INDEX

OC SPECIALITIES PVT. LTD.

Date: 11/08/21

To,
The Member Secretary
EAC (Industry -3)
MoEFCC,
Vayu Wing, Indira Paryavaran Bhavan,
Jor Bagh Road, Ali Ganj
New Delhi - 110 003.

Sub.: Submission of an online application (FORM-I) for grant of 'Environmental Clearance in respect of Expansion of Fine Chemicals and API Intermediates Manufacturing Unit by **OC Specialities Pvt. Ltd.,** Plot No. E-16, E-17, E-18 & E-22, MIDC Chincholi, Tal.: Mohol, Dist.: Solapur, Maharashtra State.

Ref.: EC granted to existing Industrial Unit vide letter No. J-11011/92/2015-IA-II (I) dated 31.01.2017.

Dear Sir,

We - **OC Specialities Pvt. Ltd. (OCSPL) -** have planned for expansion of Fine Chemicals and API Intermediates Manufacturing Unit located at Plot No. E-16, E-17, E-18 &E-22 in the Chincholi MIDC in Mohol tehsil of Solapur district in Maharashtra State.

The OCSPL was registered in January 2005. Since its inception; the company is in business of trading chemicals. Accordingly, the PP had procured export & import license for same in April 2005. Subsequently, the management decided to undertake manufacturing of chemicals in light of market demand and the Industry obtained Plot No. E-18 from MIDC at Chincholi Industrial area near Solapur and applied for Environment Clearance in 2015 with MOEFCC, New Delhi. Later on, all permissions like EC, Wildlife Clearance & MPCB Consents were procured for the said project and manufacturing was commenced. Now, looking after increased market demand for some of the existing products as well as certain new ones, OCSPL has planned to go for expansion of its existing facility for which adjacent Plots namely E-16, E-17, E-22 & T-7 were additionally procured in the Chincholi MIDC.

As per the provisions of EIA Notification No. S.O. 1533 (E) dated 14.09.2006, the Synthetic Organic Chemicals manufacturing activities are listed under Item 5(f). Accordingly, the expansion project of OCSPL requires appraisal by SEAC & SEIAA; Govt. of Maharashtra for

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grant of EC. However, due to nearness of the **'Great Indian Bustard (GIB)' Sanctuary** (2.31 Km from Project Site); the provision of General Condition (GC) becomes applicable and **hence the proposed expansion project is to be appraised at Center Level by MoEFCC, New Delhi.** In light of above, OCSPL submitted Form -1 at Parivesh Portal & ToRs were procured vide letter dated **17.03.2021**. Subsequently, EIA Report was submitted on 05.07.2021 under Industry III at the Parivesh Portal. Subsequently, the proposal was considered in 15th EAC (Industry-III) meeting held on **10.08.2021.** During deliberations, the committee members raised question on planning of the Industry towards providing compensatory Green Belt on a Plot No. T-7 located at 700 M from the main plant and instructed to look for developing Green Belt adjacent to the existing Plot No. E-18. In addition, certain other information was also sought regarding existing production capacity, process emissions, red category industries adjacent to project site, ESC etc. and the proposal was returned in present form to PP.

Sir, subsequent to taking the directions from EAC positively, PP of OCSPL gave a second thought to the earlier expansion proposal along with the Green Belt aspect thereof.
Here, we would like to bring forward a fact that the OCSPL had already approached MIDC in the year 2019 requesting allotment of additional land solely for development of GB. Thus, the PP's request was under consideration for last 2 years. However, as there was no response from the MIDC and as the expansion proposal was lingering while awaiting for the additional land for GB, OCSPL planned to implement the shortfall of GB on Plot T-7 so that the condition w.r.t. 33% would get fulfilled. Accordingly, by incorporating the T-7 Plot along with other Plots (E-16, E-17, E-18 & E-22); the expansion proposal was submitted to Ministry.

Fortunately, the intensive follow up with MIDC for Green Belt development yielded good results and one adjacent vacant Plot of 4290 Sq.M. (bearing No. Open Space (OS) -23) was obtained solely for Green Belt development. The MIDC has given NOC for development of GB only on the Plot OS-23 vide its letter dated **02.08.2021** and was received in industry on **11.08.2021.** The plantation planning on this plot would complete GB adequacy by fulfilling the deficit towards overall area required to meet condition of 33%.

Now, in light of deliberation of EAC (in 15th Meeting on 10.08.2021) on the expansion proposal and subsequent to MoM, the management of OCSPL has decided to delete the Plot T-7 and accordingly a fresh application for EC of the expansion project is being submitted in light of Plot OS 23 solely available for Green Belt development. The implementation of GB has already been started in view of ongoing monsoon.

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Sir, under above circumstances, the fresh application now being presented w.r.t. the expansion project may please be accepted for consideration towards grant of EC. Further, information & compliance as directed in the MoM of earlier EAC (like Green Belt Development activity, Product list as per existing EC and CTO, Process and Fugitive emissions etc.) is updated in the fresh application and same will also be addressed in EIA.

Please do the needful.

Thanking you.

Yours faithfully,

Mr. Vikas Shah
(Director)

Encl.: An online application in Form-I format & Prefeasibility Report.

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OC SPECIALITIES PVT. LTD.

Date : 11/08/2021

Authorization Letter by Project Proponent

The management of **M/s. OC Specialities Pvt. Ltd. (OCSPL)** located at Plot No. E-16, E-17, E-18 & E-22, MIDC Chincholi, Tal.: Mohol, Dist.: Solapur, Maharashtra State, have planned to go for expansion of Fine Chemicals and API Intermediates Manufacturing Unit for which we are submitting an application of Form–I and Pre-Feasibility Report (PFR) to MoEFCC; New Delhi.

Accordingly, we have decided to submit an application to MoEFCC, New Delhi; in the name of our Director **Vikas Shah** of **OCSPL.**

Manish Shah
(ManagingDirector)
M/s. OC Specialities Pvt. Ltd.

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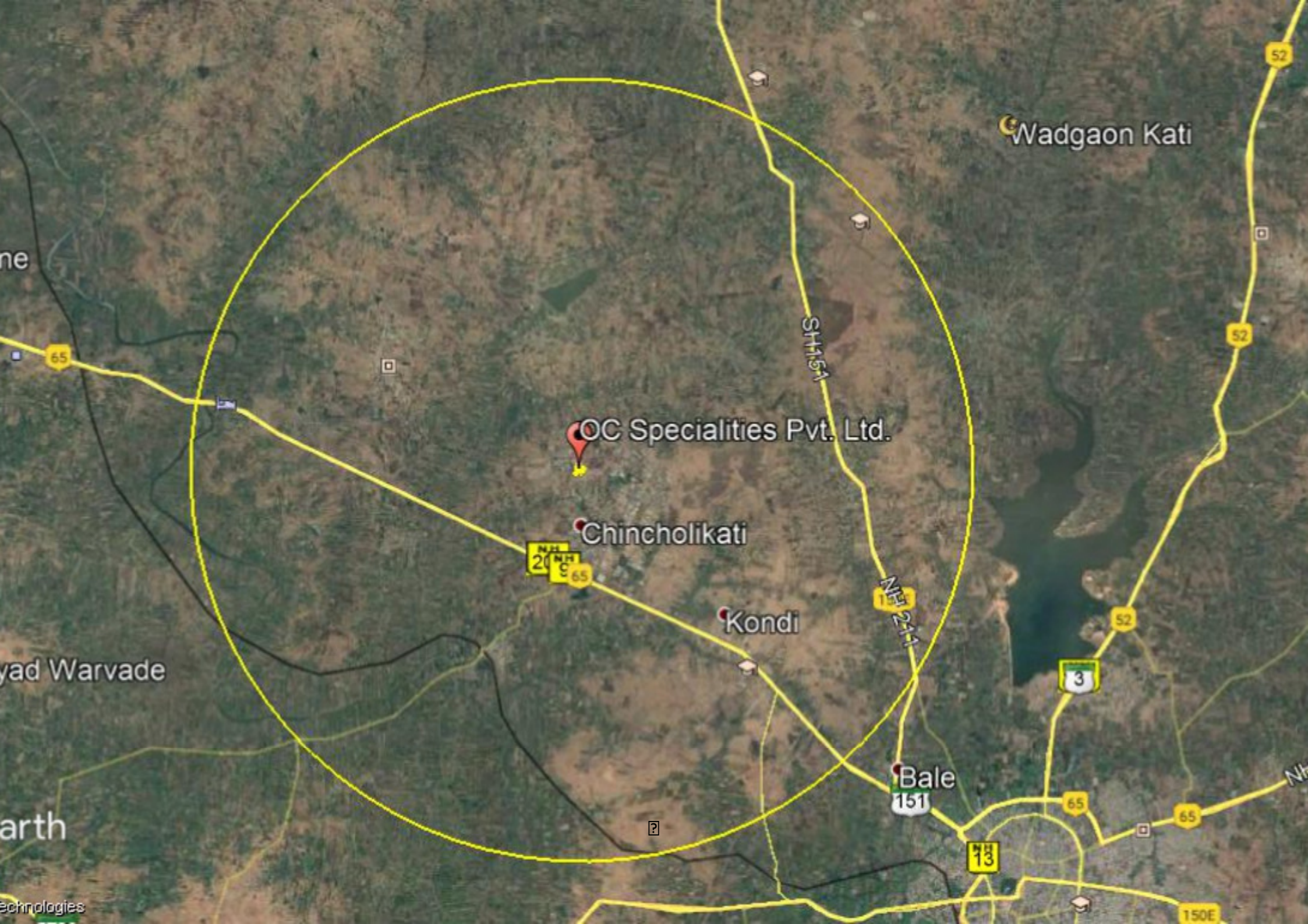
Wadgaon Kati
OC Specialities Pvt. Ltd.
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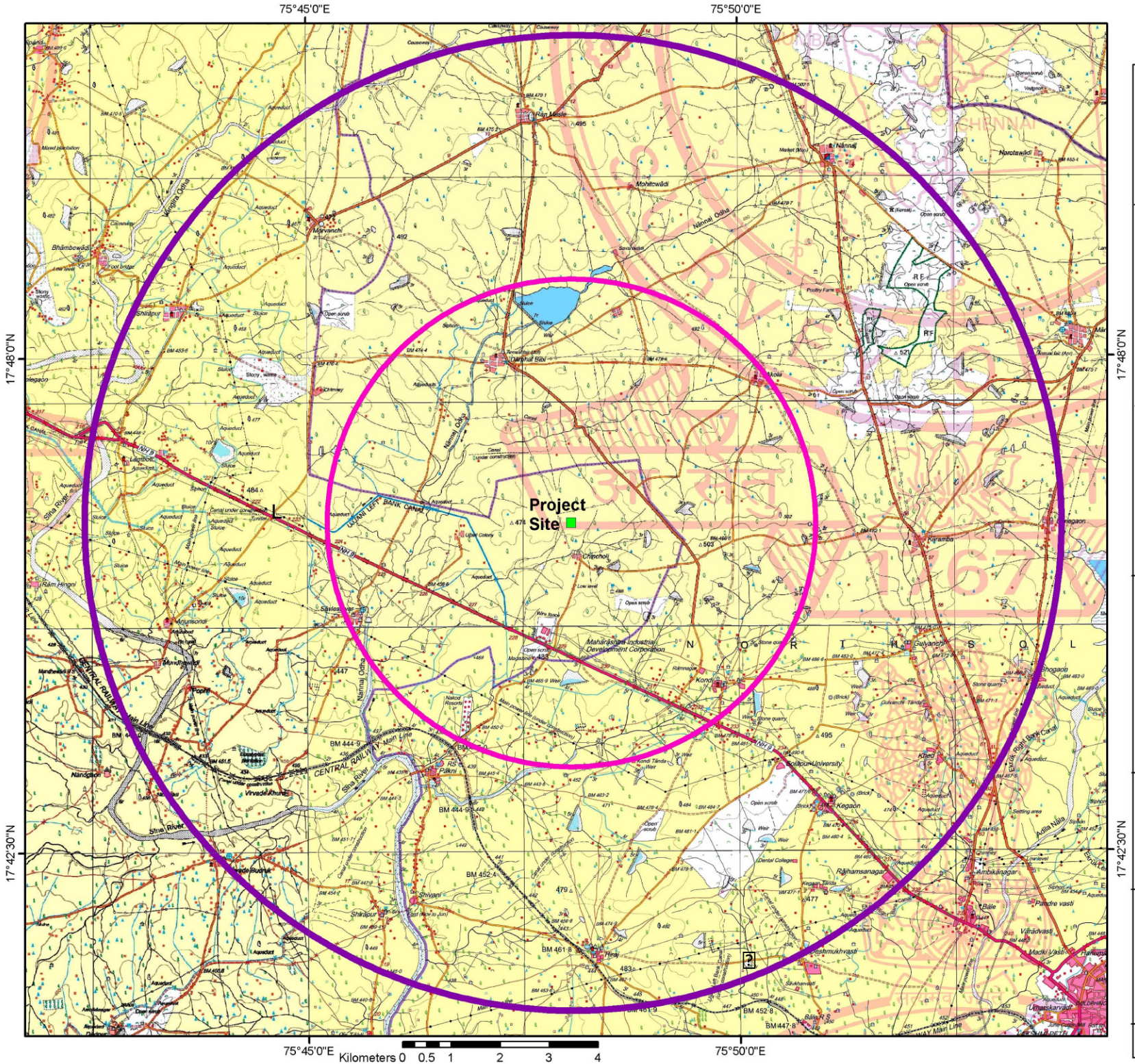
Topographical Map



