FORM-1

for

PROPOSED PESTICIDE SPECIFIC INTERMEDIATES AND SPECIALTY CHEMICALS PLANT

of

M/s. Shree Pramukh Chemicals

PLOT NO. 3119, GIDC ESTATE-PANOLI, TALUKA: ANKLESHWAR, DIST: BHARUCH, GUJARAT

APPENDIX I

(See paragraph - 6)

FORM 1

Sr. No.	Item	Details
1.	Name of the project/s	M/s. Shree Pramukh Chemicals
2.	S. No. in the schedule	5 (b) & 5 (f)
3.	Proposed capacity/area/length/tonnage to be handled/command area/lease area/number of wells to be drilled	For detail Please refer **Annexure – I**
4.	New/Expansion/Modernization	New
5.	Existing Capacity/Area etc.	For detail Please refer **Annexure – I**
6.	Category of Project i.e. 'A' or 'B'	A
7.	Does it attract the general condition? If yes, please specify.	No
8.	Does it attract the specific condition? If yes, please specify.	No
9.	Location	
	Plot/Survey/Khasra No.	Plot No. 3119,
	Village	GIDC Industrial Estate-Panoli,
	Tehsil	Ankleshwar
	District	Bharuch
	State	Gujarat
10.	Nearest railway station/airport along with distance in kms.	Railway Station (Ankleshwar) = 5 Km Airport (Surat) = 50 Km
11.	Nearest Town, city, District Headquarters along with distance in kms.	Panoli = 3 Km
12.	Village Panchayats, Zilla Parishad, Municipal Corporation, local body (complete postal address with telephone nos. to be given)	Panoli = 3 Km
13.	Name of the applicant	M/s. Shree Pramukh Chemicals
14.	Registered Address	Plot No. 3119, GIDC-Panoli, Taluka: Ankleshwar, Dist: Bharuch, Gujarat.
15.	Address for correspondence:	Plot No. 3119, GIDC-Panoli, Taluka: Ankleshwar, Dist: Bharuch, Gujarat.
	Name	Mr. Jignesh Nayani
	Designation (Owner/Partner/CEO)	Partner
	Address	Plot No. 3119, GIDC-Panoli, Taluka: Ankleshwar, Dist: Bharuch, Gujarat.
	Pin Code	394116

	E-mail	Jignesh.nayani777@gmail.com
	Telephone No.	Mob.: +919714044806
	Fax No.	--
	Mobile No.	Mob.: +919714044806
16.	Details of Alternative Sites examined, if any. Location of these sites should be shown on a topo sheet.	NA
17.	Interlinked Projects	NA
18.	Whether separate application of interlinked project has been submitted?	NA
19.	If yes, date of submission	NA
20.	If no, reason	NA
21.	Whether the proposal involves approval/clearance under: if yes, details of the same and their status to be given. (a) The Forest (Conservation) Act, 1980? (b) The Wildlife (Protection) Act, 1972? (c) The C.R.Z. Notification, 1991?	No
22.	Whether there is any Government Order/Policy relevant/relating to the site?	No
23.	Forest land involved (hectares)	NA
24.	Whether there is any litigation pending against the project and/or land in which the project is propose to be set up? (a) Name of the Court (b) Case No. (c) Orders/directions of the Court, if any and its relevance with the proposed project.	NA

- Capacity corresponding to sectoral activity (such as production capacity for manufacturing, mining lease area and production capacity for mineral production, area for mineral exploration, length for linear transport infrastructure, generation capacity for power generation etc.,)

(II) Activity

1. **Construction, operation or decommissioning of the Project involving actions, which will cause physical changes in the locality (topography, land use, changes in water bodies, etc.)**

Sr. No.	Information/Checklist confirmation	Yes/No	Details there of with approximate quantities frates, wherever possible) with source of information data
1.1	Permanent or temporary change in land use, land cover or topography including increase intensity of land use (with respect to local land use plan)	No	Proposed project activity is within the GIDC Industrial Estate.
1.2	Clearance of existing land, vegetation and Buildings?	Yes	Minor site clearance activities shall be carried out to clear shrubs and weed.
1.3	Creation of new land uses?	No	The project site is located on level ground, which does not require any major land filling for area grading work.
1.4	Pre-construction investigations e.g. bore Houses, soil testing?	No	
1.5	Construction works?	Yes	Please refer **Annexure – II.**
1.6	Demolition works?	No	There will be not any demolition work at the site.
1.7	Temporary sites used for construction works or housing of construction workers?	No	
1.8	Above ground buildings, structures or earthworks including linear structures, cut and fill or excavations	Yes	Please refer **Annexure – II.**
1.9	Underground works mining or tunneling?	No	
1.10	Reclamation works?	No	
1.11	Dredging?	No	
1.12	Off shore structures?	No	
1.13	Production and manufacturing processes?	Yes	Please refer **Annexure –III.**
1.14	Facilities for storage of goods or materials?	Yes	Raw material & finished products storage area will be developed.
1.15	Facilities for treatment or disposal of	Yes	For Facilities for treatment or

	solid waste or liquid effluents?		disposal of liquid effluents is referred as **Annexure-V.** For Hazardous waste detail please refer **Annexure – VI.**
1.16	Facilities for long term housing of operational workers?	No	
1.17	New road, rail or sea traffic during Construction or operation?	No	
1.18	New road, rail, air waterborne or other transport infrastructure including new or altered routes and stations, ports, airports etc?	No	
1.19	Closure or diversion of existing transport routes or infrastructure leading to changes in Traffic movements?	No	
1.20	New or diverted transmission lines or Pipelines?	No	
1.21	Impoundment, damming, culverting, realignment or other changes to the hydrology of watercourses or aquifers?	No	
1.22	Stream crossings?	No	
1.23	Abstraction or transfers of water form ground or surface waters?	Yes	Water requirement will be met through Ankleshwar GIDC water supply.
1.24	Changes in water bodies or the land surface Affecting drainage or run-off?	No	
1.25	Transport of personnel or materials for construction, operation or decommissioning?	Yes	Transportation of personnel or raw material and products will be primarily by road only.
1.26	Long-term dismantling or decommissioning or restoration works?	No	
1.27	Ongoing activity during decommissioning which could have an impact on the environment?	No	
1.28	Influx of people to an area either temporarily or permanently?	No	
1.29	Introduction of alien species?	No	
1.30	Loss of native species or genetic diversity?	No	
1.31	Any other actions?	No	

2. Use of Natural resources for construction or operation of the Project (such as land, water, materials or energy, especially any resources which are non-renewable or in short supply):

Sr. No.	Information/checklist confirmation	Yes/No	Details thereof (with approximate quantities /rates, wherever possible) with source of information data
2.1	Land especially undeveloped or agricultural land (ha)	No	Proposed project activity will be within GIDC Industrial Area-Panoli, Tal: Ankleshwar, Dist: Bharuch.
2.2	Water (expected source & competing users) unit: KLD	Yes	Water Source: Panoli GIDC Water Supply For details please refer **Annexure – IV.**
2.3	Minerals (MT)	No	
2.4	Construction material - stone, aggregates, and / soil (expected source - MT)	Yes	Construction material will be required for proposed project of few types of equipment. Construction materials like steel, cement, crushed stones, sand, rubble, etc. required for the project shall be procured from the local market of the region.
2.5	Forests and timber (source - MT)	No.	
2.6	Energy including electricity and fuels (source, competing users) Unit: fuel (MT), energy (HP)	Yes	**POWER REQUIREMENTS**: **Proposed:** Power required from DGVCL is 500 KVA. Standby power supply from D.G. set (250 KVA) in emergency case. **FUEL REQUIREMENTS:** Agro waste = 8.0 MT/Day (Proposed) HSD = 10 Liter/Hr (Proposed)
2.7	Any other natural resources (use appropriate standard units)	No	

3. Use, storage, transport, handling or production of substances or materials, which could be harmful to human health or the environment or raise concerns about actual or perceived risks to human health.

Sr. No.	Information/Checklist confirmation	Yes/No	Details there of (with approximate quantities/rates, wherever possible) with source of information data
3.1	Use of substances or materials, which are hazardous (as per MSIHC rules) to human health or the environment (flora, fauna, and water supplies)	Yes	Please refer **Annexure –VIII.**
3.2	Changes in occurrence of disease or affect disease vectors (e.g. insect or water borne diseases)	No	
3.3	Affect the welfare of people e.g. by changing living conditions?	No	
3.4	Vulnerable groups of people who could be affected by the project e.g. hospital patients, children, the elderly etc.	No	
3.5	Any other causes	No	

4. Production of solid wastes during construction or operation or decommissioning (MT/month)

Sr. No.	Information/Checklist confirmation	Yes/No	Details there of (with approximate quantities/rates, wherever possible) with source of information data
4.1	Spoil, overburden or mine wastes	No	
4.2	Municipal waste (domestic and or commercial wastes)	No	
4.3	Hazardous wastes (as per Hazardous Waste Management Rules)	Yes	Please refer **Annexure – VI.**
4.4	Other industrial process wastes	Yes	Please refer **Annexure – VI.**
4.5	Surplus product	No	
4.6	Sewage sludge or other sludge from effluent treatment	No	
4.7	Construction or demolition wastes	No	
4.8	Redundant machinery or equipment	No	
4.9	Contaminated soils or other materials	No	
4.10	Agricultural wastes	No	
4.11	Other solid wastes	Yes	Please refer **Annexure – VI.**

5. Release of pollutants or any hazardous, toxic or noxious substances to air (Kg/hr)

Sr. No.	Information/Checklist confirmation	Yes/No	Details there of (with approximate quantities/rates, wherever possible) with source of information data
5.1	Emissions from combustion of fossil fuels from stationary or mobile sources	Yes	Please refer **Annexure – VII.**
5.2	Emissions from production processes	Yes	Please refer **Annexure – VII.**
5.3	Emissions from materials handling storage or transport	No	
5.4	Emissions from construction activities including plant and equipment	No	
5.5	Dust or odours from handling of materials including construction materials, sewage and waste	No	
5.6	Emissions from incineration of waste	No	
5.7	Emissions from burning of waste in open air e.g. slash materials, construction debris)	No	
5.8	Emissions from any other sources	Yes	Please refer **Annexure – VII.**

6.Generation of Noise and Vibration, and Emissions of Light and Heat:

Sr. No.	Information/Checklist confirmation	Yes/No	Details there of (with approximate quantities/rates, wherever possible) with source of information data with source of information data
6.1	From operation of equipment e.g. engines, ventilation plant, crushers	Yes	The Noise level will be within the prescribed limit. At noisy areas adequate preventive & control measures will be taken. No significant noise, vibration or emission of light & heat from the unit.
6.2	From industrial or similar processes	Yes	-Do-
6.3	From construction or demolition	No	
6.4	From blasting or piling	No	
6.5	From construction or operational traffic	No	
6.6	From lighting or cooling systems	No	
6.7	From any other sources	No	

7. Risks of contamination of land or water from releases of pollutants into the ground or into sewers, surface waters, groundwater, coastal waters or the sea:

Sr. No.	Information/Checklist confirmation	Yes/No	Details there of (with approximate quantities/rates, wherever possible) with source of information data
7.1	From handling, storage, use or spillage of hazardous materials	Yes	Please refer **Annexure – VIII.**
7.2	From discharge of sewage or other effluents to water or the land (expected mode and place of discharge)	Yes	For details please refer **Annexure – V.**
7.3	By deposition of pollutants emitted to air into the and or into water	No	
7.4	From any other sources	No	
7.5	Is there a risk of long term build up of pollutants in the environment from these sources?	No	

8. Risk of accidents during construction or operation of the Project, which could affect human health or the environment

S.No.	Information/Checklist confirmation	Yes/No	Details there of (with approximate quantities/rates, wherever possible) with source of information data
8.1	From explosions, spillages, fires etc from storage, handling, use or production of hazardous substances	Yes	Please refer **Annexure – VIII.**
8.2	From any other causes	No	
8.3	Could the project be affected by natural disasters causing environmental damage (e.g. floods, earthquakes, landslides, cloudburst etc)?	No	

9. **Factors which should be considered (such as consequential development) which could lead to environmental effects or the potential for cumulative impacts with other existing or planned activities in the locality**

