm3, SO2<= 100 ppm, NOx<=50 ppm	Adequate stack height
2	Boiler (16 TPH)	30	Coal	1920 kg/hr		ESP
3	Thermic Fluid Heater (3 Nos.) 25 LKCAL/hr- each	30	Coal	2200 kg/hr		ESP
4	Thermic Fluid Heater (66 LKCAL/hr)	30	Coal	2000 kg/hr		ESP

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

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Sr. no.	Specific Source of emission (Name of the Product & Process)	Type of emission	Stack/Vent Height (meter)	Air Pollution Control Measures (APCM)
	Existing (Non EC Products)			
1	Calcium Chloride	HCl < 20 ppm	20	Water Scrubber
	Proposed (EC Products)			
1	Phosphate Ester Plant	HCl < 20 ppm	24	Water and Caustic Absorber / Scrubber

-

iii	**Fugitive emission** details with its mitigation measures. As below:	
	Source of Emission: Fugitive emissions from storage & handling area for raw materials, solvents, finished products is envisaged due to proposed project. **Mitigation Measures:** • All the joints, flanges, pumps, glands, seals, valves will be maintained in good conditions through timely predictive and preventive maintenance. • Regular workplace monitoring will be carried out. • Phase-wise development of green belt will be undertaken in which green belt will be developed along with construction activity. • Manual Handling of various chemicals will be avoided and will be designed by implementing latest automation technology.	
F	**Hazardous wastes** (as per the Hazardous and Other Wastes (Management and Transboundary Movement) Rules 2016.	
i		

Sr. No.	Type of Waste	Hazardous Waste Category	Waste Quantity MTPA			Source	Means of Storage	Disposal Method
			As per Existing ToR	Proposed Amendment	Total after ToR Amendment			
1	Cotton Waste	33.2	1.2	0	1.2	Plant & Machineries	Bag	Collection, Storage, Transportation and disposal to Approved Incineration Facility
2	Hydrochloric Acid (34%)	B-15	900	0	900	Manufacturing Process	Tank	Collection, Storage and use for in-house manufacturing of Calcium Chloride
3	Distillation Residue	36.1	300	0	300	Manufacturing Process of phosphate ester	Drums	Collection, Storage, Transportation and send to disposal to Approved Incineration Facility
4	Process Sludge	32.3	480	234	714	Manufacturing Process from paraffin distillation and Benzyl ester	Bags/Drums	234 MT will send for Co-processing and 480 MT will be try for suitable co-processing unit otherwise disposal to Approved Incineration Facility
5	Process Sludge – CaCl2 Plant & Benzyl Esters (Benzyl Acetate and Benzoate process - Inorganic pure NaCl)	34.2	**2520**	**4080**	**6600**	Manufacturing Process	Bag	4080 MT of pure NaCl -Collection, Storage, Transportation and will be sent to suitable Co-processing Unit (Textile) & 2520 MT will be send to disposal to Approved TSDF Facility

	6	Filter Cake	36.2	111	0	111	Manufacturing Process	Bag	Collection, Storage, Transportation and disposal to Approved TSDF/Incineration Facility
	7	ETP Sludge	35.3	85	10	95	ETP Area	Bag	Collection, Storage, Transportation and disposal to Approved TSDF
	8	MEE Salt	-	**585**	**190**	**775**	MEE Area	Bag	Collection, Storage, Transportation and disposal to Approved TSDF
	9	Discarded Bags / Containers, and Liners	33.1	240100 Nos.	1000	2,41,100	Plant Area	Storage Area in form of stack	Collection, Storage, Transportation and Sale to Actual users having Rule 9 permission under HW rule
	10	Used / Spent Oil	5.1	2.15	0	2.15	Plant & Machineries	Drum	Collection, Storage, Transportation and Sale to Actual users having Rule 9 permission under HW rule

ii	Membership details of **TSDF, CHWIF** etc. **(For HW management)**	Applied for
iii	Details of Non-Hazardous waste & its disposal (MSW and others)	Fly Ash – 6431 MTPA
G	**Solvent management**, VOC emissions etc.	
i	Types of solvents, Details of Solvent recovery, % recovery. reuse of recovered Solvents • Will provide in EIA report	
ii	VOC emission sources and its mitigation measures • Will Provide in EIA report	