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Legend

- Project Site
- 5 km Radius Buffer
- 10km Radius Buffer

Source of Data:

Survey of India Topographical map
Scale: 1:50,000
Toposheet No.: 47O9, 47O10, 47O13, 47O14

Project Name:

OC Specialities Pvt. Ltd.

Plot No. E-16, E-17, E-18 & E-22
MIDC Chicholi, Tal.: Mohol,
Dist.: Solapur,
Maharashtra State

EIA Consultant:

Equinox Environments (India) Pvt. Ltd.
Kolhapur

Project Location Coordinates:

Longitude- 75°48'4.41"E
Latitude - 17°46'8.78"N

Scale:1:75,000

Brief Summary of the Project

No.	Item	Details
1	Name &Address of the Project	**OC Specialities Pvt. Ltd.,** Plot No. E-16, E-17, E-18 & E-22, MIDC Chincholi, Tal. Mohol, Dist. Solapur, Maharashtra State.
2	Name of the applicant & Designation	**Mr. Vikas Shah** Director
3	Type of Project	Expansion of Fine Chemicals and API Intermediates manufacturing unit.
4	Project Category	As per the provision of "EIA Notification No. S. O. 1533 (E)" dated 14.09.2006 the Proposed expansion project comes under 5(f) Category – B1. The GIB Sanctuary is located about 2.31 Km from Plot No. E-16, E-17, E-18 & E-22 of project site in MIDC. ESZ for GIB is finalized and site is located outside of ESZ. Hence, the project is to be appraised at Centre Level by MoEFCC, New Delhi.
5	Capacity of Project	**Existing Capacity:** **13932 MT/A** **Expansion Capacity:** **9431.6 MT/A** **After Expansion Capacity:** **23363.6 MT/A**
6	Land acquired	See table below
7	Cost of the Project	**Existing (Cr):** **30.07** **Expansion (Cr):** **69.01** **After Expansion (Cr):** **99.08**
8	Production Capacities	See Table 1 below

List of Area (Sq. M.)	Existing (E-18)	Expansion (E-16, E-17, E-22)	Total After Exp.
Built - Up Area	3,168.00	6,144.68	9,312.68
Open Space Available	612.81	1,863.50	2,476.31
Road	3,792.49	5,747.33	9,539.82
Green Belt within Premises (GB-1)	1,596.00	1,740.20	3,336.20
Total Plot Area	**8,450.00**	**15,495.71**	**23,945.71**
Green Belt within Set Back Margin (GB-2)	--	**1,840.00**	**1,840.00**
Green Belt on adjacent Premises (GB-3); Compensatory on MIDC Plot OS-23 adjacent to E-18	--	**4,290.00**	**4,290.00**

Note: Total Green belt area of 9466.2 Sq. M after expansion is 39.53 % of Total Plot area 23945.71 Sq. M.

Table 1 : Products & By-Products

No	Name of the Product	Quantity (TPA)			Remark	CAS No.
		Exist. As per Valid CTO	Exp.	Total After Exp.		
A	**Products**					
1	Sodium Bromide Sol. 40%	4680	0	4680	--	
	Sodium Bromide Powder	2782.8	0	2782.8	--	7647-15-6
	Zinc Hydroxide OR	1270.8	0	1270.8	--	20427-58-1
	Zinc Oxide	885.6	-885.6	0	Discontinuous	

No.	Item	Details						
		2	Di Isopropyl Ethylamine (DIPEA)	435.6	380.4	816	--	7087-68-5
		3	Methyl-2-Chloro Phenyl Acetate	122.4	-122.4	0	Discontinuous	
		4	4 Methoxy Phenyl Acetone	118.8	-118.8	0	Discontinuous	
		5	2,3 Dichloro Pyridine	198	1302	1500	--	2402-77-9
		6	2 Coumaranone	147.6	-147.6	0	Discontinuous	
		7	3-Isochromanone	126	-126	0	Discontinuous	
		8	2,6 Dichloro Benzoyl Chloride	266.4	0	266.4	--	4659-45-4
		9	P-Bromonisole / 4-Bromo Anisole	198	-198	0	Discontinuous	
		10	Para Bromo Phenetole / 4-Bromophenetole	172.8	-172.8	0	Discontinuous	
		11	2,4- Dichloro Phenyl Acetyl Chloride	162	-162	0	Discontinuous	
		12	2,5-Dimethyl Phenyl Acetyl Chloride	158.4	191.6	350	--	55312-97-5
		13	Indoline	435.6	-435.6	0	Discontinuous	
		14	Ethyl-1-Hydroxy Cyclohexane Carboxylate	396	304	700	--	1127-01-1
		15	Ethyl-1-Hydroxy Cyclopentane Carboxylate	435.6	264.4	700	--	41248-23-1
		16	3-Chloro-2-Hydrazinyl Pyridine	342	1158	1500	--	22841-92-5
		17	2,4,6 Trimethyl Phenyl Acetyl Chloride	57.6	442.4	500	--	52629-46-6
		18	2,6 Dimethoxy Benzoic acid	21.6	178.4	200	--	1989-53-3
		19	Methyl-2-Chloroproionate	144	456	600	--	77287-29-7
		20	2- Methoxy Benzoic Acid	147.6	300	447.6	--	579-75-9
		21	Amido Chloride	115.2	584.8	700	--	816431-72-8
		22	N-Methyl-2-Oxo-2-Phenyl Acetamide	10.8	89.2	100	--	83490-71-5
		23	4 Fluoro 3 Trifluoromethyl Phenol	100.8	199.2	300	--	61721-07-1
		24	2,6 Dichlorobenzonitrile	0	300	300	--	1194-65-6
		25	2,6 Dimethoxy Benzoyl Chloride	0	200	200	--	1989-53-3
		26	S-2-Chloro Propionic Acid	0	200	200	--	29617-66-1
		27	S-Methyl-2chloro	0	200	200	--	73246-45-4

No.	Item	Details							
			propionate						
		28	Ethyl-2-Chloropropionate	0	300	300	--	535-13-7	
		29	2-Methoxy Propionic Acid (MEPRA)	0	200	200	--	4324-37-2	
		30	Methyl 2,3 Dichloro Propionate	0	300	300	--	07-09-3674	
		31	(2-Chloro-4-Fluoro-5-Nitro phenyl) ethyl carbonate	0	150	150	--	153471-75-1	
		32	3-Methyl Pyradizine (3-MP)	0	100	100	--	1632-76-4	
		33	Ortho Chloro Benzamide (OCBA)	0	300	300	--	619-56-7	
		34	Chlorinated Paraffin Wax (CPW)	0	1000	1000	--	609-66-5	
		35	BPCA (3-bromo-1-(3-chloropyridin-2-yl)-1H C43:C44pyrazole-5-carboxylic acid)	0	200	200	--	63449-39-8	
		36	API & Intermediates	0	2500	2500	--	--	
			Total (A)	**13932**	**9431.6**	**23363.6**			
		B	**Byproducts**						
		1.	Sodium Sulphite Solution (25%)	2184.84	1800.0	3984.84	Co-products	7757-83-7	
		2.	Hydrochloric Acid Solution (30%)	907.08	1440.0	2347.08		7647-01-0	
		3.	Sodium Nitrite Soln.30%	365.04	0	365.04		7632-00-0	
		4.	Distillation Residue of Pxylene	43.2	0	43.2		--	
		5.	Ammonium Chloride Solution	432.0	0	432.0		12125-02-9	
		6.	Sodium Bromide	432.0	780.0	1212.0		7647-15-6	
		7.	Spent Catalyst for Regeneration	432.0	42.0	474.0		--	
			Total (B)	**4796.2**	**4062.0**	**8858.2**			
			Total (A+B)	**18728.2**	**13493.6**	**32221.8**			
		Note: Only 9 products shall be manufactured, daily, as per market demand.							