Sr. No.	Information/Checklist confirmation	Yes/No	Details there of (with approximate quantities/rates, wherever possible) with source of information data
9.1	Lead to development of supporting. utilities, ancillary development or development stimulated by the project which could have impact on the environment e.g. • Supporting infrastructure (roads, power supply, waste or waste water treatment, etc.) • housing development • extractive industry • supply industry • other	Yes	Please refer **Annexure – IX.**
9.2	Lead to after-use of the site, which could have an impact on the environment	No	
9.3	Set a precedent for later developments	No	
9.4	Have cumulative effects due to proximity to other existing or planned projects with similar effects	No	

(II) Environmental Sensitivity

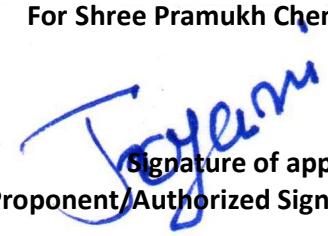
Sr. No.	Areas	Name/ Identity	Aerial distance (within 15km.) Proposed project location boundary
1	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other related value	NA	Proposed project site is within the GIDC Industrial Estate-Panoli.
2	Areas which important for are or sensitive Ecol logical reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	NA	
3	Area used by protected, important or sensitive.Species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration	NA	No protected area or sensitive species within 5 km from the proposed project boundary.
4	Inland, coastal, marine or underground waters	NA	No inland, costal or marine within 15 km from the project.
5	State, National boundaries	NA	N.A.
6	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	Yes	Public transportation
7	Defense installations	NA	
8	Densely populated or built-up area	Ankleshwar	Ankleshwar City around 5 km from the proposed project site.
9	Area occupied by sensitive man-made land uses Hospitals, schools, places of worship, community facilities)	No	
10	Areas containing important, high quality or scarce resources (ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals)	No	
11	Areas already subjected to pollution environmental damage. (those where existing legal environmental standards are exceeded)or	No	NA
12	Areas susceptible to natural hazard which could cause the project to present environmental problems (earthquake , subsidence ,landslides, flooding erosion, or extreme or adverse climatic conditions)	No	NA

IV). Proposed Terms of Reference for EIA studies: Please refer Annexure - X

I hereby given undertaking that, the data and information given in the application and enclosures are true to the best of my knowledge and belief and I am aware that if any part of the data and information submitted is found to be false or misleading at any stage the project will be rejected and clearance give, if any to the project will be revoked at our risk and cost.

Date: 30/07/2018
Place: GIDC, Panoli

For Shree Pramukh Chemicals



Signature of applicant
(Project Proponent/Authorized Signatory)

NOTE:

1. The projects involving clearance under Coastal Regulation Zone Notification, 1991 shall submit with the application a C.R.Z. map duly demarcated by one of the authorized agencies, showing the project activities, w.r.t. C.R.Z. (at the stage of TOR) and the recommendations of the State Coastal Zone Management Authority (at the stage of EC). Simultaneous action shall also be taken to obtain the requisite clearance under the provisions of the C.R.Z. Notification, 1991 for the activities to be located in the CRZ.

2. The projects to be located within 10 km of the National Parks, Sanctuaries, Biosphere Reserves, Migratory Corridors of Wild Animals, the project proponent shall submit the map duly authenticated by Chief Wildlife Warden showing these features vis-à-vis the project location and the recommendations or comments of the Chief Wildlife Warden thereon (at the stage of EC).

3. All correspondence with the Ministry of Environment & Forests including submission of application for TOR/Environmental Clearance, subsequent clarifications, as may be required from time to time, participation in the EAC Meeting on behalf of the project proponent shall be made by the authorized signatory only. The authorized signatory should also submit a document in support of his claim of being an authorized signatory for the specific project.

LIST OF ANNEXURES

SR. NO.	NAME OF ANNEXURE
I	List of Products and Raw materials along with their Production Capacity
II	Layout Map of the Plant
III	Brief Manufacturing Process Description
IV	Details of water consumption & waste water generation
V	Details of Effluent Treatment Scheme
VI	Details of Hazardous Waste Generation and Disposal
VII	Details of Stacks and Vents, Fuel & Energy Requirements
VIII	Details of Hazardous Chemicals Storage & Handling
IX	Socio-economic Impacts
X	Proposed Terms of Reference

ANNEXURE-I

LIST OF PRODUCTS ALONG WITH THEIR PRODUCTION CAPACITY WITH RAW MATERIALS

SR. NO.	PRODUCTS	CAS NO	PRODUCTION CAPACITY (MT/MONTH)	LD50
PROPOSED PRODUCTS				
Specialty Chemicals [5(f)]				
1	2-Amino 4 Hydroxy Acetophenone	90033-64-0	**40**	2000 mg/kg
2	3,4,5-trimethoxy benzoic acid	118-41-2		5000 mg/kg
3	3,4,5-Trimethoxy Benzaldehyde	86-81-7		422 mg/kg
4	1-(2,6 Dichloro Phenyl)2-Indolinone	15307-86-5		1200 mg/kg
5	Tert Buyl Chloroacetate	107-59-5		2310 mg/kg
6	N-(4-Chloromethyl – thiazol-2-yl) guanidine HCl	84545-70-0		2000 mg/kg
7	3-(Carbamoylmethyl)-5-methyl hexanoic acid	181289-15-6		3000 mg/kg
8	(R)- (-), 3 (Carbamoylmethyl) -5-Methyl Hexanoic acid	181289-33-8		3000 mg/kg
Pesticide Specific Intermediates [5(b)]				
9	3-Methoxy,2-Methyl Benzoyl Chloride	24487-91-0	**30**	1825 mg/kg
10	3, 3 Dimethyl Butyrl Chloride	7065-46-5		1277 mg/kg
11	2-Chloro 1-Phenoxy Benzene	2689-07-8		1300 mg/kg
12	3,5,6 Tri Chloro Pyridinol Sodium Salt	6515-38-4		1000 mg/kg
	TOTAL (PROPOSED)		**70**	

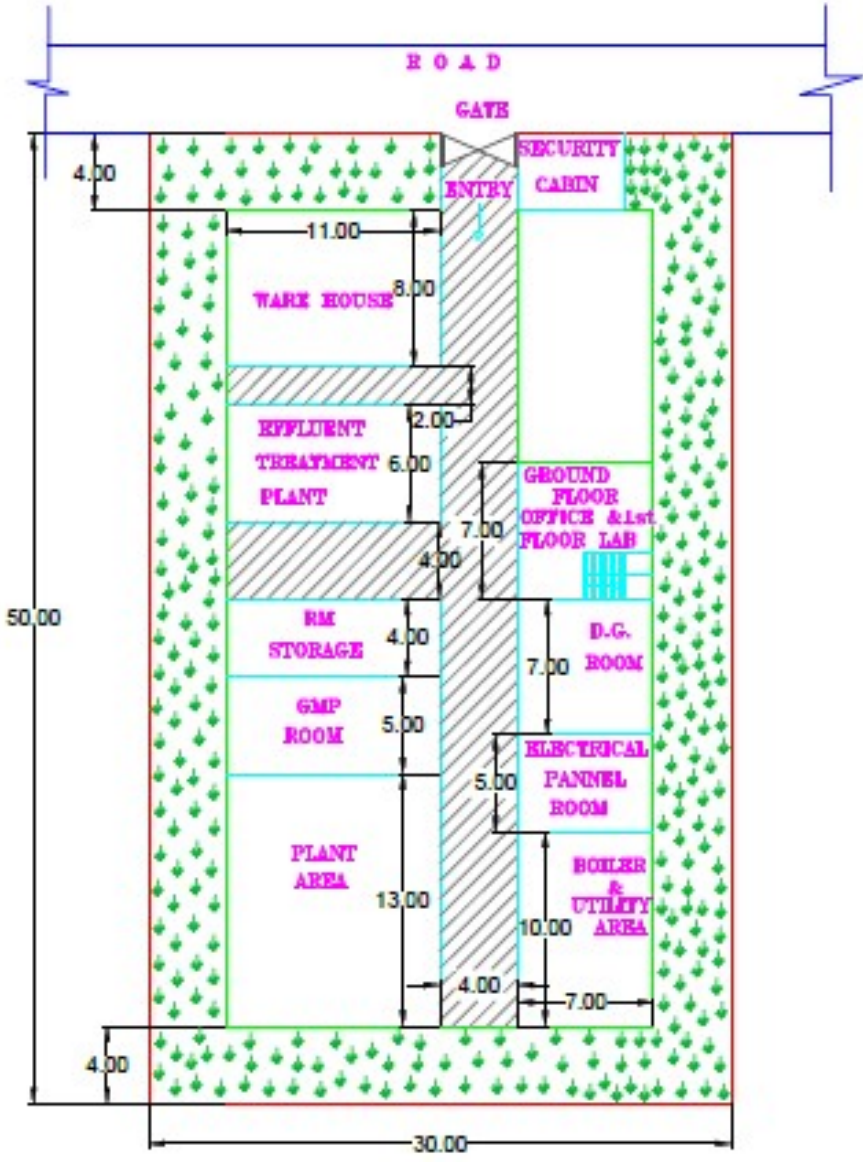
RAW MATERIAL CONSUMPTION:
PROPOSED PRODUCTS

Sr. No.	Name of Products	Raw Materials	Quantity
			KG/KG
[1]	**2-Amino 4 Hydroxy Acetophenone**	3-Amino Phenol	1.05
		Nitrobenzene	0.15
		Acetyl Chloride	1.60
		Sodium Sulphate	0.05
		Aluminium Chloride	1.72
		HCL 30%	1.88
		Soda Ash	0.10
		Sodium Methoxide	0.60
		Toluene	0.09
[2]	**3,4,5-trimethoxy benzoic acid**	Para Cresol	0.800
		Hydro Bromic Acid 48%	2.688
		Hydrogen Peroxide 50%	1.032
		Methanol	2.370
		Sodium Metal	0.360
		Toluene	3.000
		Copper Chloride	0.050
		Dimethyl Formamide	0.160
		Sulphuric Acid	0.800
[3]	**3,4,5-Trimethoxy Benzaldehyde**	3,4,5-Trimethoxy Toluene	1.200
		Manganese Dioxide	0.600
		Sulphuric Acid 98%	0.800
		Toluene	1.000
[4]	**1-(2,6 Dichloro Phenyl)2-Indolinone**	2,6 D.C.P	0.62
		Sodium Methoxide soln.25%	1.46
		Ethyl Chloro Acetate	0.44
		Aniline	0.34
		Caustic Lye	0.22
		Chloro Acetyl Chloride	0.58
		Ethoxy ethanol	2.20
		Aluminium Chloride	0.66
[5]	**Tert Buyl Chloroacetate**	Chloro Acetyl Chloride	0.55
		Tertiary Butyl Alcohol	0.36
		Di Methyl Aniline	0.65
		Soda Ash	0.01
		Caystic Lye 48%	0.45
[6]	**N-(aminosulphonyl)-3-[{{2-(diaminomethylene) amino] -4-**	1,3-Dichloro acetone	0.53
		Guanylthiourea	0.5

	thiazolyl]methyl]propanamide acetate	Potassium Iodide	0.02
		Acetone	1.7
		Thiourea	0.25
		Sodium Hydroxide	0.4
		N-Sulfamyl-3-chloropropionamidineHCl	0.74
		Methanol	33.97
[7]	**3-(Carbamoylmethyl)-5-methyl hexanoic acid**	Isoveraldehyde	0.67
		Cyanoacetamide	1.33
		Piperidine	0.50
		Sulphuric acid	1.76
		Toluene	1.33
		Urea	0.48
		Sodium hydroxide	0.33
		Hydrochloric acid	0.67
		Activated carbon	0.008
		Chlroform	74.5
[8]	**R(-) 3-(Carbamoylmethyl)-5-methyl hexanoic acid**	3-(Carbamoylmethyl)-5-methyl hexanoic acid	3.03
		Chlroform	2.72
		R(+) Phenyl ethyl amine	1.67
		Sodium hydroxide	0.50
		Hydrochloric acid	0.70
Pesticide Specific Intermediates [5(b)]			
[9]	**3-Methoxy,2-Methyl Benzoyl Chloride**	2 Methyl 3 Hydroxy Benzoic Acid	1.000
		Dimethyl sulphate	0.620
		HCL 30%	0.100
		Caustic Flakes	0.540
		Thionyl Chloride	0.788
[10]	**3, 3 Dimethyl Butyrl Chloride**	1,1,2 Trichloroethane	1.97
		Sodium Hydroxide	1.18
		Carbon	0.01
		Ter. Butanol	0.74
		Sulphuric Acid	10.12
		Thionyl Chloride	1.18
[11]	**2-Chloro 1-Phenoxy Benzene**	Phenol	0.65
		ODCB	2.02
		KOH	0.38
[12]	**3,5,6 Tri Chloro Pyridinol Sodium Salt**	TCAC	0.850
		Acrylonitrile	0.350
		EDC	0.040
		Caustic Lye 48%	1.100

ANNEXURE-II

LAYOUT OF MAP OF THE PLANT



ANNEXURE-III
MANUFACTURING PROCESS, CHEMICAL REACTION & MASS BALANCE:

PROPOSED:

1. 2-Amino 4 Hydroxy Acetophenone

Manufacturing Process:

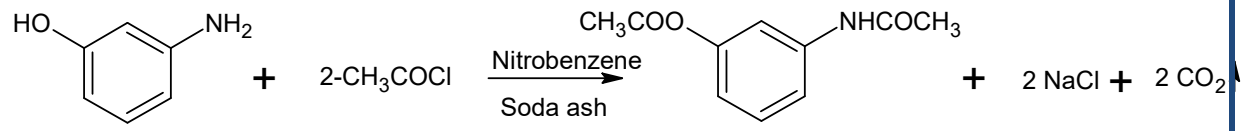
3-Aminophenol's, hydroxy and amino groups are protected with acetyl group by reacting with acetyl chloride in presence of Soda ash. Thus 3-Acetamidophenylacetate forms is heated in presence of aluminum chloride for fries rearrangement to make N-(2-Acetyl-5-Hydroxyphenyl) acetamide.