- This is ToR amendment proposal for production expansion. Unit has received ToR from SEIAA, Gujarat vide no. SEIAA/GUJ/TOR/5(f)/743/2019 dated 16th May, 2019 for production of 6 EC-Products and 1 Non - EC product totaling Capacity to 1,03,000 and 36,000 MT/Annum respectively.
- Now, unit has proposed addition of 3 new products namely Benzyl Benzoate (BB), Bezyl Acetate (BAC) and Cinnamic Aldehyde (CNMD) with total production capacity of 14,400 MTPA.
- 20 KLPD Industrial effluent will be increased due to expansion activity. The mother liquor and washing water generation form the process will be treated in proposed MEE along with boiler blow down and DM regeneration water after primary treatment. MEE condensate will be reused in cooling tower makeup. Whereas reaction water generated from the process will also be reused in cooling tower make up water after distillation. Distillate solvent recycle in process. Cooling tower blow down and washing water (plant and floor washing) will be treated in proposed ETP consisting primary, secondary biological and tertiary

treatment. The treated effluent from ETP then discharged into GIDC drain through NCTL pipeline for sea disposals. Sludge generation from the ETP will be disposed into approved TSDF facility at BEIL.

- There will be no addition of process stacks due to proposed expansion. 16 TPH boiler will be installed for proposed expansion. ESP will be provided APCM with proposed steam boiler.
- PP addressed increase in hazardous wastes due to proposed expansion along with its management.
- **Considering the above project details after detailed discussion, committee unanimously decided to forward above proposal to SEIAA, Gujarat for grant of ToR Amendment Application with following additional ToR.**

1. Provision of APCM as per prevailing GPCB rules & regulations/circulars.

Letters Received By SEAC – Gujarat

1. Letter of SEIAA, Gujarat vide no. SEIAA/GUJ/GEN/1706/2016 dated 05.12.2019

- Aforementioned letter regarding utilization of Gypsum waste generated from chemical Industries was considered in SEAC meeting dated 11/12/2019.
- Gypsum is largely being used as raw material by various stakeholders (Cement, Plaster of Paris Industries etc).
- It is also to note that Gypsum is also produced by chemical Industries as process waste by various Government and Private stakeholders. Its storage, transportation, handling and disposal is a challenge. At the same time, stakeholders who are importing natural gypsum are also required to explore possibilities for using Gypsum (process waste of chemical Industries). This will resolve problem of its storage, transportation, handling and disposal.
- It is also pertinent to note that Gypsum waste (Basel No: A2040 of Schedule VI) is prohibited to be imported from other countries under the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016.
- **In view of above, committee unanimously decided to prescribe additional ToR/conditions in**

EC regarding to explore possibilities of utilization of Gypsum waste generated from chemical Industry instead of natural Gypsum and co-processing of Gypsum waste instead of disposal to TSDF.

- **It was also unanimously decided to prescribe additional ToR/conditions in EC of Ports, Harbours, Break Waters, Dredging Projects categorized as 7 (e) in the EIA Notification, 2006 that they shall not import Gypsum from other countries to Gujarat.**

Meeting ended with thanks to the Chairs.

Minutes approved by:

1.	Shri S. C. Srivastav, Vice Chairman, SEAC	
2.	Shri V. N. Patel, Member, SEAC	
3.	Shri. R. J. Shah, Member, SEAC	
4.	Dr. V. K. Jain, Member, SEAC	
5.	Shri Rajesh I. Shah, Member, SEAC	