9	Air Pollution Control Measures	**Table 2 : Details of Stack**									
		No	**Description**	**Existing**			**Expansion**				
		1	Stack Nos.	S-1		S-2	S-3	S-4	S5	S6	S7
		2	Attached to	Boiler	TFH	DG Set	Boiler	THF	DG Set		
		3	Capacity	3 TPH	6 Lac Kcal /Hr	200 KVA	16 TPH	12 Lac Kcal /Hr	1250 KVA-2 Nos.	380 KVA - 2 No.	100 KVA-2 No.
		4	Numbers	1	1	1	1	1	2	2	2

No.	Item	Details									
		5	Fuel type	Briquettes		HSD	Briquettes		HSD		
		6	Fuel quantity	18 MT/ D	100 Kg/Hr	75 LPH	83 MT/ D	200 kg/ Hr	500 LPH	150 LPH	75 LP H
		7	Material of construction	RCC		MS	RCC	MS			
		8	Shape	Round		Round		Round			
		9	Height, m (AGL)	30 M		3M (ARL)	31 M	30 M	20M (AGL)	5 M (AR L)	3 M (AR L)
		10	Diameter/ size, m	0.5 M		0.1 M	0.5 M	0.5 M	0.5 M	0.1 M	0.1 M
		11	Control equipment to Stack	MDC followed by Bag Filter.		---	MDC followed by Bag Filter.		---		
		Note: Existing 3 TPH Boiler will be standby after installation of new 16 TPH boiler. Under expansion activity 6 lac Kcal/Hr Thermopack will be replaced with 12 Lac Kcal /Hr Thermopack. Similarly 200 KVA DG Set will be replaced with 6 No. of new DG sets 2 Nos. of each capacities of 1250 KVA, 380 KVA & 100 KVA.									
10	**Scrubber Details**	Presently, 5 scrubbers are installed on site. For HBr, NOx, NH_3 dedicated scrubbers while & HCl, SO_2 combine scrubber. Under expansion, additional 6 (HBr, NOx, NH_3 HCl, SO_2 & HCN) number of scrubbers will be provided.									
		For Expansion-									
		No	**Emissions**	**Dia. (M)**	**Ht. (M)**	**Packing Material**	**Mode of regeneration of the packing material**	**Scrubbing Media**	**Disposal/ Recycle/ Reuse/byproduct**		
		1	SO_2	0.5	3	Glass /HDPE	Water washing	Water / Caustic Soda	Sodium Sulphite Solution		
		2	NH_3	0.5	3	Glass /HDPE	Water washing	Water	Ammonia to process		
		3	HBr	0.5	3	Glass /HDPE	Water washing	Caustic Soda	NaBr		
		4	NO_x	0.5	3	Glass /HDPE	Water washing	Water / Caustic Soda	To ETP		
		5	HCl	0.6	6	Glass /HDPE	Water washing	Water	HCl Acid		
		6	HCN	0.5	3	Glass /HDPE	Water washing	Caustic Lye	To ETP		
11	**Water Requirement**	**Table 3 : Details of Water Requirement**									
		No	**Description**	**Water Consumption (M^3/Day)**							
				Existing		**Expansion**		**Total After Expansion**			
		1	**Domestic**	5 ($^{\$}$4+$^{\#}$1)		15		20 ($^{\$}$13+$^{\#}$7)			
		2	**Industrial**								
		a	Processing	$^{\#}$17		89		$^{\#}$106			
		b	Scrubber	*2		18		*20			
		c	R&D & Pilot Plant	--		5		$^{\#}$5			
		d	Lab, Floor Washing	*3		2		*5			
		e	Cooling Tower Makeup	*8		392		*400 ($^{\#}$268+*132)			

No.	Item	Details				
		f	Boiler Makeup	*8	142	150 (#62 + *88)
			Industrial Total	**38 (#17+*21)**	**648**	**686#441+*245)**
		3	**Gardening**	***2**	**38**	**#40**
			Grand Total	**45 (#18+*23+ $4)**	**701**	**746 ($13+#488+ *245)**
		Note: # - Fresh water from MIDC water supply, *- Recycled ETP treated water, $-STP treated Water. 9 products will be manufactured at a time and water calculations for worst 9 products				

12 Effluent Generation

Table 4 : Details of Effluent Generation

No	Description	Effluent Generation (M^3/Day)			
		Existing	Expansion	Total After Exp.	Disposal
1	**Domestic**	4.5	11.5	16.0	Domestic effluent treated in existing STP & 13 CMD will be recycled & reused
2	**Industrial**				
a	Processing	20.0	187.0	207.0	Effluent treated in Proposed ETP to achieve ZLD & 245 CMD will be recycle & reuse
b	Scrubber	0.0	2.0	2.0	
c	R&D & Pilot Plant	--	4.0	4.0	
d	Lab, Floor Washing	2.5	2.0	4.5	
e	Cooling Tower blowdown	1.0	30.0	31.0	
f	Boiler blowdown	1.0	25.0	26.0	
	Industrial Total	**24.5**	**250.0**	**274.5**	

13 Solid Waste

Table 5 : Details of Solid Waste

No	Description	Quantity (MT/M)		Disposal
		Existing	After Expansion	
1	Boiler Ash	83.5	457 .0	Sale to Brick Manufacture
2	Metal Scrap	--	10.0	Sale to Authorized recyclers
3	Empty Containers & Drums	--	1000 Nos./M	
4	Packaging Material	15.0	30.0	
5	E-Waste	--	1	

14 Hazardous Waste

Table 6 : Details of Hazardous Waste

No	Description	Cat	Quantity (MT/M)		Disposal Facility
			Existing	After Exp.	
1	Process Residue	28.1	11.14	20	5 MT/M would be reused or sold to outside parties and rest would be forwarded to CHWTSDF
2	Distillation Residue	20.3	21.20	65.20	CHWTSDF

No.	Item	Details						
		3	ETP sludge	35.3	9.00	571.50		
		4	MEE Salt	35.3	30.00	360.00		
		5	Spent Carbon	28.3	---	1.70		
		6	Spent Catalyst	28.2	---	3.50		
		7	Discarded containers / barrels / liners	33.1	---	90.00 Nos.	Sale to authorized recycler / re-processor.	
		8	Filter Medium	36.2	---	60.00 Nos.	CHWTSDF	
		9	Date-expired products	28.5	---	5.00		
		10	Spent Solvent	28.6	---	90.00		
		11	Spent / Used Oil	35.4	--	50.00 Lit		
		12	Sodium Sulphate Solution 25%	35.3	180.30	150.00		
		13	HCl 30%	35.3	75.60	120.00		
		14	Sodium Nitrite Solution 30%	35.30	30.30	--		
		15	Distillation residue of P-Xylene	35.30	3.60	--		
		16	Ammonium Chloride	35.3	36.00	--		
15	**Green Belt**	**List of Area (Sq.M.)**		**Existing**	**Expansion**	**Total After Expansion**		
		Green Belt within Premises (GB-1)		1,596.00	1,740.20	3,336.20		
		Green Belt within Set Back Margin (GB-2)		--	1,840.00	1,840.00		
		Green Belt on adjacent Premises (GB-3); Compensatory on MIDC Plot OS-23 adjacent to E-18		--	4,290.00	4,290.00		
		No. of Trees to be Planted		220	3000	3220		
		Note: Total Green belt area of 9466.2 Sq. M after expansion is 39.53 % of Total Plot area 23945.71 Sq. M.						
16	**Raw Material**	**No.**	**Name of Raw Materials**	**Qty. MT/M**	**Maximum Qty. Stored At Site Kg/M**	**Mode Of Storage (Drum, Tank, Polybag etc)**	**Mode Of Transportation (Road/ Air/ Conveyor)**	**Distance From Source To Site Km.**
		1.	Nicotinamide	56.13	15000	25 kg bags	Road	400
		2.	Sodium Hyrdoxide	356.56	25000	50 kg	Road	450

No.	Item	Details						
			Flakes			bag		
		3.	Sodium Hypochlorite (10-12%)	410.01	15000	Storage tank	Road	400
		4.	Sodium Sulphate	192.04	9000	50 kg bags	Road	450
		5.	3-Amino Pyridine	144.79	16000	250 kg HDPE drum	Road	400
		6.	Hydrochloric Acid 30-33%	2635.33	100000	Storage tank	Road	500
		7.	Catalyst KitKat	4.58	5000	50 kg bags	Road	500
		8.	Liquid Chloride	148.02	5000	Tonner 900 kgs	Road	250
		9.	Caustic Soda Lye	2517.35	75000	Storage tank	Road	500
		10.	Sodium bisulfate	109.57	25000	50 kg HDPE bag	Road	950
		11.	Hydrogen Peroxide	97.63	10000	25 KL Storage tank	Road	450
		12.	Sodium Nitrite	147.47	9000	50 kg bags	Road	850
		13.	Cuprous chloride	30.13	20000	bags	Road	500
		14.	Hydrazine hydrate (100%)	161.71	16000	200 kgs HDPE drums	Road	400
		15.	Potassium carbonate	124.50	20000	50 kg bags	Road	400
		16.	P-formaldehyde	10.70	9000	25 kg bags	Road	400
		17.	PEG-600	0.48	1000	225 kg drums	Road	450
		18.	Sodium Cyanide	33.74	7000	50 kg drums	Road	700
		19.	Tertiary Butyl Ammonium Bromide	1.04	1500	50 kg fibre drum	Road	750
		20.	Triethyl Amine	0.26	400	150 kg drums	Road	50
		21.	Sodium Bicarbonate	7.74	500	50 kg bag	Road	400
		22.	Monochlorobenzene	5.11	8750	200 kg ms drum	Road	810
		23.	Thionyl chloride	91.58	20000	300 kg GI drum / storage tank	Road	450
		24.	Dimethyl	20.54	600	200 kg	Road	5