This then converted to 2-Amino-4-Hydroxyacetophenone by reacting with Sodium methoxide in toluene.

The final product is fractionated under high vacuum to get 2-Amino-4-Hydroxyacetophenone.

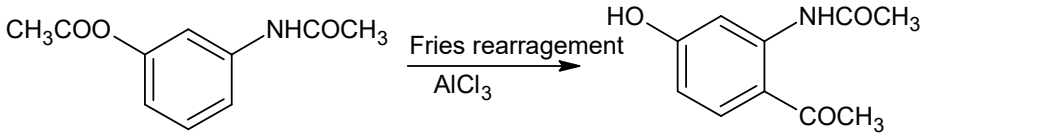
Chemical Reaction:

Step 01: Preparation of 3-Acetamidopheyl acetate



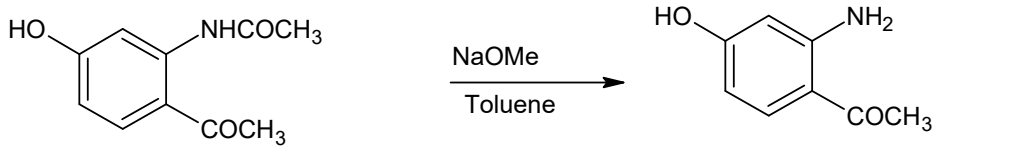
3-Amino phenol MW:109.12 | Acetyl chloride MW:78.49 | 3-acetamidophenyl acetate MW:193.19

Step 02: Preparation of N-(2-Acetyl-5-hydroxyphenyl) acetamide



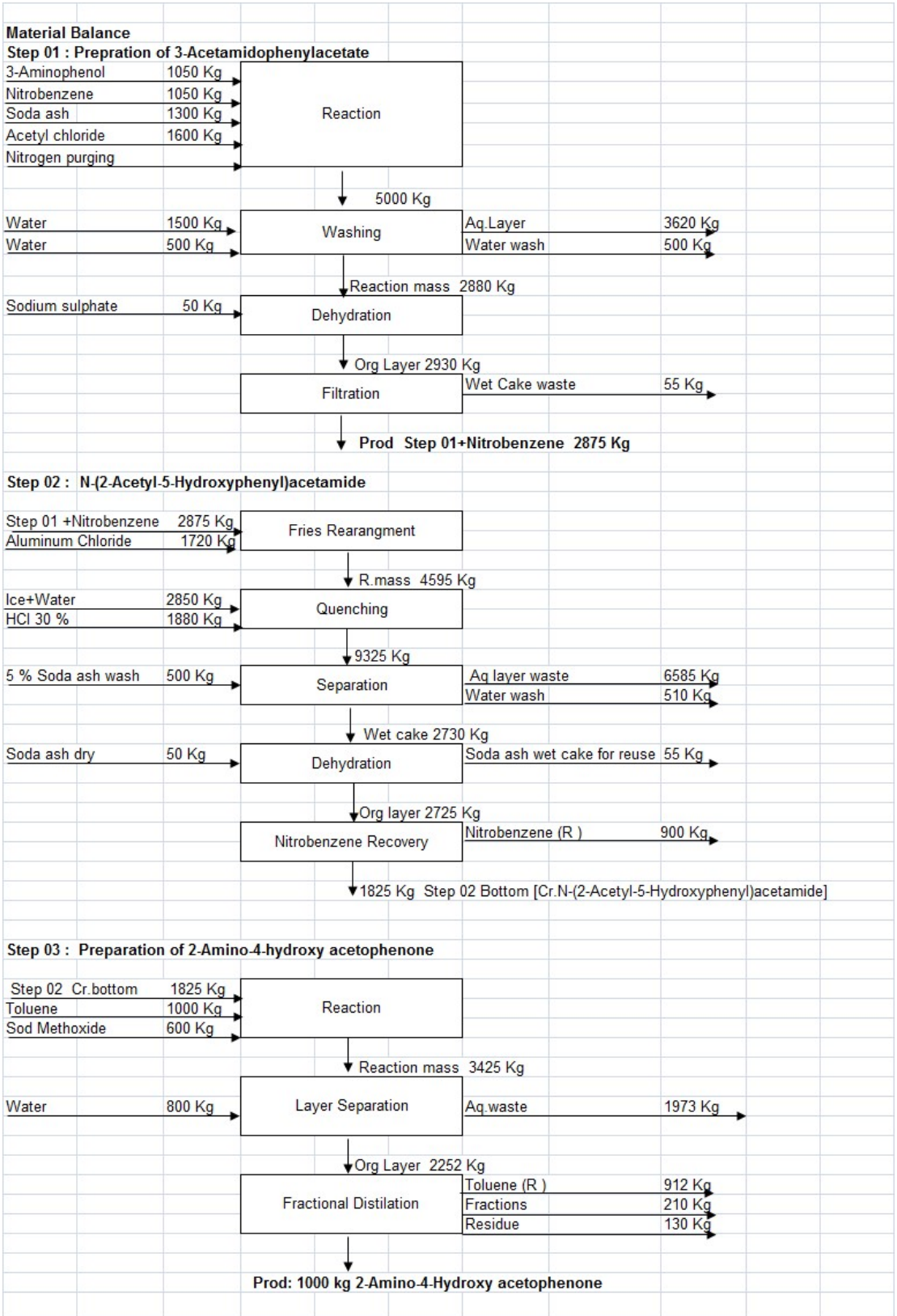
3-acetamidophenyl acetate MW:193.19 | *N*-(2-acetyl-5-hydroxyphenyl)acetamide MW:193.19

Step 03: Preparation of 2-Amino-4-Hydroxyacetophenone



N-(2-acetyl-5-hydroxyphenyl)acetamide MW:193.19 | 2-Amino-4-Hydroxyacetophenone MW:151.16

Flow Diagram:

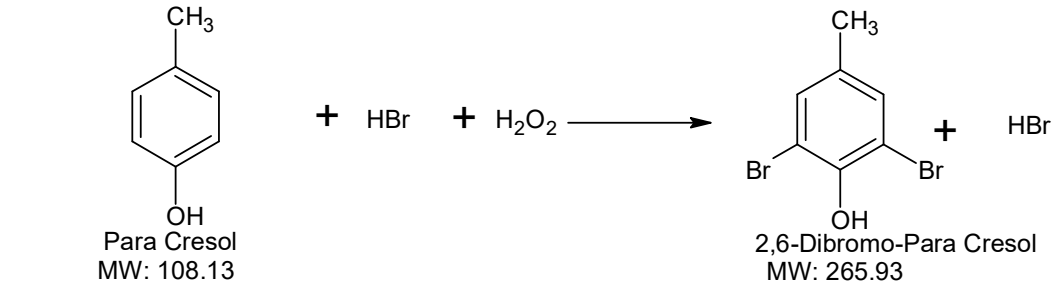


2). 3,4,5-trimethoxy benzoic acid

Process Description:

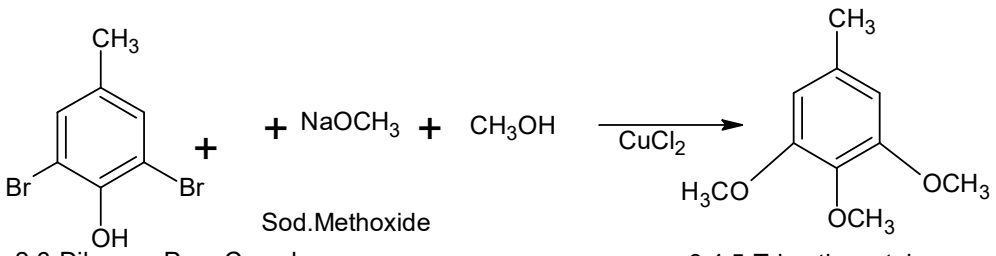
Para cresol is brominated with Hydro bromic acid with help of Hydrgen peroxide to produce 2,6-Dibromo para cresol.Then this dibromo para cresol is converted in to 2,4,6-Trimethoxy toluene by using sodium methoxide and methanol.After washing material is distilled to get pure 3,4,5-Trimethoxy toluene. Then this trimethoxy toluene is converted in to 3,4,5 Trimethoxy Benzoic Acid by air oxidation in Autoclave.

Chemical Reaction:



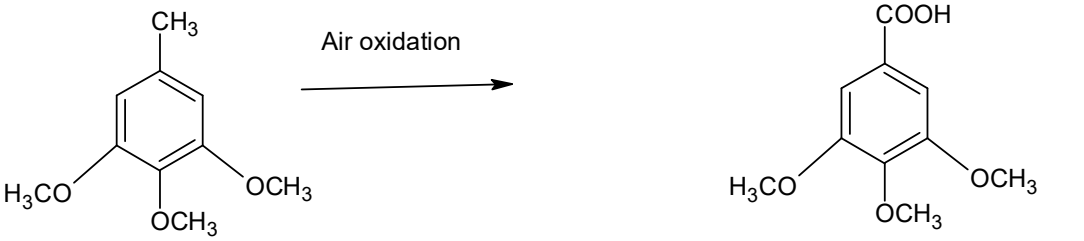
Para Cresol
MW: 108.13

2,6-Dibromo-Para Cresol
MW: 265.93



2,6-Dibromo-Para Cresol
MW: 265.93

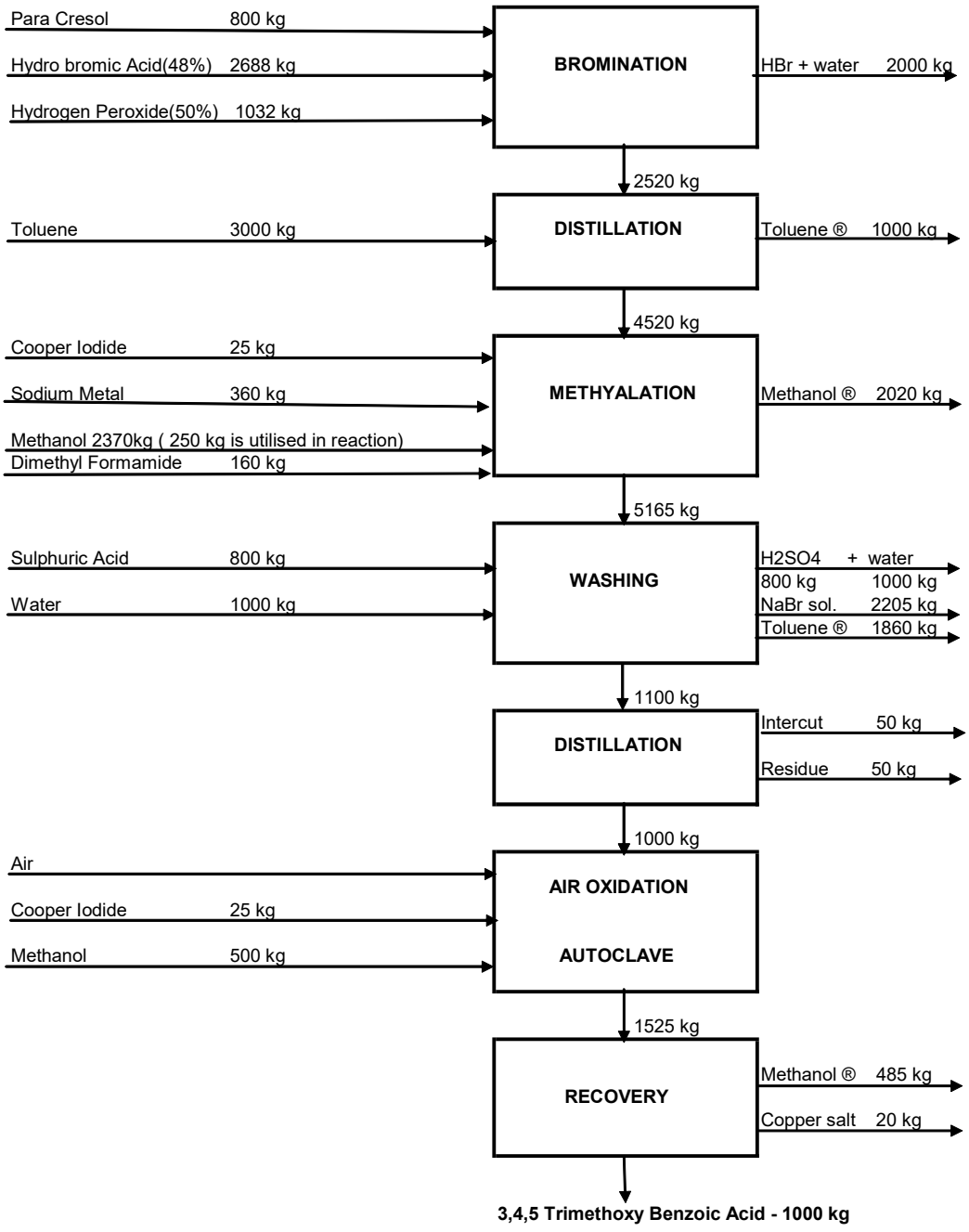
3,4,5-Trimethoxy toluene
MW: 182.22



3,4,5-Trimethoxy toluene
MW: 182.22

3,4,5-Trimethoxy Benzoic Acid
MW:212.20

Mass Balance:

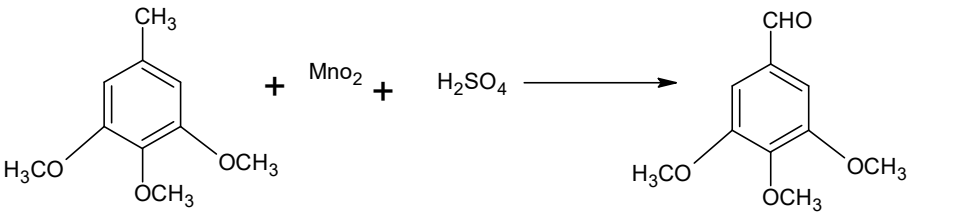


3). 3,4,5-Trimethoxy Benzaldehyde

Process Description:

3,4,5 Trimethoxy Toluene is selectively oxidized with MnO2 in presence of H2SO4 to produce pure 3,4,5-Trimethoxy Benzaldehyde after fractional distillation.

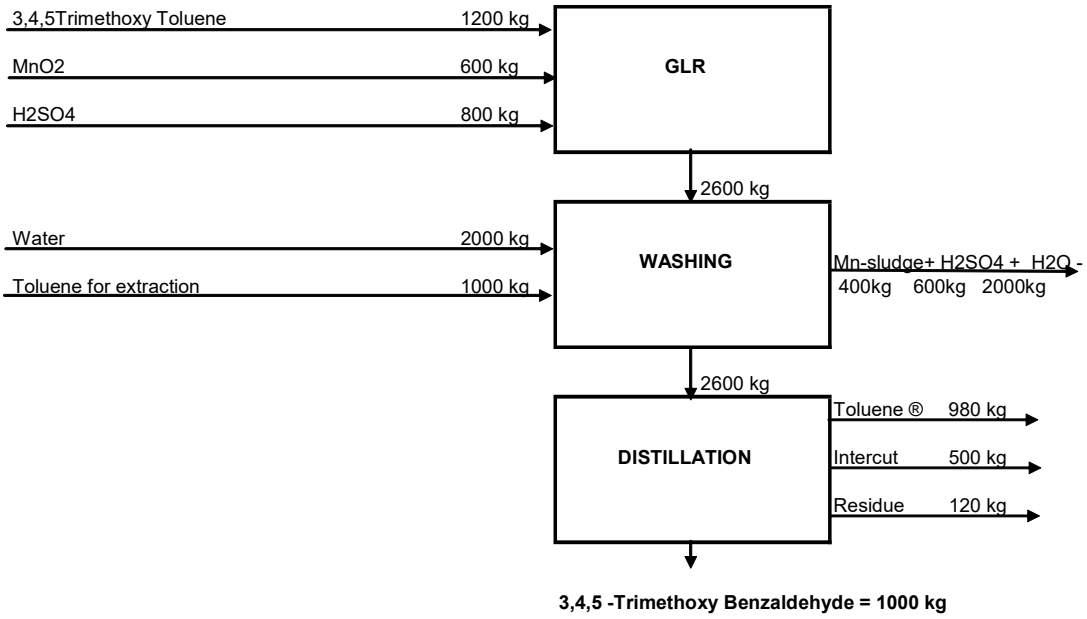
Chemical Reaction:



3,4,5-Trimethoxy toluene
MW: 182.22

3,4,5-Trimethoxy Benzaldehyde
MW: 196.11

Mass Balance:



3,4,5 -Trimethoxy Benzaldehyde = 1000 kg

4] 1-(2,6 Dichloro Phenyl)2-Indolinone

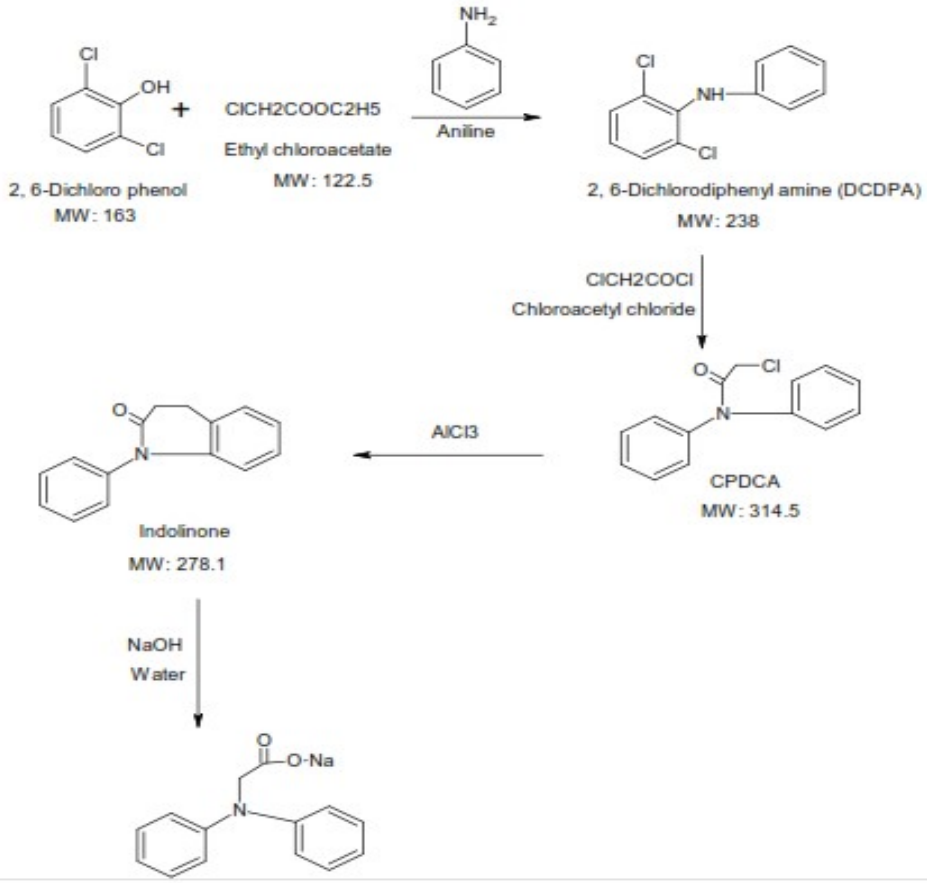
MANUFACTURING PROCESS

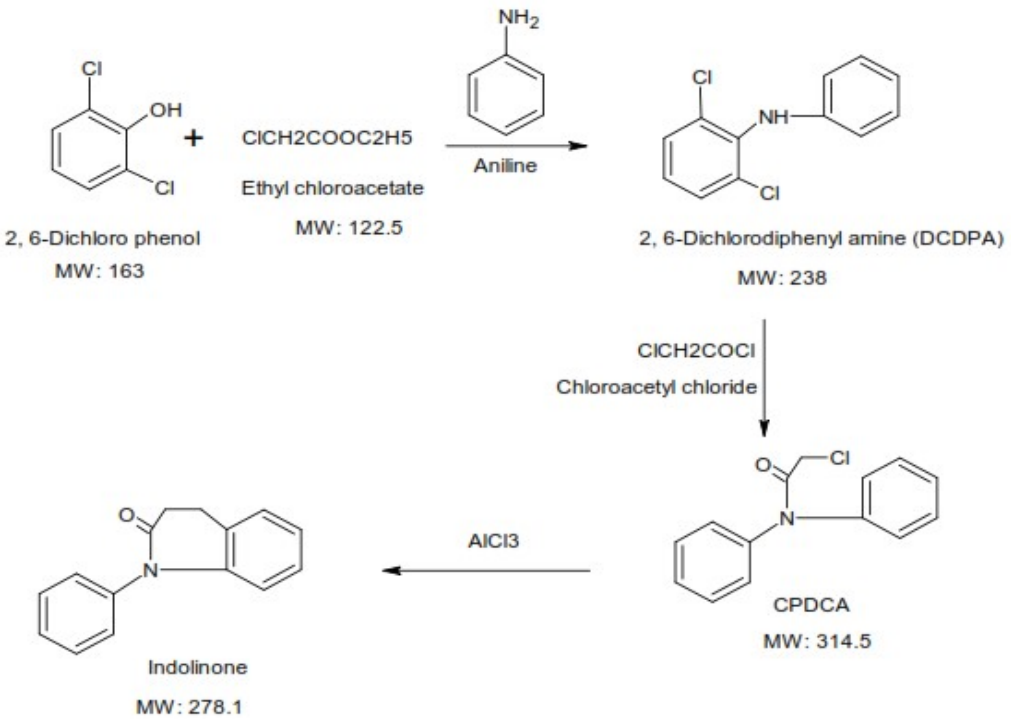
Step-I: 2,6 DCP, sodium methoxide, ethyl chloro acetate, aniline caustic are added to reactor in required proportion.The mass is allowed to react together at required temperature and pressure condition, once the reaction is over, the material is filtered and dried in drier and packed in drums and stored as DCDPA

Step-II:DCDPA, ethoxy ethanol, chloro acetyl chloride are added to a reaction vessel, hydrogen chloride gas generated during the reaction is scrubbed off with the help of caustic solution in scrubber tower. The material filtered, washed and dried packed and store as CPDCA

Step-III: CPDCA, aluminium chloride to allow react in a reactor and controlled temperature condition. The mass is then quenched in water and filtered, hydrogen chloride gas generated during reaction and quenching is taken to scrubber system. Neutralized material is filtered, washed, dried, packed and store as Indolinone Diclofenac Sodium (DFS)

CHEMICAL REACTION:




Cl
OH
Cl
+
ClCH2COOC2H5
Ethyl chloroacetate
MW: 122.5
NH2
Aniline
Cl
NH
Cl
2, 6-Dichloro phenol
MW: 163
2, 6-Dichlorodiphenyl amine (DCDPA)
MW: 238
ClCH2COCl
Chloroacetyl chloride
O
Cl
N
CPDCA
MW: 314.5
AlCl3
O
N
Indolinone
MW: 278.1

MATERIAL BALANCE:

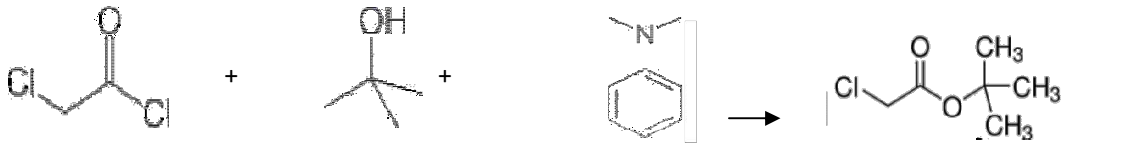
Material Input	Qty(Kg)	Material Output	Qty(Kg)
Stage 1			
2,6 D.C.P	61.76	D.C.D.P.A	80.00
Sodium Methoxide soln.25%	145.60	Solvent Reco	184.00
Ethyl Chloro Acetate	43.52	NaCl	19.20
Aniline	33.92	Effluent	183.60
Caustic Lye	22.00	Process loss	32.80
Water	192.80		
Total	**499.6**	**Total**	**499.6**
Stage 2			
D.C.D.P.A	80.00	C.P.D.C.A	100.00
Chloro Acetyl Chloride	58.00	Solvent Reco	235.00
Ethoxy ethanol	220.00	Dry Loss	23.00
Total	**358**	**Total**	**358**
Stage 3			
C.P.D.C.A	112.00	Indolinone	100.00
Aluminium Chloride	65.60	Aqu Effluent	413.00
Water	370.00	Drying Loss	35.60
Total	**547.6**	**Total**	**547.6**

5] Tert Buyl Chloroacetate

MANUFACTURING PROCESS

Charge N-Dimethyl Amine, t-Butyl Alcohol and stir ½ hrs. and unload in clean drum and again charge Chloro Acetyl Chloride in same reactor chill to 8-10 ^{0}C. Add mix solution of NNDMA + t-Butyl Alcohol at 8-10 ^{0}C addition time 8-10 hrs. Maintain 5 hrs. at 8-10 ^{0}C, slowly raise temp. up to 35 ^{0}C. Charge water, stir 1.0 hrs and settle, separate organic layer from bottom aqueous layer for NNDMA recovery, organic layer charge in GLR and add water, stirring and separate bottom organic to give soda ash solution wash to make pH 8.5-9.5.Stirr and separate in organic layer, charge sodium sulphate and filter through 5 micron cloth. Collect all organic in GLR and distilled out product at 85-105 ^{0}C under vaccum.

CHEMICAL REACTION:



Chloro Acetyl Chloride Tertiary Butyl Alcoh DMA Tert Buyl Chloroacetate

MATERIAL BALANCE:

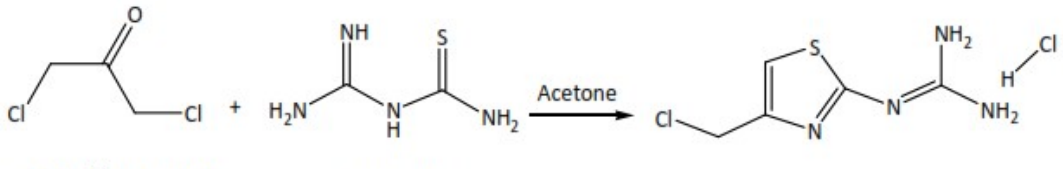
Material Input	**Qty(Kg)**	**Material Output**	**Qty(Kg)**
Step 1			
Chloro Acetyl Chloride	427	ML to ETP	603
Tertiary Butyl Alcohol	280	Tert Buyl Chloroacetate	475
Di Methyl Aniline	504	Rec NN DMA	488
Soda Ash	5		
Caystic Lye 48%	350		
Total	**1566**	**Total**	**1566**

6] N-(aminosulphonyl)-3-[{{2-(diaminomethylene) amino] -4-thiazolyl]methyl]propanamide acetate

MANUFACTURING PROCESS and CHEMICAL REACTION:

Stage-1

1, 3-Dichloro acetone reacts with Guanylthiourea in the presence of Acetone as solvent media to give Stage-2 as product.



1,3-Dichloro acetone
$C_3H_4Cl_2O$
126.97

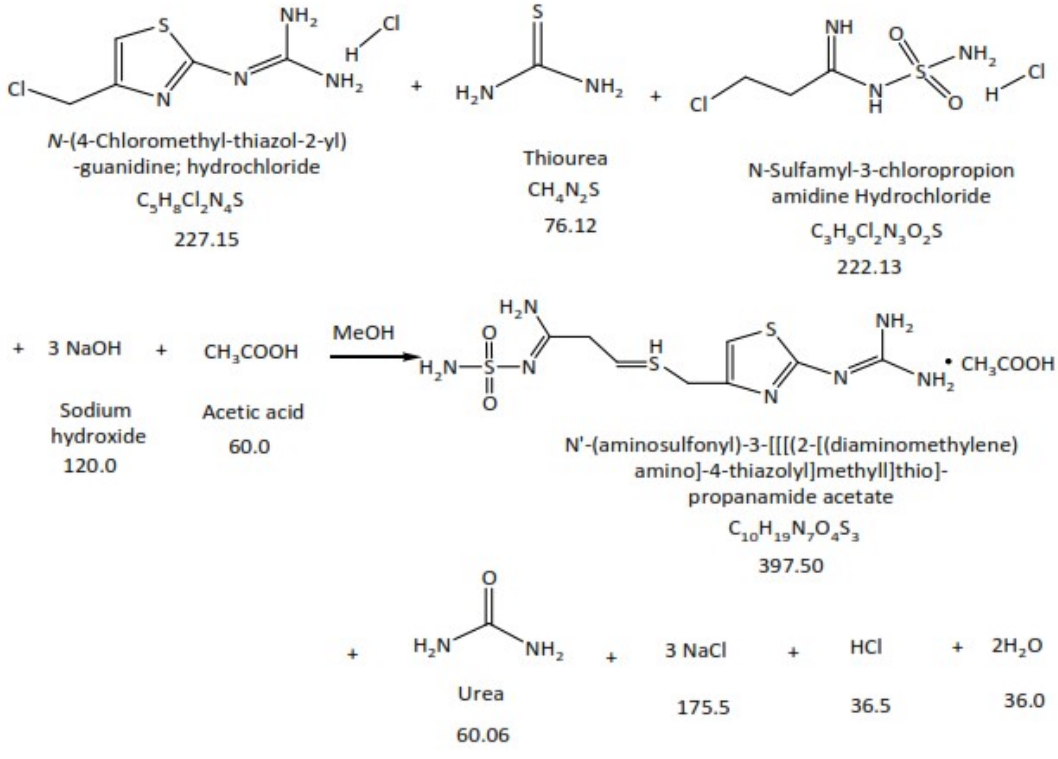
Guanyl thiourea
$C_2H_6N_4S$
118.16

N-(4-Chloromethyl-thiazol-2-yl) -guanidine; hydrochloride
$C_5H_8Cl_2N_4S$
227.15

+ H_2O
18.0

Stage-2

Stage-1 product reacts with Thiourea, N-Sulfamyl-3-chloropropionamidine, Sodium hydroxide and acetic acid in the presence of Methanol as solvent media to give Stage-2 as product.



N-(4-Chloromethyl-thiazol-2-yl) -guanidine; hydrochloride
$C_5H_8Cl_2N_4S$
227.15

Thiourea
CH_4N_2S
76.12

N-Sulfamyl-3-chloropropion amidine Hydrochloride
$C_3H_9Cl_2N_3O_2S$
222.13

+ 3 NaOH

Sodium hydroxide
120.0

+ CH_3COOH

Acetic acid
60.0

N'-(aminosulfonyl)-3-[[[(2-[(diaminomethylene) amino]-4-thiazolyl]methyll]thio]- propanamide acetate
$C_{10}H_{19}N_7O_4S_3$
397.50

+ Urea
60.06

+ 3 NaCl
175.5

+ HCl
36.5

+ $2H_2O$
36.0

MATERIAL BALANCE:

Material Input	Qty(Kg)	Material Output	Qty(Kg)
Step-1			
1,3-Dichloro acetone	53.00	Stage-1	88.97
Guanylthiourea	50.00	Acetone Rec.	161.00
Potassium Iodide	2.40	Generated water	7.51
Acetone	170.00	Inorganic solid waste	2.40
		Organic solid waste	7.52
		Solvent Loss	8.0
Total	**275.4**	**Total**	**275.4**
Step-2			
Stage-1	88.97	Stage-2	125.70
Thiourea	25.13	Methanol Rec.	3228.00
Sodium Hydroxide	40	Generated water	12.00
N-Sulfamyl-3-chloropropionamidineHCl	74.00	Inorganic solid waste	70.60
Acetic acid	20.00	Organic solid waste	39.80
Methanol	3397.00	Solvent loss	169.00
Total	**3645.1**	**Total**	**3645.1**

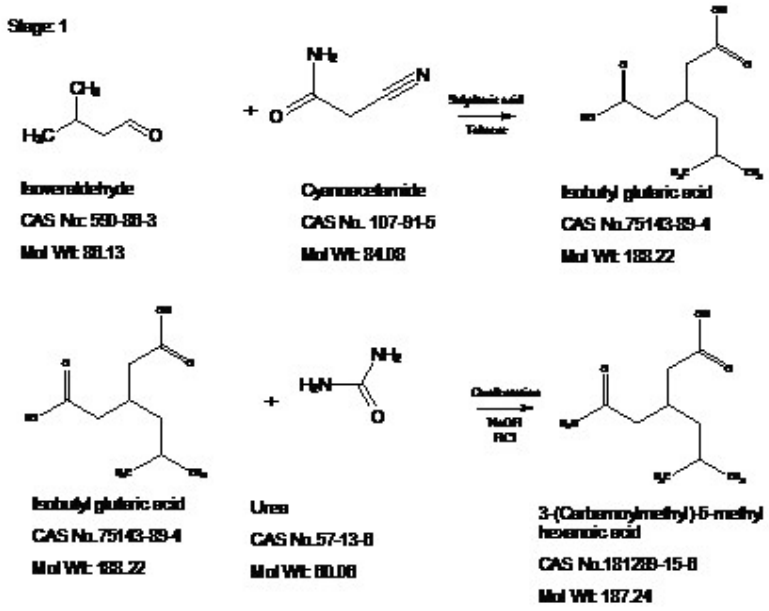
7] 3-(Carbamoylmethyl)-5-methyl hexanoic acid

MANUFACTURING PROCESS and CHEMICAL REACTION:

Stage 1: 3-(Carbamoylmethyl)-5-methyl hexanoic acid.

Isoveraldehyde, Cyanoacetamide and piperidine is reacted at 100-110^{0}C for 12 hours in presence of sulfuric acid. After completion of reaction, water is added and washed with Toluene. Toluene layer is distilled out to get Isobutyl glutaric acid. Isobutyl glutaric acid is reacted with urea at 140-145^{0}C. Reaction mass is added with water and sodium hydroxide. pH of reaction mass is adjusted with Hydrochloric acid between 1-3 to get 3-(Carbamoylmethyl)-5-methyl hexanoic acid.