No.	Item	Details						
			Formamide			HDPE drums		
		25.	Formaldehyde (37%)	17.90	7000	230 kgs HDPE drums	Road	450
		26.	Sulfuric Acid 98%	120.85	20000	storage tank	Road	450
		27.	Cyclopentanone	16.46	7000	200 kg HDPE drums	Road	450
		28.	Denatured Industrial Alcohol	46.03	--	16 mt storage tank	Road	250
		29.	Aqueous Ammonia	129.51	6825	40 kg carboys	Road	450
		30.	Cyclohexanone	13.65	--	190 kg MS drum	Road	450
		31.	2,6-Dichloro toluene	19.53	--	200 kg drums	Road	400
		32.	Catalyst Cat X	2.52	500	50 kg fibre drum	Road	450
		33.	2,6-Dichloro benzal chloride	48.00	20000	200 kg drum	Road	450
		34.	Catalyst Cat K	0.40	250	50 kg bag	Road	450
		35.	2,6-Dichloro benzaldehyde	25.00	20000	250 kg HDPE drum	Road	400
		36.	Hydroxyl amine.HCL	8.75	5000	50 kg bags	Road	400
		37.	Catalyst Cat-P	1.04	2000	50 kgs bags	Road	750
		38.	2,6-Dichlorobenzoic acid	11.90	--	200 kgs drums	Road	450
		39.	Dimethylamine Gas	7.01	4800	400 kg tonenr	Road	450
		40.	L-Alanine	20.00	--	200 kgs drums	Road	400
		41.	MIBK	182.74	--	165 kgs drums	Road	400
		42.	Propionic acid	29.92	20000	storage tank	Road	400
		43.	Sodium Hyrdoxide Flakes	146.80	--	50 kg bags		400
		44.	Methyl Acrylate	4.88	--	200 kg drum	Road	400
		45.	Salicylic acid	25.00	---	200 kg drums	Road	450

No.	Item	Details						
		46.	Dimethyl sulfate	25.00	7000	250 kg HDPE drums	Road	450
		47.	2-methoxy benzoic acid	12.00	--	200 kg drum	Road	450
		48.	4-Sulfamoyl benzoic acid	15.58	--	50 kg drum	Road	450
		49.	Levullinic acid	19.00	16000	200 kg drums	Road	400
		50.	Bromine	31.31	20000	storage tank	Road	450
		51.	Potassium Hydroxide	10.35	5000	50 kg bags	Road	400
		52.	Methyl ethyl ketone	2.29	2000	165 kg drum	Road	400
		53.	Diethyl oxalate	5.51	6000	250 kg drum	Road	450
		54.	Sodium ethoxide	61.36	20000	100 kg (10 kg x 10 no of poly bag) in steel drum.	Road	400
		55.	Monomethyl amine 40% Solution	16.33	5000	170 kg drums	Road	450
		56.	Mandelonitrile	28.41	10000	200 kgs drums	Road	400
		57.	ETHYL ACETATE	24.10	5000	200 kg drum	Road	450
		58.	Enzyme	1.22	--	--	Road	400
		59.	Acetone	4.10	50	150 kg drum	Road	450
		60.	MTBE	80.33	20000	200 kg drum	Road	400
		61.	4-fluro-3-(trifluoromethyl) aniline	4.17	10000	250 kg drum	Road	400
		62.	Sulphamic acid	0.58	500	50 kg bags	Road	500
		63.	Acetic Acid	125.02	25000	storage tank	Road	450
		64.	Phosphorus Trichloride	34.81	8750	drums	Road	600
		65.	Pd/C Catalyst	2.98	1000	50 kg drum	Road	450
		66.	Salt	2.78	3000	bags	Road	20
		67.	2 Chlorobenzoic Acid	22.73	10000	25 kg bags	Road	450
		68.	4-fluoro phenol	5.63	10000	200 kg	Road	450

No.	Item	Details						
						drum		
		69.	Ethyl Dichloride	18.96	--	250 kg drums	Road	400
		70.	Ethyl chloroformate	6.45	--	250 kgs drums	Road	400
		71.	Nitric acid (70%)	4.56	1000	35 kg carboys	Road	450
		72.	Paraffin Wax	20.13	25000	storage tank	Road	400
		73.	2,4-Dichloro Toluene	20.77	20000	200 kg drums	Road	400
		74.	2-Acetyl Gamma butyrolactone	28.45	20000	200 kg drum	Road	400
		75.	N-Ethyl Ethanol Amine	19.48	16000	200 kg drum	Road	450
		76.	Hydrogen gas	0.51	100 kg	50 kg cylinder	Road	450
		77.	Ni-Catalyst	0.88	500	50 kg drum	Road	400
		78.	Methyl Cyano Acetate	48.45	20000	200 kg drum	Road	450
		79.	Urea	25.83	15000	50 kg bags	Road	450
		80.	Hydros	19.47	15000	50 kg bags	Road	500
		81.	Glyoxal (40% solution)	58.78	20000	200 kg drum	Road	400
		82.	Zinc Bromide 70%	240.00	100000	1000 lit IBC	Road	450
		83.	Di Isopropylamine	29.16	12000	150 kg drums	Road	400
		84.	Di Ethyl Sulphate	20.21	8750	250 kg HDPE drums	Road	750

17	**Environment Protection Cost**	**No**	**Description**	**Capital (Rs. Lakhs)**	**O & M/A (Rs. Lakhs)**
		I	**Existing**		
		1	APC : Bag Filters, Stacks	75.00	5.00
		2	WPC : ETPs (Separate for Stream I & II); MEE	100.00	10.00
		3	Noise Pollution Control	5.00	1.00
		4	Environmental Monitoring and Management	--	5.00
		5	Occupational Health and Safety	10.00	2.00
		6	Green Belt Development & RWH System	10.00	2.00
			Total I	**200.00**	**25.00**
		II	**Expansion**		
		1	Installation of STP	10.00	2.00
		2	Installation of ETP (RO, MEE,	1000.50	100.00

No.	Item	Details			
			Guard tank for standby storage of effluent)		
		3	Bag Filter & Stack Installation	75.00	8.00
		4	Installations of Scrubbers	35.00	4.00
		5	Occupational Health and Safety(Additional set up of OHC)	50.00	10.00
		6	Green Belt Development & Rain Water Harvesting	50.00	5.00
			Total II	**1220.50**	**129.00**
			Gross Total (I + II)	**1420.50**	**154.00**

PREFEASIBILITY REPORT

1.0 EXECUTIVE SUMMARY AND INTRODUCTION OF THE PROJECT

OC Specialities Pvt. Ltd.; Solapur', located at Plot No. E-16, E-17, E-18 & E-22, MIDC Chincholi, Tal. Mohol, Dist. Solapur, M.S., was registered vide Registration No.: MIDC/RO(ROS)/CHN/LMS-725. The Industry would be incorporated with a main object to Expansion of Fine Chemicals and API Intermediates Manufacturing Unit. And is planning to procure Environment Clearance rendered with an existing capacity of **13932 MT/A** to expansion upto **23363.6 MT/A.** These have a good export potential.

1.1 Need of The Project

- The Indian Pharmaceutical Industry today is in the front rank of India's science-based industries with wide ranging capabilities in the complex field of drug manufacture and technology.
- Speciality Chemicals have become a part of our life for sustaining many of our day-to- day activities, preventing and controlling diseases. Speciality chemicals manufacturing sector in India is well established and has recorded a steady growth in the overall Indian industrial scenario. The Speciality Chemical industries have been amongst the fastest growing segments of the Indian industry.
- India's pharmaceutical industry is the third largest in the world in terms of volume. Its rank is 14th in terms of value. India is also one of the top five active pharmaceutical ingredients (API) producers (with a share of about 6.5%).
- The ever-increasing demand for Speciality Chemicals in India and abroad as well as changing market conditions for manufacture and sale of products has prompted the promoters to go for manufacturing of Speciality Chemicals.

1.2 Employment Generation Potential

The activities under proposed expansion would produce improvement in the socio-economic status of people in the study area in terms of local labor employment and contract basis jobs. Under expansion unit 158 numbers of employees and workers will be employed. Out of which 113 skilled and 45 unskilled manpower of total employment.

2.0 PROJECT DESCRIPTION

2.1 Location: 'OC Specialities Pvt. Ltd.; Solapur', located at Plot No. E- 16, E-17, E-18, & E-22, MIDC Chincholi, Tal. Mohol, Dist. Solapur, M.S.

Project Co-ordinates of 4 corner of the plot are as follows,

A) For Plot No. E-17 & 18

i. Latitude- 17°46'8.78"N ,, Longitude- 75°48'4.41"E
ii. Latitude - 17°46'8.73"N, Longitude - 75°47'59.98"E
iii. Latitude - 17°46'13.09"N, Longitude - 75°47'59.93"E
iv. Latitude - 17°46'13.07"N, Longitude - 75°48'4.33"E

B) For Plot No. E-16

i. Latitude - 17°46'8.66"N , Longitude - 75°48'6.96"E
ii. Latitude- 17°45'0.59"N,Longitude-75°48'1.65"E
iii. Latitude - 17°46'11.37"N, Longitude - 75°48'5.15"E
iv. Latitude - 17°46'11.47"N, Longitude - 75°48'6.84"E

C) For Plot No. E-22

i. Latitude - 17°46'7.93"N Longitude - 75°48'4.27"E
ii. Latitude - 17°46'6.00"N, Longitude - 75°48'4.38"E
iii. Latitude - 17°46'6.01"N, Longitude - 75°48'3.02"E
iv. Latitude - 17°46'7.92"N, Longitude - 75°48'2.93"E

The MIDC is fast growing area and has adequate access roads. National Highway of NH-9 is about 2.32 Km. from project site due to which the procurement as well as dispatch of raw materials and finished products to nearby cities and market places would be very much economical and convenient.

2.2 Site Selection: The expansion of Speciality Chemicals and Intermediates for API would be implemented in the existing factory premises of OCSPL. The favorable aspects of proposed project are-

1 Availability of excess of raw material to the operational area.
2 Availability of adequate quantity of water and electricity for the proposed project.
3 The nearest city is Solapur 15 km away from the project site which is very well connected with other parts of the country by roads.
4 No rehabilitation and resettlement shall be required.

2.3 Alternative Site: No alternative sites were examined since the proposed expansion of project carried out in MIDC plots wherein existing unit is setup.