Chemical Reaction:



Mass Balance:

Stage-I:

Sr. No.	Input	Kg		Output	Kg
1	Isoveraldehyde	400		3-(Carbamoylmethyl)-5-methyl hexanoic acid (Stage-I)	600
2	Cyanoacetamide	800		Toluene recovery	760
3	Piperidine	300		Toluene loss	40
4	Sulphuric acid	1060		Activated carbon	5
5	Toluene	800		Effluent	8162
6	Urea	292		Residue	10
7	Sodium hydroxide	100			
8	Hydrochloric acid	200			
9	Activated carbon	5			
10	Water	5600			
	TOTAL	**9557**		**TOTAL**	**9557**

8] R(-)-3-Carbomylmehtly-5-methyl hexanoic acid

MANUFACTURING PROCESS and CHEMICAL REACTION:

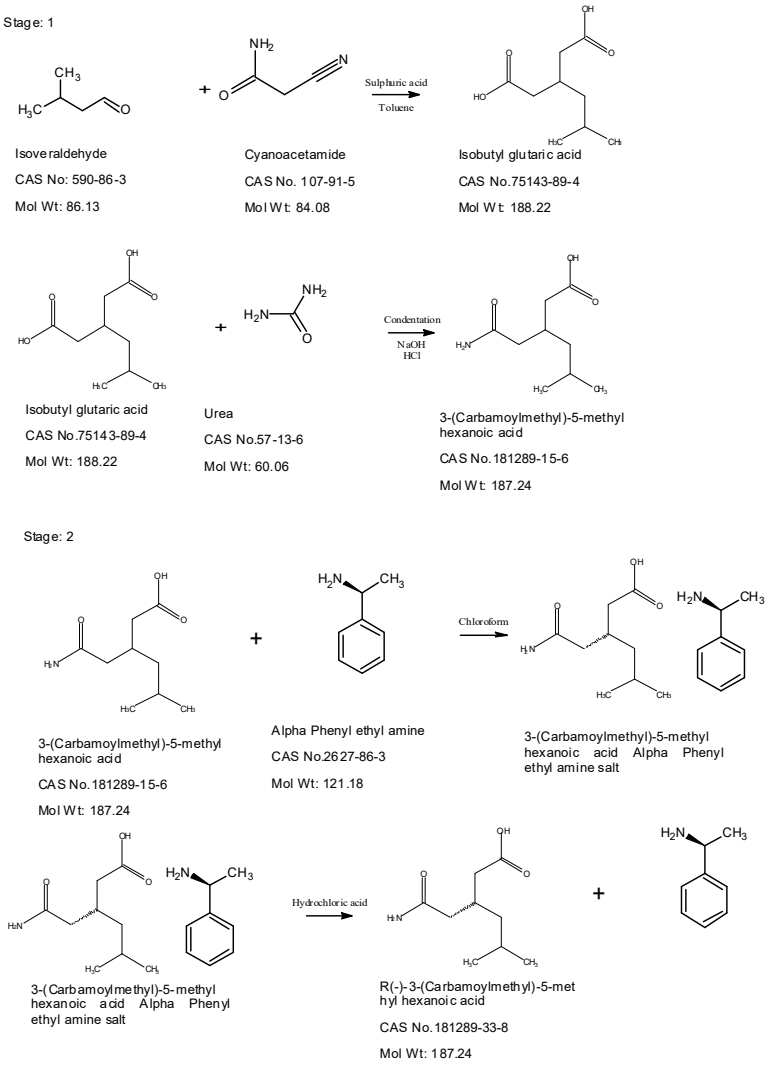
Stage 1: 3-(Carbamoylmethyl)-5-methyl hexanoic acid.

Isoveraldehyde, Cyanoacetamide and piperidine is reacted at 100-110^{0}C for 12 hours in presence of sulfuric acid. After completion of reaction, water is added and washed with Toluene. Toluene layer is distilled out to get Isobutyl glutaric acid. Isobutyl glutaric acid is reacted with urea at 140-145^{0}C. Reaction mass is added with water and sodium hydroxide. pH of reaction mass is adjusted with Hydrochloric acid between 1-3 to get 3-(Carbamoylmethyl)-5-methyl hexanoic acid.

Stage 2: R(-)-3-Carbomylmehtly-5-methyl hexanoic acid

3-Carbomylmehtly-5-methyl hexanoic acid dissolve in Chloroform with R(+)-1-Phenyl ethylamine and salt is brak in presence of caustic solution to obtain R(-)-3-(Carbomylmethyl)-5-methyl hexanoic acid. Caustic layer is treated with Hydrochloric acid to get R(-)-3-Carbomylmehtly-5-methyl hexanoic acid.
R(+)-3-Carbomylmehtly-5-methyl hexanoic acid wet cake is heated with urea at 140-145^{0}C to get 3-(Carbamoylmethyl)-5-methyl hexanoic acid.

Chemical Reaction:



Mass Balance:

Stage-I:

Sr. No.	Input	Kg		Output	Kg
1	Isoveraldehyde	400		3-(Carbamoylmethyl)-5-methyl hexanoic acid (Stage-I)	600
2	Cyanoacetamide	400		Toluene recovery	760
3	Piperidine	300		Toluene loss	40
4	Sulphuric acid	560		Activated carbon	5
5	Toluene	800		Effluent	2162
6	Urea	192		Residue	10
7	Sodium hydroxide	100			
8	Hydrochloric acid	200			
9	Activated carbon	5			
10	Water	600			
	TOTAL	**3557**		**TOTAL**	**3557**

Stage-II:

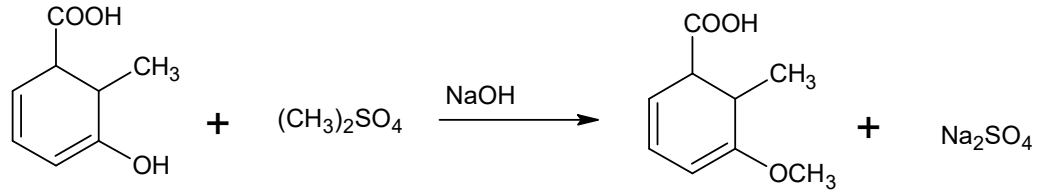
Sr. No.	Input	Kg		Output	Kg
1	Stage -I	600		R(-) 3-(Carbamoylmethyl)-5-methyl hexanoic acid (Stage –II)	198
2	Chlroform	10800		R (+)3-(Carbamoylmethyl)-5-methyl hexanoic acid (wet cake)	450
3	R(+) Phenyl ethyl amine	330		Chlroform recovery	10260
4	Sodium hydroxide	100		Chloroform loss	540
5	Hydrochloric acid	140		R(-) Phenylethyl amine recovery	313
6	Water	400		R(+) Phenylethyl amine loss	17
7				Effluent	590
8				Residue	2
	TOTAL	**12370**		**TOTAL**	**12370**

9] 3-Methoxy,2-Methyl Benzoyl Chloride

Manufacturing Process:

3-hydroxy,2-Methyl Benzoic acid is methylated with dimethyl sulphate in presence of Caustic to Produce 3-Methoxy,2-Methyl Benzoic acid ,same material is purified make it sodium salt & acidified to produce Pure material of 3-Methoxy ,2-methyl Benzoic acid . This acid is interreacted with Thionyl chloride to produce Pure 3-Methoxy ,2-Methyl Benzoyl chloride

REACTION SCHEME

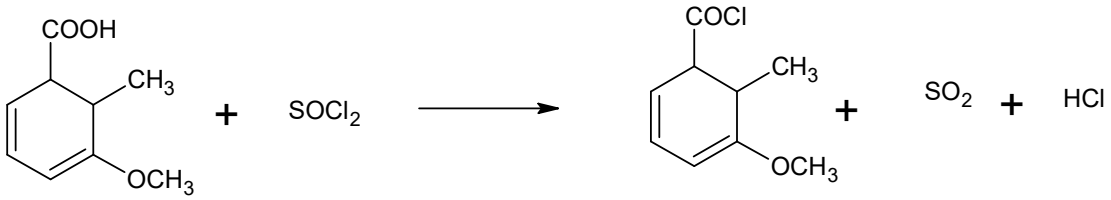


3-Hydroxy,2-Methyl Benzoic Acid

M.W.=154

3-Methoxy,2-Methyl Benzoic acid

M.W.=168



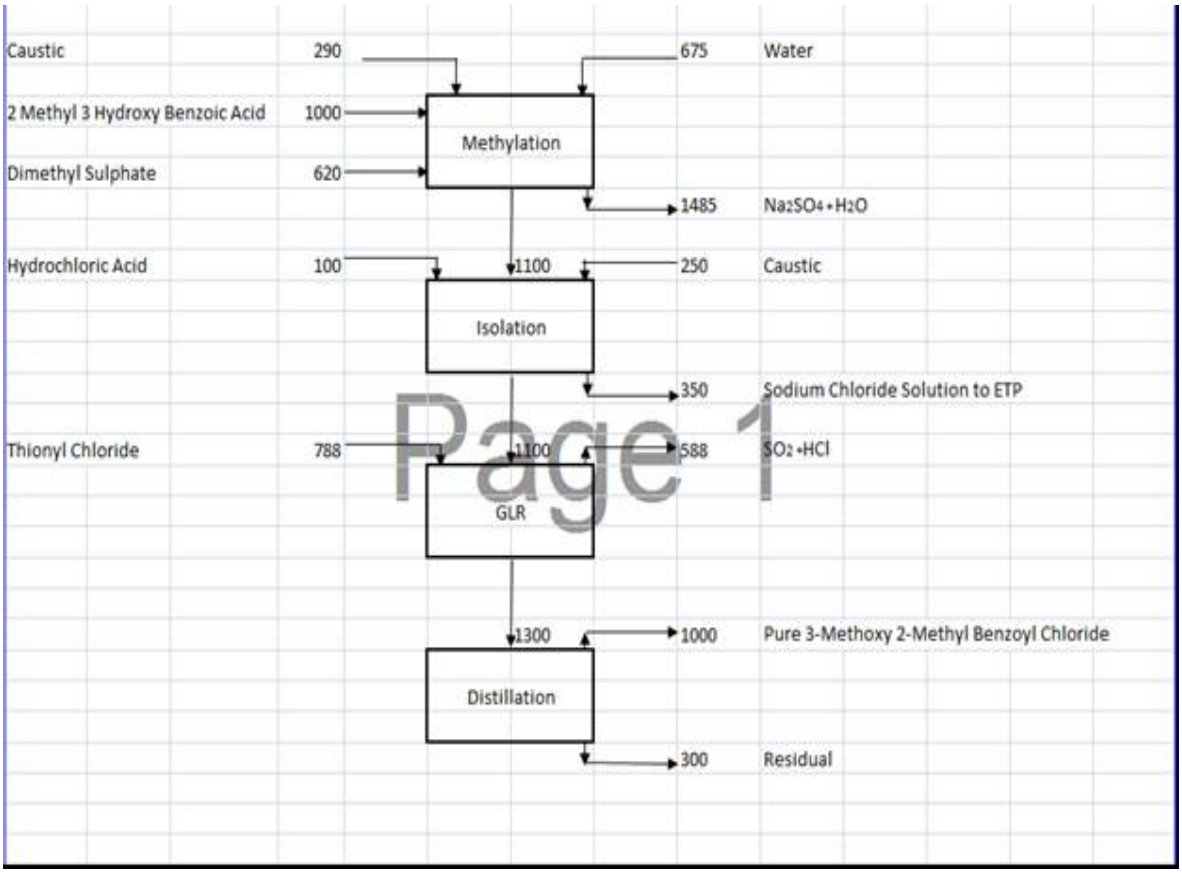
3-Methoxy,2-Methyl Benzoic acid

M.W.=168

3-Methoxy,2-Methyl Benzoyl Chloride

M.W.=186

Mass Balance:



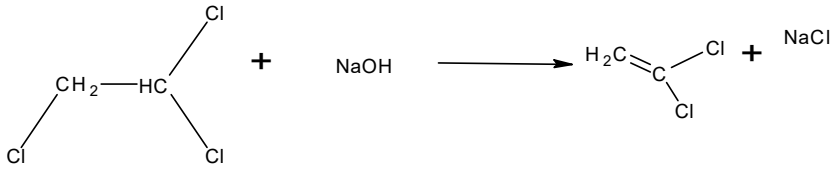
10] 3, 3 Dimethyl Butyrl Chloride

Manufacturing Process:

This is three step process. In first step hydrolysis of 1,1,2-Trichloroethane by using sodium hydroxide solution in presence of carbon at low temperature to form Vinylidene Chloride during reaction Vinylidene Chloride is collected in receiver. In second step condensation is carried out by using (Vinylidene Chloride + Ter. Butanol) mixture is added to H_2SO_4 at low temperature. After quenching crude 3,3- Dimethyl Butyric Acid is formed after distillation pure material is collected and next reaction takes place in Thionyl Chloride to produce 3, 3-Dimethyl Butyryl Chloride