2.4 The Products: The product considered for manufacturing under existing as well as after expansion are listed as follows-

Table 1 List of Products

Sr. No.	List of Product	Quantity (TPA)				Remark
		Existing as per EC	Existing as per Valid CTO	Expansion	Total	
1.	Sodium Bromide Sol. 40%	4680.0	4680	0	4680	--
	Sodium Bromide Powder	2782.8	2782.8	0	2782.8	--
	Zinc Hydroxide OR	1270.8	1270.8	0	1270.8	--
	Zinc Oxide	885.6	885.6	-885.6	0	Discontinuous
2.	Di Isopropyl Ethylamine (DIPEA)	219.6	435.6	380.4	816	--
3.	Methyl-2-Chloro Phenyl Acetate	122.4	122.4	-122.4	0	Discontinuous
4.	4 Methoxy Phenyl Acetone	118.8	118.8	-118.8	0	Discontinuous
5.	2,3 Dichloro Pyridine	118.8	198	1302	1500	--

Sr. No.	List of Product	Quantity (TPA)				Remark
		Existing as per EC	Existing as per Valid CTO	Expansion	Total	
6.	2-Amino-2-Phenyl Butyric Acid	75.6	0	0	0	Discontinued
7.	Ortho Hydroxy Phenyl Acetic Acid	180.0	0	0	0	Discontinued
8.	2 Coumaranone	147.6	147.6	-147.6	0	Discontinuous
9.	3-Isochromanone	144.0	126	-126	0	Discontinuous
10.	2,6 Dichloro Benzoyl Chloride	266.4	266.4	0	266.4	--
11.	Methyl-2-Dimethylamino-2-Phenyl Butyrate	118.8	0	0	0	Discontinued
12.	2-Dimethylamino-2-Phenyl Butanol	36.0	0	0	0	Discontinued
13.	P-Bromonisole / 4-Bromo Anisole	198.0	198	-198	0	Discontinuous
14.	Para Bromo Phenetole / 4-Bromophenetole	172.8	172.8	-172.8	0	Discontinuous
15.	2,4- Dichloro Phenyl Acetyl Chloride	475.2	162	0	0	Discontinuous
16.	2,5-Dimethyl Phenyl Acetyl Chloride	388.8	158.4	191.6	350	--
17.	Indoline	435.6	435.6	-435.6	0	Discontinuous
18.	Ethyl Phenyl Glyoxalate (Epg)	342.0	--	--	--	--
19.	Ethyl-1-Hydroxy Cyclohexane Carboxylate	396.0	396	304	700	--
20.	Ethyl-1-Hydroxy Cyclopentane Carboxylate	435.6	435.6	264.4	700	--
21.	3-Chloro-2-Hydrazinyl Pyridine	432.0	342	1158	1500	--
22.	2,4,6 Trimethyl Phenyl Acetyl Chloride	0	57.6*	442.4	500	--
23.	2,6 Dimethoxy Benzoic acid	0	21.6*	178.4	200	--
24.	Methyl-2-Chloroproionate	0	144*	456	600	--
25.	2- Methoxy Benzoic	0	147.6*	300	447.6	--

Sr. No.	List of Product	Quantity (TPA)				Remark
		Existing as per EC	Existing as per Valid CTO	Expansion	Total	
	Acid					
26.	Amido Chloride	0	115.2*	584.8	700	--
27.	N-Methyl-2-Oxo-2-Phenyl Acetamide	0	10.8*	89.2	100	--
28.	4 Fluoro 3 Trifluoromethyl Phenol	0	100.8*	199.2	300	--
29.	2,6 Dichlorobenzonitrile	0	0	300	300	--
30.	2,6 Dimethoxy Benzoyl Chloride	0	0	200	200	--
31.	S-2-Chloro Propionic Acid	0	0	200	200	--
32.	S-Methyl-2chloro propionate	0	0	200	200	--
33.	Ethyl-2-Chloropropionate	0	0	300	300	--
34.	2-Methoxy Propionic Acid (MEPRA)	0	0	200	200	--
35.	Methyl 2,3 Dichloro Propionate	0	0	300	300	--
36.	(2-Chloro-4-Fluoro-5-Nitro phenyl) ethyl carbonate	00	0	150	150	--
37.	3-Methyl Pyradizine (3-MP)	0	0	100	100	--
38.	Ortho Chloro Benzamide (OCBA)	0	0	300	300	--
39.	Chlorinated Paraffin Wax (CPW)	0	0	1000	1000	--
40.	BPCA (3-bromo-1-(3-chloropyridin-2-yl)-1H C43:C44pyrazole-5-carboxylic acid)	0	0	200	200	--
41.	API & Intermediates	0	0	2500	2500	--
	Total (A)	**14443.2**	**13932**	**9431.6**	**23363.6**	
B	**Byproducts**					
1	Sodium Sulphite Solution (25%)	2184.84	2184.84	1800.0	3984.84	
2	Hydrochloric Acid Solution (30%)	907.08	907.08	1440.0	2347.08	

Sr. No.	List of Product	Quantity (TPA)				Remark
		Existing as per EC	Existing as per Valid CTO	Expansion	Total	
3	Sodium Nitrite Soln.30%	365.04	365.04	0	365.04	
4	Distillation Residue of Pxylene	43.2	43.2	0	43.2	
5	Ammonium Chloride Solution	432.0	432.0	0	432.0	
6	Sodium Bromide	432.0	432.0	780.0	1212.0	
7	Spent Catalyst for Regeneration	432.0	432.0	42.0	474.0	
	Total (B)	**4796.2**	**4796.2**	**4062.0**	**8858.2**	
	Total (A+B)	**19238**	**18728.2**	**13493.6**	**32221.8**	

Total Manufacturing Capacity = 23363.6MT/A [**13932** MT/A **(Existing) + 9431.6 MT/A (Expansion)]**

Note: From above mentioned product list, only 9 products shall be manufactured daily, as per requirement.

*****- Products added in CTO through NIPL procedure as per Ministry's Notification dated 23.11 2016 and 16.01.2020

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2.5 Size / Magnitude of Operation: OCSPL would be involved in manufacturing of Speciality chemicals with an installed capacity of **13932** MT/A**.**

2.6 Process Details: The manufacturing of fine chemicals comprises of a number of operations and processes involving various chemical reactions of basic raw materials. Eventually, the desired products are formed which are refined and separated.

2.7 Resource Optimization/ Recycling and Reuse: All the manufacturing units in OCSPL have been designed in versatile fashion by adopting latest process techniques as well as with state-of-the art machinery.

Effluent generated from existing manufacturing & utility operations was segregated into two streams – Stream I (High COD Stream) and Stream II (Low COD Stream). ETP comprises of O&G Separator, Collection & Neutralization Tank, FM, Flocculator, Primary settling Stripper, and MEE with ATFD as well as Ro system. This is result in 'Zero Liquid Discharge' of effluent from process operations. The salts left over after evaporation would be bagged for dispatch to CHWTSDF.

2.8 Input Requirements and Infrastructure Facilities including Power Sources

Water: Total water required for unit after expansion will be 746 CMD. Out of this 686 CMD will be required for industrial purpose and 20 CMD domestic purpose and Gardening 40 CMD. Under existing unit, 45 CMD of total water is required. Out of this 38 CMD water is required for industrial activities for domestic purpose 5 CMD and 2

- CMD for gardening. Fresh water is taken from MIDC Water Supply Scheme. Detailed water consumption is given in following table

Table 2 Water Consumption

No	Description	Water Consumption (M^3/Day)		
		Existing	Expansion	After Expansion
1	**Domestic**	5 ($^{\$}4+^{\#}1$)	15	20 ($^{\$}13+^{\#}7$)
2	**Industrial**			
a	Processing	$^{\#}17$	89	$^{\#}106$
b	Scrubber	*2	18	*20
c	R&D & Pilot Plant	--	5	$^{\#}5$
d	Lab, Floor Washing	*3	2	*5
e	Cooling Tower Makeup	*8	392	*400 ($^{\#}268$+*132)
f	Boiler Makeup	*8	142	150 ($^{\#}62$ + *88)
	Industrial Total	**38 ($^{\#}17$+*21)**	**648**	**686 ($^{\#}441$+*245)**
3	**Gardening**	***2**	**38**	$^{\#}$**40**
	Grand Total	**45 ($^{\#}18$+*23+$^{\$}4$)**	**701**	**746 ($^{\$}13+^{\#}488$+ *245)**
Note: $^{\#}$ - Fresh water from MIDC water supply, *- ETP treated water, $^{\$}$-STP treated Water. 9 products will be manufactured at a time and water calculations done for worst 9 products.				

- **Fuel:** There is one boiler of capacity 3 TPH, Fuel in form of Briquette – 18 MT/D with stack of 30 M Ht and MDC followed by Bag Filter as APC. There is one TFH of 6 Lac Kcal/Hr capacity, fuel in form of Briquette - 100 Kg / Hr with stack of 30 M Hr and MDC followed by Bag Filter as APC, which will be replaced with 12 Lac Kcal/Hr TFH and 200 kg/Hr briquette. D.G. set of 200 KVA capacity, Fuel in the form of HSD- 30
- Lit./ Hr and stack ht. 3 M provided and will be used in failure of electricity only. Same will be replaced in expansion with 6 DG set 2 nos.of 1250 KVA, 380 KVA & 100 KVA each. Under expansion with additional one 16 TPH boiler with 83 TPD Briquette as a fuel and MDC followed with bag filter with 31 M stack height.
- **Manpower:** Under existing unit 246 numbers of employees and workers are employed.
- Out of which 132 skilled and 114 unskilled manpower of total employment. Similarly for expansion unit 158 numbers of employees and workers would be employed. Out of which 113 skilled and 45 unskilled manpower of total employment

2.9 Environmental Aspects under the Project

A) The Effluent

i) Domestic Effluent: Domestic effluent of 16 M^3/Day will be treated in proposed STP.

ii) Industrial Effluent: Details of effluent generation under proposed operations is given in following table-

Table 3 Details of Effluent Generation

No	Description	Effluent Generation (M^3/Day)			
		Existing	Expansion	Total After Expansion	Disposal
1	**Domestic**	4.5	11.5	16.0	Domestic effluent treated in proposed STP & 13 CMD will be recycle & reuse
2	**Industrial**				
A	Processing	20.0	187.0	207.0	Effluent treated in proposed ETP to achieve ZLD & 245 CMD will be recycle & reuse
B	Scrubber	0.0	2.0	2.0	
C	R&D & Pilot Plant	--	4.0	4.0	
D	Lab, Floor Washing	2.5	2.0	4.5	
E	Cooling Tower blowdown	1.0	30.0	31.0	
F	Boiler blowdown	1.0	25.0	26.0	
	Industrial Total	**24.5**	**250.00**	**274.5**	

B) The Emissions:

In expansion main source of emissions would be the boiler and D.G. Sets. Major emissions will be in the form of SPM and SO2 & NO2. One boiler of capacity 3 TPH with stack of 30 M Ht. One TFH of 6 Lac Kcal/Hr capacity, with stack of 30 M Ht. which will be replaced with 12 Lac Kcal/Hr Thermopack. 5 no.s of scrubbers are provided to control process emissions. Under expansion additional one boiler of 16 TPH with stack ht.31 M and another 6 no.s of scrubber will be provided to control process emissions.

C) Process Emissions

There would be process emissions, same would be controlled through installation of Scrubbers. Presently, five scrubbers are installed on site. For HBr, NOx, NH_3 dedicated scrubbers while & HCl, SO_2 combine scrubber. Under expansion, additional six number of scrubbers (HBr, NOx, NH_3, HCl, SO_2 & HCN) will be provided.

Details of Scrubbers Adequacy–

1) For HCl & SO2 gas scrubber-
The gas absorption rate of 500 kg/hr. for both HCl & SO2. But actual HCl gas generation from process in E-18 is 181 kg/hr. & SO2 gas generation from process in E-18 is 286 kg/hr. So, OCSPL have 45% excess scrubbing capacity available for expansion.

2) For Ammonia gas scrubber-
The gas absorption rate of 180 kg/hr. But actual NH3 gas generation from process in E-18 is 120 kg/hr. So, OCSPL have 35% excess scrubbing capacity available for expansion.

3) For NOx gas scrubber-
The gas absorption rate of 200 kg/hr. But actual NOx gas generation from process in E-18 is 95 kg/hr. So, OCSPL have 50% excess scrubbing capacity available for expansion.

Table 4 Scrubber Details (for Expansion)

No	Emissions	Dia. (M)	Ht. (M)	Packing Material	Mode of regeneration of the packing material	Scrubbing Media	Disposal/ Recycle/ Reuse/byproduct
1	SO_2	0.5	3	Glass /HDPE	Water washing	Water / Caustic Soda	Sodium Sulphite Solution
2	NH_3	0.5	3	Glass /HDPE	Water washing	Water	Ammonia to process
3	HBr	0.5	3	Glass /HDPE	Water washing	Caustic Soda	NaBr
4	NO_x	0.5	3	Glass /HDPE	Water washing	Water / Caustic Soda	To ETP
5	HCl	0.6	6	Glass /HDPE	Water washing	Water	HCl Acid
6	HCN	0.5	3	Glass /HDPE	Water washing	Caustic Lye	To ETP

1. HCl & SO_2 Scrubber: The gaseous stream containing the SO_2 and HCl will be treated in a packed tower, where caustic solutions are added. The gas passes through the packing and is washed in a countercurrent alkaline solution. The CO_2 and the HCl contained in the exhaust gas neutralized with alkaline solution. Further scrubbed material will be Sodium Sulphite Solution & HCl Acid disposed to CHWTSDF.

2. NH_3 & HBr Scrubber: The gaseous stream, containing the NH_3 & HBr will be treated in a packed tower, where water or Caustic Soda is added. The gas passes through the packing and is washed in a counter current. Further scrubbed material Ammonia & NaBr will be used in process.

3. HCN & NO_x Scrubber: The gaseous stream, containing the NO_x and HCN will be treated in a packed tower, where caustic solutions or water are added. The gas passes through the packing and will be washed in a countercurrent alkaline solution. The NO_x and the HCN contained in the exhaust gas will be neutralized with alkaline solution. Further scrubbed material will be forwarded to ETP for further treatment.

D) Fugitive Emissions:

The sources of fugitive emissions identified under expansion unit would be related to miscellaneous operations like material storage, equipment leaks and fuel yard.

- Process operations – Here emissions could occur from loading – unloading, mixing, blending, and filling operations.
- Material Loading Emissions - Emissions may occur during material loading in mixing and blending equipment due to the displacement of organic vapors. Emissions may be emitted from a mixing tank when the device is uncovered or when a lid is open.
- Surface Evaporation - Surface evaporation may occur during mixing, dispersing, and blending operations if the vessel contents are exposed to the atmosphere.
- Filling Losses - Emissions from product filling occur during transfer and free-fall into the receiving container.

Fugitive Emission Control System

An emission control system typically consists of a capture device and a removal device. The capture device (such as a hood or enclosure) captures the emission-laden air from the emission area and ducts carry the exhaust air stream to removal equipment such as a recovery device or a destructive control device. The volatile matter getting release from the storage tanks, process piping, reactors, fuel storage and combustion will be handled by various preventive measures mentioned below.

- Solvent Recovery System: Solvent Losses & Control of Process Emissions.
- The raw materials bags will be opened in dispensing rooms provided with scrubbers for controlling the emission released during handling of material.
- Each and every process emissions are passed through scrubber and finally released into atmosphere through adequate stack height.
- Preventive maintenance is done so as to prevent any leakage and spillage and thereby reducing the fugitive emission sources.
- All internal roads will be paved to avoid dust emissions.
- Green belt will be provided on all sides of fuel storage yard.

E) Noise Pollution Aspect: There would be no major noise generating sources in the proposed project. Probable sources shall be Boiler, Reactors, Compressors and D.G. Set. Same would be kept in isolated areas. Further, proper acoustic treatments wherever required would also be provided to have the ambient noise levels as per CPCB standards. Workers and or employees would be provided with earmuffs and other Personal Protective Equipments (PPEs) which would give the reduction of 30 dB (A). D.G. Set would not be a continuous source of noise as it would be operated only during power failure. As per the Noise Pollution Regulation and Control Amendment Rules; 2010, the D.G. set would be properly and adequately provided with acoustic enclosures.

E) Solid Wastes: Details of solid waste to be generated from existing and expansion activities are given as-

Table 4 Details of Solid Waste

No	Description	Quantity (MT/M)		Disposal
		Existing	After Expansion	
1	Boiler Ash	83.5	457.0	Sale to Brick Manufacture
2	Metal Scrap	--	10.0	Sale to Authorized recyclers
3	Empty Containers & Drums	--	1000 Nos./M	
4	Packaging Material	15	30.00	
5	E-Waste	--	1	

F) Hazardous Wastes: The entire quantity of hazardous waste will be handled and disposed off as per Hazardous Waste (Management, Handling and Tran boundary Movement) Rules' 2016. The hazardous waste generated from the proposed activities would be as follows-

Table 5 Hazardous Waste Generation and its Disposal Details

No	Description	Cat	Quantity (MT/M)		Disposal Facility
			Existing	Total After Expansion	
1	Process Residue	28.1	11.14	20	5 MT/M would be reused or sold to outside parties and rest would be forwarded to CHWTSDF
2	Distillation Residue	20.3	21.20	65.20	CHWTSDF
3	ETP sludge	35.3	9.00	571.50	CHWTSDF
4	MEE Salt	35.3	30.00	360.00	
5	Spent Carbon	28.3	---	1.70	
6	Spent Catalyst	28.2	---	3.50	
7	Discarded containers / barrels / liners	33.1	---	90.00 Nos.	Sale to authorized recycler / re-processor.
8	Filter Medium	36.2	---	60.00 Nos.	CHWTSDF
9	Date-expired products	28.5	---	5.00	
10	Spent Solvent	28.6	---	90.00	
11	Spent / Used Oil	35.4	--	50.00 Lit	
12	Sodium Sulphate Solution 25%	35.3	180.30	150.00	
13	HCl 30%	35.3	75.60	120.00	
14	Sodium Nitrite Solution 30%	35.30	30.30	--	
15	Distillation residue of P-Xylene	35.30	3.60	--	
16	Ammonium Chloride	35.3	36.00	--	

Hazardous waste from expansion shall also be stored in existing facility. Membership of CHWTSDF has already been procured for disposal of hazardous waste. Onsite records of waste forwarded to CHWTSDF have been maintained.

3.0 SITE ANALYSIS

3.1 Connectivity: The proposed activity will be scheduled to commence at a site in MIDC Chincholi, Dist.: Solapur. The site is located at a rural surrounding and is nearest railway station is Solapur Railway Station, located at about 15 Km, Solapur Airport (21 km) from proposed expansion project site.

3.2 Land Form, Land Use and Ownership: The premises have a gentle terrain and no prime agricultural land is sacrificed. Land use is industrial as the area has been developed by MIDC for industrial activity.

3.3 Existing Land Use Pattern: As this is an expansion project the activities are done in existing premises of OCSPL. There is no any requirement for clearing of vegetation or buildings on proposed site. It is designed for industrial purpose only. There would be no any change in Land Use, Land Cover or Topography of plot. Industry has already developed green belt under existing unit. Same will be augmented after expansion.

3.4 Existing Infrastructure: The Industry has purchased the land of 0.8450 Ha from MIDC. Therein, entire manufacturing setups for production off Speciality Chemicals and Intermediates for API unit have been setup. Moreover, the proposed expansion shall be done in the additional land purchased of 1.5495 Ha. , Additionally OSCSPL has taken the plot OS-23 adjacent to Plot E-18 of area 0.4290 Ha solely for greenbelt development. In Same Chincholi MIDC, Solapur.

3.5 Soil Classification: The soil found in the district is Black, Coarse Gray and Reddish. According to topography; the district is divided in three natural zones –

- **Eastern Zone:** This comprises of Barshi, North Solapur, South Solapur and Akkalkot Talukas. The soil is medium to deep black and of rich quality. Jawar, Bajra and Pulses are the main crops of this zone.
- **Central or Transitional Zone:** Mohol, Mangalwedha, eastern part of Pandharpur and Madha Taluka are covered by this zone. Like to moderate soil and uncertain rainfall marks this zone. Both Kharip and Rabbi Crops are grown in this part.
- **Western Zone:** Karmala, Sangola and Malshiras Talukas and western parts of Pandharpur comes under this zone. Shallow and poor type of soil, not retentive of moisture marks this part

3.6 Climate: The climate of the district is extreme with large variations in the temperature. During summer the district experiences extreme heat while in the winter there is sudden temperature fall. The average rainfall in the district is 500-600 mm.