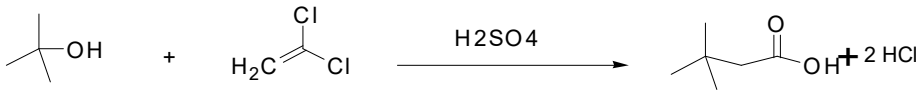
Chemical Reaction:-

ROS OF 3 3 DimethylButyryl Chloride



1,1,2-Trichloro ethane M.W.=133

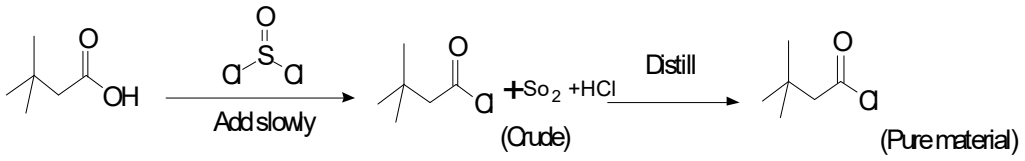
Vinylidene Chloride M.W.=96.94



Tert. Butanol M.W.=88

Vinylidene chloride =96.94

3,3-Dimethyl Butyric acid M.W.=116

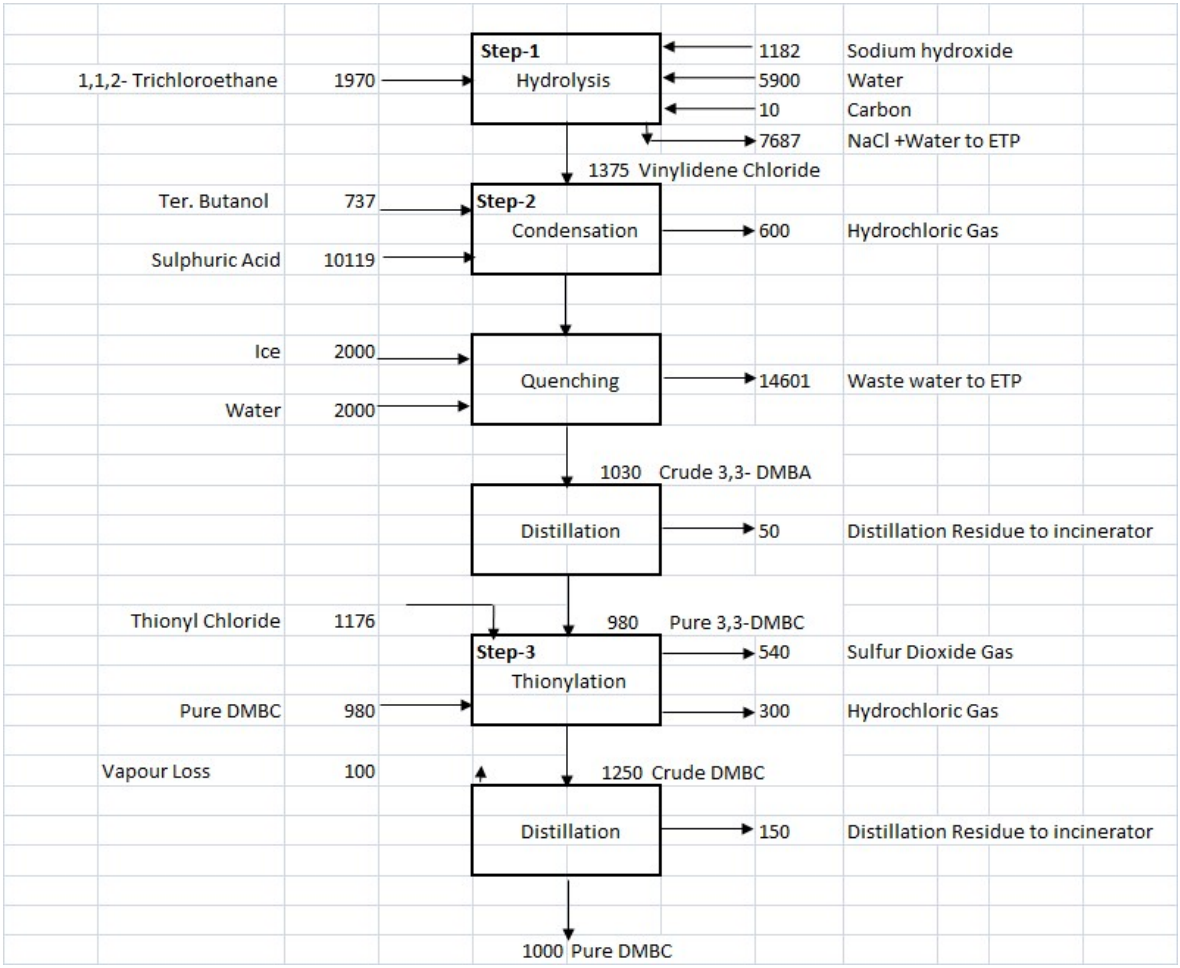


3,3-Dimethyl Butyric acid M.W.=116

Thionyl Chloride M.W.=119

3,3-Dimethyl Butyryl Chloride M.W= 135

Mass Balance:

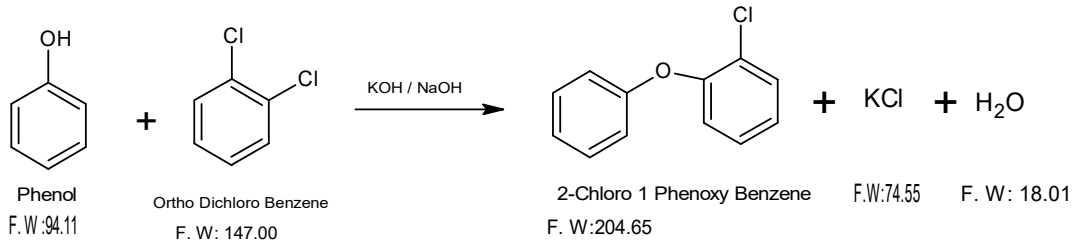


11] 2-Chloro 1-Phenoxy Benzene

Brief process: -

Take ODCB in S.S. Reactor than add molten phenol. Then add KOH flakes than heat up to 140° C temperatures, and maintain reaction mass and filter the salt and do the fractional distillation of filtrate ML and collect the product.

Chemical reaction:



Material Balance:

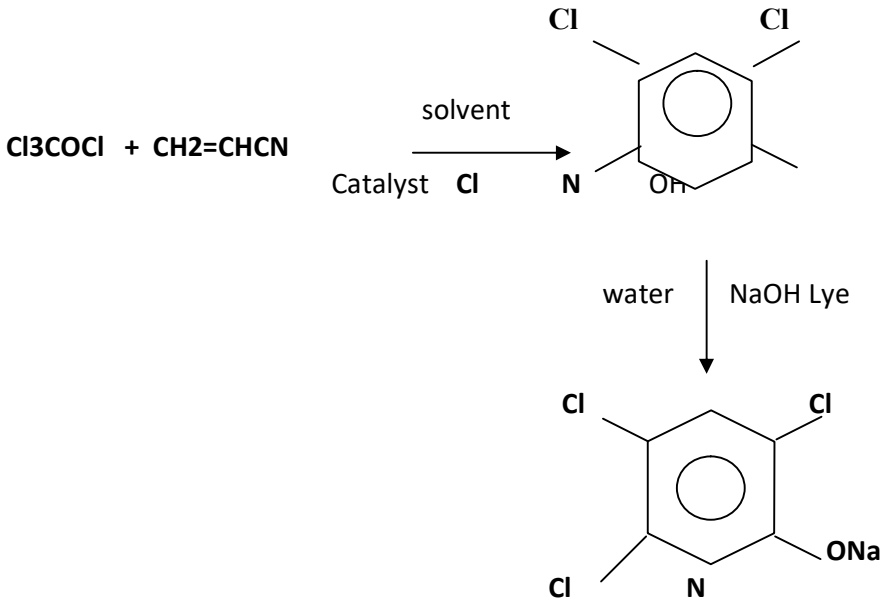
Sr No.	Material INPUT	Qty(in kg)	Material OUTPUT	Qty(in kg)
1	Phenol	1000	Product	1544
2	ODCB	3124	Recovered ODCB	1824
3	KOH	595	Dist. Residue	30
4			KCl	792
5			Effluent	529
Total		**4719**	**Total**	**4719**

12] 3,5,6 Tri Chloro Pyridinol Sodium Salt

Process Description:

In a glass lined reactor, Trichloro acetyl chloride , Acrylonitrile react in presence of catalyst and solvent to get crude Trichloro pyridinol. Which is dumped in to another reactor containing sodium hydroxide in water, here sodium Trichloro pyridinol is formed. The slurry formed is filtered out in filter press and wash cake with water. The cake is then dry in FBD and sells out.

Chemical Reaction:



Mass Balance:

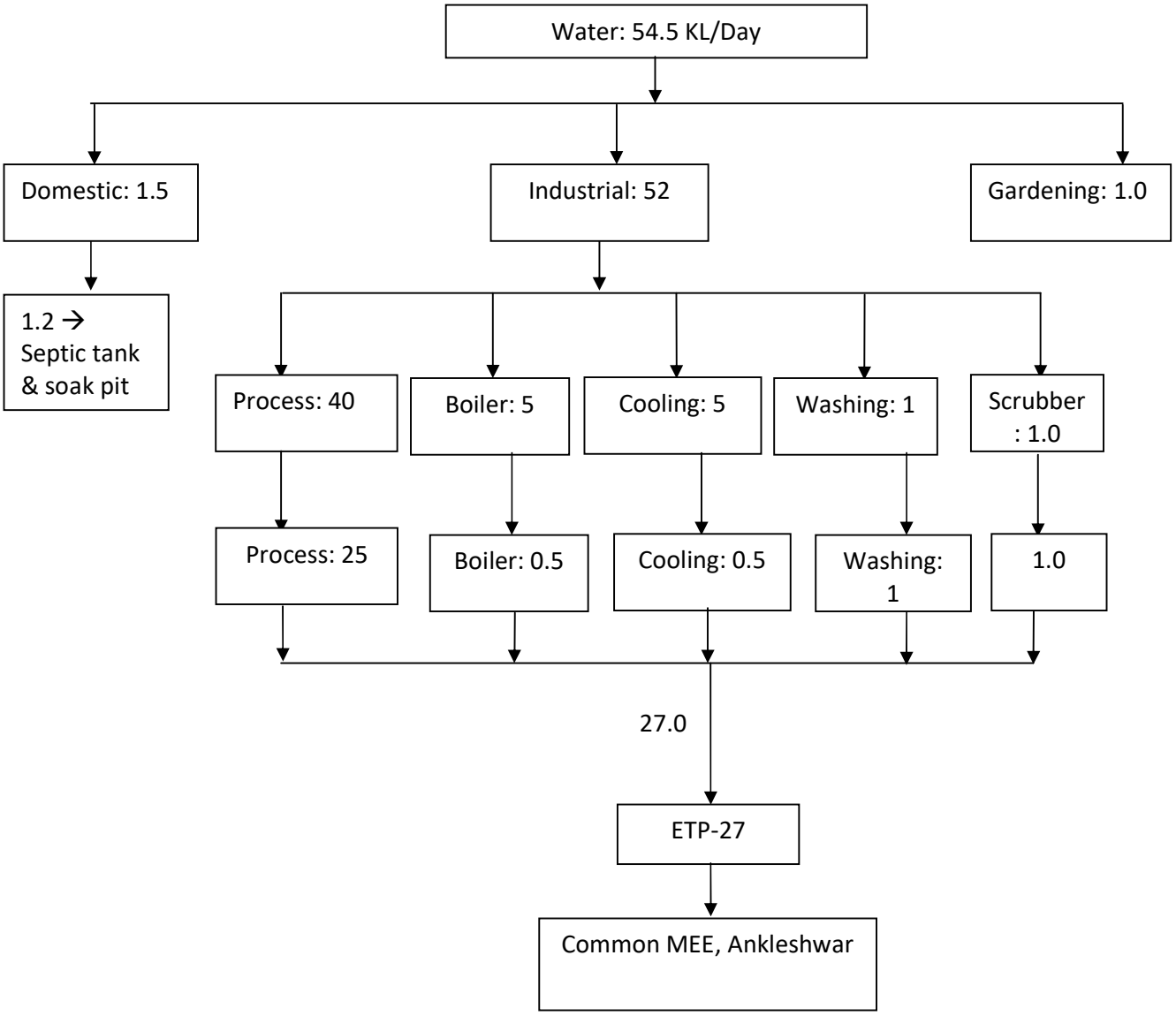
In Put /Ton			Out Put /Ton		
No.	**Name of Item**	**Qty.**	**No.**	**Name of Items**	**Qty.**
1	TCAC	850.0	1	Na TCP	1000.0
2	Acrylonitrile	350.0		Solvent Recovered	1960.0
3	Solvent - EDC	2000.0		Solvent Loss	40.0
4	Caustic Soda lye 48%	1100.0	2	Aq Layer to ETP	2990.0
5	Water	2000.0	3	30% HCl Solution	570.0
6	Water For 30% HCL	560.0	4	Water loss on drying	300.0
	Total	**6860.0**		**Total**	**6860.0**

Annexure -4

Details of Water Consumption and Wastewater generation

SR. No.	PARTICULAR	WATER CONSUMPTION (KL/DAY)	WASTE WATER GENERATION (KL/DAY)
1.	Domestic	1.5	1.2
2.	Other (Gardening)	1.0	0.0
3.	Industrial		
	Process	40	25
	Boiler	5	0.5
	Cooling	5	0.5
	Washing	1	1.0
	Scrubbing	1	1.0
	TOTAL (Industrial)	**52**	**27.0**
	TOTAL (Domestic +Industrial)	**54.5**	**28.2**

WATER BALANCE (PROPOSED):



Annexure -5:
Details of ETP:

PROCESS DESCRIPTION: ETP (EFFLUENT TREATMENT PLANT)

M/s. Shree Pramukh Chemicals shall modify Effluent treatment plant consisting of primary treatment units. The effluent confirming to inlet standards of Common MEE. The details of ETP are as follows.