3.7 Social Infrastructure Available: The area will be well served with infrastructural facilities such as road, rail, power station, and telecommunications.

- **Fire Station:** M.I.D.C. has developed a Fire Station which is run by Solapur Manufacturers Association.
- **Truck Terminus and Bus Stop:** A truck terminus is available in the region to be developed.
- **Common Facility Centre:** This facility centre houses includes post office and rest house. Many other facilities are planned to develop in the centre.
- **Connectivity: -**M.I.D.C. has developed a telephone exchange building in this area.
- **Power Supply: -**M.I.D.C. has developed MSEB. This ensures the supply of electricity to the region.

4.0 PLANNING BRIEF

4.1 Planning Concept: Proposed expansion project would be undertaken in existing manufacturing set-up.

4.2 Population Projection: According to Census India, population of Solapur in 2011 is 951,558; of which male and female are 481,064 and 470,494 respectively.

5.0 PROPOSED INFRASTRUCTURE

5.1 Industrial Area: The Industry has purchased the land of 0.840 Ha from MIDC. Therein, entire manufacturing setups for production off Speciality Chemicals and Intermediates for API unit have been setup. Moreover, the proposed expansion shall be done in the additional land purchased of 1.5495 Ha. , Additionally OSCSPL has obtained the plot OS-23 adjacent to Plot E-18 of area 0.4290 Ha solely for greenbelt development. In Same Chincholi MIDC, Solapur.

5.2 Greenbelt: Out of total area of **23,945.71** Sq. M (2.3 Ha), an area of about 2,476.31 Sq. M is actually available as open area. Under existing unit an area of about 1,596 Sq. M is developed under green belt. Under expansion activities additional green belt will be 3,580.20 Sq. M, Additionally OSCSPL has obtained the plot OS-23 from MIDC adjacent to Plot E-18 of area 4,290 Sq. M solely for greenbelt development. Hence total green belt will be **9,466.2** m2 i.e. 39.53 % of Total Plot Area **23,945.71 Sq. M**. About 220 trees are planted on existing green belt and under expansion additional 3000 nos. of trees will be planted.

5.3 Social Infrastructure: MIDC has developed internal roads, as well as it is provided with good connectivity facilities.

5.4 Connectivity: The proposed project site is well connected by roads, rail and airport facilities. The National Highway No. 9 (NH – 9) is 2.32 Km, and the Solapur railway station and airport is about 15 Km and 21 Km resp. from the proposed project site.

5.5 Drinking Water Management: The main source of the water for domestic as well as industrial purpose in proposed unit will be from water supply scheme of MIDC.

5.6 Sewerage System: The domestic effluent would be treated in existing STP to be provided on site.

5.7 Industrial Waste Management

- Industrial **Effluent –**Effluent generated from Stream I will be treated in Primary, Secondary as well as tertiary treatment like RO system followed by MEE for achieving ZLD. Effluent from Stream-II will be treated in RO system. The treated water will be recycled.
- **Emissions -** The unit proposes to install MDC followed by Bag Filter as an Air Pollution Control Equipment.
- **Hazardous Waste -** The quantity of hazardous waste generated would be forwarded to CHWTSDF and authorized re-processor.
- **Solid Waste -** Solid waste generated in proposed unit would be sold to brick manufacturer for secondary use and as scrap.

5.8 Power Requirement & Supply / Source: The power supply required for the proposed activity would be taken from MSEDCL. The average electricity required for existing operations is to the tune of 1000 KVA and after expansion activity would be 4750 KVA. In case of a power failure, DG set would be used to provide uninterrupted power supply to emergency facilities. Under existing setup, D.G set of 200 KVA capacity is provided on site. HSD is used as a fuel for DG sets, which will be replaced in expansion with 6 DG set 2 nos. of 1250 KVA, 380 KVA & 100 KVA each.

6.0 REHABILITATION & RESETTLEMENT (R& R) PLAN

6.1 Policy to Be Adopted: As the project site is located in approved industrial area developed by MIDC, there are no rehabilitation & resettlement issues involved.

7.0 PROJECT SCHEDULE & COST ESTIMATES

7.1 Date of Start: The construction work w.r.t. proposed project would be initiated after grant of Environmental Clearance.

7.2 Estimated Project Cost: The expected capital investment of proposed expansion project will be **Rs. 69.01 Crores.** After expansion, the total capital investment will be **Rs. 99.08 Crores**.

8.0 ANALYSIS OF PROPOSAL

- Proposed expansion would be undertaken in the existing premises which are supported by allied infrastructure, water and electricity.
- Water use would be minimized to improve the process.
- MEE will be installed on site for evaporating the trade effluent which results in to '**ZERO LIQUID DISCHARGE'** of effluent.
- For minimization/prevention of the fugitive emission, regular maintenance of valves, pumps and other equipments is done. To prevent leakage entire process is carried out in the closed vessel.
- Adequate arrangement for handling, disposal of hazardous & solid waste would be made.
- Fire protection and safety measures would be provided to take care of fire and explosion hazard.
- Direct and indirect employment opportunities would be extended to the nearby resident.
- The proposed project would be implemented by adopting latest technologies and equipments thereby minimizing the pollution load in Environment.
- Green chemistry would be opted for manufacturing.

Proposed Terms of Reference for EIA studies

1. Introduction

Expansion of Fine Chemicals and API Intermediates Manufacturing Unit by M/s. **OC Specialities Pvt. Ltd.,** Plot No. E-16, E-17, E-18 & E-22 MIDC Chincholi, Tal. Mohol, Dist. Solapur, Maharashtra State M.S, Manufacturing set-up shall be for production **23363.6 MT/A**. Out of which, **13932 MT/A** is the existing manufacturing capacity whereas **9431.6 MT/A** would be proposed manufacturing capacity. The Industry would be incorporated with a main object to manufacture Fine Chemicals and API Intermediates manufacturing unit, which have a good export potential. The ever-increasing demand for bulk drugs in India and abroad has prompted the promoters to establish the proposed plant.

2. Description of Project Site

Site selection for setting up a project is governed by some criteria which includes certain conditions. The same are proximity to sources, proximity to end users, and availability of infrastructure like land free of encumbrance, railway, road, power, water and manpower. The proposed site is well connected by roads. The site is about 15 km from Solapur. The Solapur Railway Station, Maharashtra, (15 Km) from proposed project site.

The existing land of area **23945.71** Sq.M. (2.3945 Ha) has been allotted to the proposed project from MIDC. Maharashtra Industrial Development Corporation has acquired the land and handed over to the promoter for establishing the plant. The land has been marked in such manner that there will be no resettlement and forest diversion issues. Greenbelt is already developed under existing unit same will be augmented after expansion. Water requirement for the project will be provided from MIDC water supply scheme.

3. Proposed Terms of Reference

The purpose of Environmental Impact Assessment (EIA) is to determine as precisely as possible, within the present limits of knowledge and expertise, the likely environmental impacts of the proposed project. The objective would be expansion of clean unit whose waste, can be recycled / reused to the maximum extent feasible. Feasibility of reuse and disposal of liquid and solid wastes generated from the project would be explored. As per the provision of "EIA Notification No.S.O.1533 (E)" dated 14.09.2006; amended thereat; the proposed project comes under Category – B1, 5(f). But the project falls within the 5 Km from the boundary of 'Great Indian Bustard Sanctuary'. Therefore, as per Ministry of Environment, Forests & Climate Change Notification No. S.O.1598 (E), dated 25.06.2014, the project category changes from Category 'B' to Category 'A'. There under, it is necessary to obtain an 'Environmental Clearance' for our proposed unit from the 'Ministry of Environment Forests & Climate Change (MoEFCC); New Delhi' The Proposed Terms of Reference for this EIA is as follows:

A. Project Description

- Summary of the project, project cost, project site location along with site map and details w.r.t various industries in area.
- Details w.r.t promoters involved in the proposed project, their experience and expertise.
- The project would be coming up in MIDC on plots allocated through proper administrative procedure.

- Purpose and need of the project.
- List of products and raw material required.
- Details of manufacturing process along with mass balance
- Plot layout plan along with detailed area break-up.
- End use of the products to be manufactured.

B. Description of the Environmental and Baseline Data Collection

- An area of 10 km radius around the proposed project site at centre would be chosen as study area.
- Baseline environmental quality within 10 km radius of the project site would be assessed based on secondary data collected from various sources supplemented by data generated at site. Baseline data would be generated by considering the following environmental components:

i. Land Environment

Information on ecologically sensitive locations within the study area would be collected through field visits (Archaeological Monuments, Monuments of Cultural and Historical importance, Drinking Water sources, Water bodies, Places of Scenic Beauty, Biosphere reserves, National Park, Wildlife Sanctuaries, Migratory Corridors, Defense Installation and other Ecologically Sensitive Areas). Land use pattern of the area / block to be collected from revenue records. Various physiographic landforms as per Survey of India (SOI) map would be provided.

ii. Meteorology

Meteorological data for Wind Speed, Wind Direction, Relative Humidity and Ambient Temperature would be generated close to the site. Readings would be noted on hourly basis for one season. Historical met data from IMD would be obtained to assess the climatic trend.

iii. Ambient Air

AAQ data of the study area would be generated by following the ambient air quality monitoring guidelines by CPCB. The monitoring locations would be selected based on historical wind speed and direction data obtained from IMD and screen modeling. In accordance with various sources of air pollution, the ambient air quality with respect to the study zone of 10 Km radius surrounding proposed site would be monitored. The ambient air quality would be monitored for Six Stations (Proposed Site, Upwind - One Location, Downwind – Two Locations, and Crosswind – One Location, nearest habitation –One Location) in the study area for parameters viz. PM_{10}, $PM_{2.5}$, SO_2, NOx, & CO.

iv. Ambient Noise

A preliminary reconnaissance survey would be undertaken to identify the major noise generating sources in the area. Noise generating sources would be identified with respect to the activities, viz. Industrial noise and Ambient Noise due to industries and traffic, which have impact on sensitive areas. For noise level monitoring, 8 locations in the study area would be selected. The study area of 10 Km radius with reference to proposed plant site would be covered for noise environment. The four zones viz. Residential, Commercial,

Industrial, and Silence Zones would be considered for noise monitoring. Some of the major arterial roads would be covered to assess the noise due to traffic. Noise monitoring would be undertaken for 24 hours at each location.