- First all non-toxic and biodegradable streams (low COD) of wastewater shall 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.

- 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-1 (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.

- Thereafter, the wastewater shall be sent to Common MEE, M/s. ACTPCL, Ankleshwar for further treatment.

SIZE OF TANKS

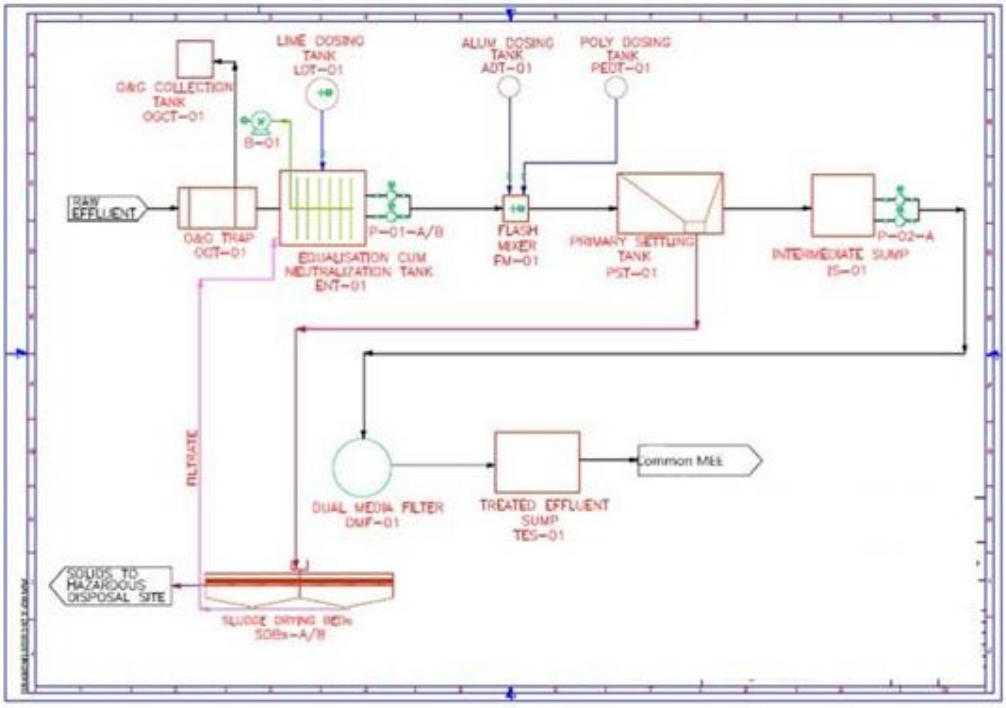
S. N.	Name of unit	Size (m x m x m) L x B x (LD+FB)	No.	MOC/ Remark
1	Collection cum Equalization Tank (CET-01)	4.0 m x3.0 m x (3.0 m+1.0 FB)	1	RCC M25+A/A Bk. Lining
2	Neutralization Tank (NT-01)	1.0 m x 1.0 m x (2.5 m +0.5 FB)	1	RCC M25+A/A Bk. Lining
3	Flash Mixer (FM-01)	1.0 m x 1.0 m x (2.3 m +0.7 FB)	1	RCC M25
4	Primary Tube Settler (PTS-01)	2.75 m x2.0 m x (2.0 m + 0.5 HB+0.5 FB)	1	RCC M25
5	Aeration Tank-1 (AT-01)	8.0 m x 7.5 m x (4.0 m+0.7 m)	1	RCC M25
6	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
7	Aeration Tank-2 (AT-02)	7.5 m x 6.0 m x (4.0 m+0.7 m)	1	RCC M25
8	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
9	Intermediate Sump (IS-01)	2.0 m x 2.0 m x (2.5 m+0.5)	1	RCC M25

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

CHARACTERISTICS OF WASTEWATER BEFORE & AFTER TREATEMENT

Sr. No.	Parameter	Characteristics(mg/L)	
		Untreated	Treated
1	pH	2-10	6.5-8.5
2	TDS	45000	45000
3	COD	30000	28000
4	BOD_3	8000	7000

ETP FLOW DIAGRAM:



Annexure -6

Details of hazardous waste generation, storage & disposal

Type of waste	Category	Source	Proposed MT/Month	Disposal Method
Discarded Drums/Bags/ Liners	SCH-I/33.1	Raw Materials/ Products	2.0	Collection, Storage, Transportation, Decontamination & Sale to GPCB approved vendors.
Used/ Spent Oil	SCH-I/5.1	Machineries/Utility	0.001	Collection, Storage, Transportation & Sale to GPCB registered re-processor.
ETP Sludge	SCH-I/35.3	ETP	3.5	Collection, Storage, Transportation and Disposal at common TSDF site.
Distillation Residue	SCH-I/20.3	Distillation	5.0	Collection, Storage, Transportation and sent for co-processing in cement industries or Disposal at common incineration site.
Spent Carbon	SCH-I/28.3	Process	1.0	
Spent Hyflow	--	Process	0.5	Collection, storage, transportation and dispose common TSDF site.
Spent HCL	SCH-I/26.3	Process & Scrubber	100	Collection, Storage, Transportation & sell to End User.
Spent Sulphuric Acid	SCH-I/26.3	Process	150	Collection, Storage, Transportation & sell to End User.
Inorganic solid waste	SCH-I/28.1	Process	30	Collection, storage, transportation and dispose common TSDF site.
Process Waste	SCH-I/28.1	Process	6.0	Collection, Storage, Transportation and sent for co-processing in cement industries or Disposal at common incineration site.
Spent Catalyst	SCH-I/28.2	Process	1.0	Collection, storage, transportation and send to regenerator.
Sodium Bromide	SCH-II/B5	Process	70	Collection, storage, transportation and sell to end user
KCL	SCH-II/B36	Process	30	Collection, storage, transportation and sell to end user
Liqour Ammonia	--	Scrubber	15	Collection, storage, transportation and sell to end user
Sodium Sulfite (25%)	SCH-II/B36	Scrubber	20	Collection, storage, transportation and sell to end user

Annexure -7

Details of flue gas & proposed pollution control equipment:

PROPOSED:
Flue Gas Emission

Particulars	Stack height	Fuel used with Qty.	Parameter	Permissible Limit	APCM
Boiler – 2 Nos. (Capacity: 1000 Kg/Hr)	18 m	Agro Waste -6 MT/Day	SPM SO_2 NO_x	150 mg/Nm^3 100 ppm 50 ppm	Multicyclone Separator with bag filter
Thermic Fluid Heater -1 Nos (Capacity – 2 Lac Kcal/Hr)	18 m	Agro Waste -2 MT/Day			Multicyclone Separator with bag filter
DG Sets (125 KVA)	9 m	HSD - 10 Liter/Day			--

Process Vents:

Sr. No.	Stack attached to	Stack Height	Air Pollution Control System	Parameter	Permissible Limit
1	Process Vent -1	12 m	Water + Alkali Scrubber	HCL SO2	20 mg/Nm^3 40 mg/Nm^3
2	Process Vent -2	12 m	Water Scrubber	NH_3	175 mg/Nm^3
3	Process Vent -3	12 m	Water + Alkali Scrubber	HBr	30 mg/Nm^3

Annexure -8
Storage Details of Hazardous Chemicals

Sr. No.	Name of the Hazardous Substance	Maximum Storage (MT)	Actual Storage (MT)	Mode of Storage	Possible type of Hazards
1	Methanol	5	200 Kg x 25	Drum	Flammable/ Toxic
2	Toluene	5	200 Kg x 25	Drum	Flammable
3	Acetone	5.0	200 Kg x 25	Drum	Flammable/ Toxic
4	Chloroform	5.0	200 Kg x 25	Drum	Flammable/ Toxic
5	Sulphuric Acid	1.6	200 Kg x 8	Drum	Corrosive
6	Hydrochloric Acid	0.75	250 Liter x 3	Drum	Corrosive
7	Nitric Acid	1.6	200 Kg x 8	Drum	Corrosive
8	Acetic Acid	0.4	200 Liter x 2	Drum	Corrosive
9	Liqour Ammonia	2.0	200 Liter x 10	Drum	Toxic
10	Caustic Lye	1.2	300 Liter x 4	Drum	Toxic
11	Thionyl Chloride	1.2	300 Liter x 4	Drum	Toxic
12	Bromine	0.2	3 kg x 67	Drum	Toxic
13	THF	1.4	200 Kg x 7	Drum	Flammable
14	IPA	1.4	200 Kg x 7	Drum	Flammable/ Toxic

Annexure – 9

Socio - Economic Impacts

1) Employment Opportunities

The manpower requirement for the proposed project is being expected to generate some permanent jobs and secondary jobs for the operation and maintenance of plant. This will increase direct / indirect employment opportunities and ancillary business development to some extent for the local population.

This phase is expected to create a beneficial impact on the local socio-economic environment.

2) Industries

Required raw materials and skilled and unskilled laborers will be utilized maximum from the local area. The increasing industrial activity will boost the commercial and economical status of the locality, to some extent.

3) Public Health

The company regularly examines, inspects and tests its emission from sources to make sure that the emission is below the permissible limit. Hence, there will not be any significant change in the status of sanitation and the community health of the area, as sufficient measures have been taken and proposed under the EMP.

4) Transportation and Communication

Since the existing factory is having proper linkage for the transport and communication, the development of this project will not cause any additional impact.

In brief, as a result of the proposed there will be no adverse impact on sanitation, communication and community health, as sufficient measures have been proposed to be taken under the EMP. The proposed scenario is not expected to make any significant change in the existing status of the socio - economic environment of this region.

Annexure-10

Proposed Terms of Reference for EIA Studies

1. **Project Description**

- Justification of project.
- Promoters and their back ground
- Project site location along with site map of 5 km area and site details providing various industries, surface water bodies, forests etc.
- Project cost
- Project location and Plant layout.
- Existing infrastructure facilities
- Water source and utilization including proposed water balance.
- List of Products & their capacity
- Details of manufacturing process of proposed products
- List of hazardous chemicals
- Mass balance of each product
- Storage and Transportation of raw materials and products.

2. **Description of the Environment and Baseline Data Collection**

- Micrometeorological data for wind speed, direction, temperature, humidity and rainfall in 10 km area.
- Existing environmental status Vis a Vis air, water, noise, soil in 10 km area from the project site.
- Ground water quality at 8 locations within 10 km.
- Complete water balance

3. **Socio Economic Data**

- Existing socio-economic status, land use pattern and infrastructure facilities available in the study area were surveyed.

4. **Impacts Identification And Mitigatory Measures**

- Identification of impacting activities from the proposed project during construction and operational phase.
- Impact on air and mitigation measures including green belt
- Impact on water environment and mitigation measures
- Soil pollution source and mitigation measures
- Noise generation and control.
- Solid waste quantification and disposal.
- Control of fugitive emissions

5. **Environmental Management Plan**

- Details of pollution control measures
- Environment management team
- Proposed schedule for environmental monitoring including post project

6. **Risk Assessment**

- Objectives, Philosophy and methodology of risk assessment
- Details on storage facilities
- Process safety, transportation, fire fighting systems, safety features and emergency capabilities to be adopted.
- Identification of hazards
- Consequence analysis
- Recommendations on the basis of risk assessment done
- Disaster Management Plan.

7. **Information for Control of Fugitive Emissions**
8. **Post Project Monitoring Plan for Air, Water, Soil and Noise.**
9. **Information on Rain Water Harvesting**
10. **Green Belt Development plan**