- Assessment of background noise levels.
- Identification and monitoring the major noise sources of the existing activity.
- Impact of noise on the workers as well as on general population.

v. Water Quality

Surface and Groundwater sampling location within the study area would be identified based on drainage pattern, water utilization and location of bore wells / dug wells. Also, reconnaissance survey would be undertaken and monitoring locations would be finalized based on,

- Topomaps to identify major water bodies.
- Likely areas which represent baseline conditions.

Parameters recommended by CPCB / IS 10500 would be analyzed following the standard methods (APHA, 1998). Sampling would be done once during the study period. Four locations for surface water monitoring and four locations for ground water monitoring would be selected from study area.

vi. Soil

Soil samples would be collected from agriculture fields that are likely to be impacted from the project related air emissions, land disposal of wastewater and solid wastes. Soil quality analysis would be done for parameters like texture, moisture, organic matter, conductivity, pH, bulk density, water holding capacity and NPK values. Infiltration rate of soil samples collected from the dump yard site would be estimated. Sampling would be done once during the study period.

For studying soil profile of the region, four locations would be selected to assess the existing soil conditions in and around the project area representing various land use conditions.

vii. Flora and Fauna

The listing of flora and fauna would be carried out by referring to the published documents of Forest / Wildlife Department and observations recorded by the Functional Area Experts during the field visits.

C. Socio – Economic Data

Baseline information would be gathered and complied from secondary sources. These include Taluka Office, Collectorate, District Statistics Handbook (Census), Population Distribution, Occupational Pattern, Agriculture and Cropping Pattern, Educational Facility, Health Care Facilities, Literacy Rate, Infrastructure Facility, etc. would be collected. The demographic data would be compiled from the District Census Hand Book, 2011 for district Pune. Also, visit to nearby villages and survey would be conducted through questionnaire and personal interaction.

D. Impacts Identification and Mitigatory Measures

- Quantification of air pollution load from the proposed project would be done. Potential environmental impacts would be assessed qualitatively and quantitatively. In case the ambient air quality of the surrounding area is predicted to be critical then additional strategies would be suggested as air pollution mitigation measures. In addition to this, for water, soil, noise pollution and fugitive emissions mitigation measures would be suggested.

- Availability of water and impact on other users on account of water withdrawal for the proposed plant would be assessed using historical flow data of stream. Permission from competent authority to draw the required quantity of water would be obtained. 100% wastewater treatment and reuse option of the treated wastewater would be explored. Strategies would be suggested to ensure that the wastewater does no contaminate the environment.

- In the proposed project, the Hazardous Waste (H.W.) generated would be forwarded to CHWTSDF Facility for its further Treatment & Disposal as per the Hazardous Waste (Management, Handling & Transboundary Movement) Fourth Amendment Rules, 2010. Also, Solid Waste would be generated in the form of Briquettes Ash which would be given to brick manufacturer for secondary use.

E. Environmental Management Plan

Environmental Management Plan would be drawn to maintain and enhance the environmental quality in and around the project area. In case the quality of the environment is expected to deteriorate beyond acceptable limits, additional strategies would be suggested. The EMP would earmark specific staff, instruments and finances for routine environmental management as well as collection and examination of various environmental data. A post-project monitoring plan would be suggested to monitor the changes in the environmental quality after implementation of the project. All necessary administrative measures would be incorporated in the EMP to achieve the following objectives:

Reduction of adverse environmental impacts

1. Improvement of environmental quality of the surrounding area.
2. Waste minimization, reuse and resource recovery.
3. Waste segregation to make the treatment and disposal cost-effective.
4. Establish proper monitoring mechanism with adequate infrastructure.

F. Risk Assessment

Risk assessment study would be undertaken and disaster management plan would be prepared to tackle any accident that may occur due to the proposed activity. Potential hazards that may arise out of storage/transportation of hazardous chemicals/materials or due to operation of various processes would be systematically identified using standard hazard identification procedures. Maximum credible accident scenarios would be considered for consequence analysis.

G. Occupational Health and Safety Program for the Project

Based on standard procedures prescribed by the National Safety Council and provisions mentioned in the Factories Act, Occupational Health and Safety aspects of the project would be identified.

H. Information on Rain Water Harvesting

Rainwater harvesting strategies within the project premises would be suggested as a measure to augment the available groundwater resources of the area / block.

I. Green Belt Development Plan

Green Belt Development Plan would be prepared to enhance the aesthetic quality of the environment. The plan would also concentrate on measures that would be helpful in attenuating air and noise pollution levels from the project. CPCB guidelines would be followed to design the green belt. Indigenous species and those having long-term economic value would be considered for greenbelt development. 33% of the open space would be reserved to design and develop the greenbelt, landscaping and greenery/gardens/lawns, etc.

ANNEXURE-I

Table 1 List of Products

Sr. No.	List of Product	Quantity (TPA)				Remark
		Existing as per EC	Existing as per Valid CTO	Expansion	Total After Exp.	
1.	Sodium Bromide Sol. 40%	4680.0	4680	0	4680	--
	Sodium Bromide Powder	2782.8	2782.8	0	2782.8	--
	Zinc Hydroxide OR	1270.8	1270.8	0	1270.8	--
	Zinc Oxide	885.6	885.6	-885.6	0	Discontinuous
2.	Di Isopropyl Ethylamine (DIPEA)	219.6	435.6	380.4	816	--
3.	Methyl-2-Chloro Phenyl Acetate	122.4	122.4	-122.4	0	Discontinuous
4.	4 Methoxy Phenyl Acetone	118.8	118.8	-118.8	0	Discontinuous
5.	2,3 Dichloro Pyridine	118.8	198	1302	1500	--
6.	2-Amino-2-Phenyl Butyric Acid	75.6	0	0	0	Discontinued
7.	Ortho Hydroxy Phenyl Acetic Acid	180.0	0	0	0	Discontinued
8.	2 Coumaranone	147.6	147.6	-147.6	0	Discontinuous
9.	3-Isochromanone	144.0	126	-126	0	Discontinuous
10.	2,6 Dichloro Benzoyl Chloride	266.4	266.4	0	266.4	--
11.	Methyl-2-Dimethylamino-2-Phenyl Butyrate	118.8	0	0	0	Discontinued
12.	2-Dimethylamino-2-Phenyl Butanol	36.0	0	0	0	Discontinued
13.	P-Bromonisole / 4-Bromo Anisole	198.0	198	-198	0	Discontinuous
14.	Para Bromo Phenetole / 4-Bromophenetole	172.8	172.8	-172.8	0	Discontinuous
15.	2,4- Dichloro Phenyl Acetyl Chloride	475.2	162	0	0	Discontinuous

Sr. No.	List of Product	Quantity (TPA)				Remark
		Existing as per EC	Existing as per Valid CTO	Expansion	Total After Exp.	
16.	2,5-Dimethyl Phenyl Acetyl Chloride	388.8	158.4	191.6	350	--
17.	Indoline	435.6	435.6	-435.6	0	Discontinuous
18.	Ethyl Phenyl Glyoxalate (Epg)	342.0	--	--	--	--
19.	Ethyl-1-Hydroxy Cyclohexane Carboxylate	396.0	396	304	700	--
20.	Ethyl-1-Hydroxy Cyclopentane Carboxylate	435.6	435.6	264.4	700	--
21.	3-Chloro-2-Hydrazinyl Pyridine	432.0	342	1158	1500	--
22.	2,4,6 Trimethyl Phenyl Acetyl Chloride	0	57.6*	442.4	500	--
23.	2,6 Dimethoxy Benzoic acid	0	21.6*	178.4	200	--
24.	Methyl-2-Chloroproionate	0	144*	456	600	--
25.	2- Methoxy Benzoic Acid	0	147.6*	300	447.6	--
26.	Amido Chloride	0	115.2*	584.8	700	--
27.	N-Methyl-2-Oxo-2-Phenyl Acetamide	0	10.8*	89.2	100	--
28.	4 Fluoro 3 Trifluoromethyl Phenol	0	100.8*	199.2	300	--
29.	2,6 Dichlorobenzonitrile	0	0	300	300	--
30.	2,6 Dimethoxy Benzoyl Chloride	0	0	200	200	--
31.	S-2-Chloro Propionic Acid	0	0	200	200	--
32.	S-Methyl-2chloro propionate	0	0	200	200	--
33.	Ethyl-2-Chloropropionate	0	0	300	300	--

Sr. No.	List of Product	Quantity (TPA)				Remark
		Existing as per EC	Existing as per Valid CTO	Expansion	Total After Exp.	
34.	2-Methoxy Propionic Acid (MEPRA)	0	0	200	200	--
35.	Methyl 2,3 Dichloro Propionate	0	0	300	300	--
36.	(2-Chloro-4-Fluoro-5-Nitro phenyl) ethyl carbonate	00	0	150	150	--
37.	3-Methyl Pyradizine (3-MP)	0	0	100	100	--
38.	Ortho Chloro Benzamide (OCBA)	0	0	300	300	--
39.	Chlorinated Paraffin Wax (CPW)	0	0	1000	1000	--
40.	BPCA (3-bromo-1-(3-chloropyridin-2-yl)-1H C43:C44pyrazole-5-carboxylic acid)	0	0	200	200	--
41.	API & Intermediates	0	0	2500	2500	--
	Total (A)	**14443.2**	**13932**	**9431.6**	**23363.6**	
B	**Byproducts**					--
1	Sodium Sulphite Solution (25%)	2184.84	2184.84	1800.0	3984.84	--
2	Hydrochloric Acid Solution (30%)	907.08	907.08	1440.0	2347.08	--
3	Sodium Nitrite Soln.30%	365.04	365.04	0	365.04	--
4	Distillation Residue of Pxylene	43.2	43.2	0	43.2	--
5	Ammonium Chloride Solution	432.0	432.0	0	432.0	--
6	Sodium Bromide	432.0	432.0	780.0	1212.0	--
7	Spent Catalyst for Regeneration	432.0	432.0	42.0	474.0	--
	Total (B)	**4796.2**	**4796.2**	**4062.0**	**8858.2**	
	Total (A+B)	**19238**	**18728.2**	**13493.6**	**32221.8**	

Total Manufacturing Capacity = 23363.6MT/A. **13932** MT/A **(Existing) + 9431.6 MT/A (Expansion)]**

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Note: From above mentioned product list, only 9 products shall be manufactured daily, as per requirement.

*****- Products added in CTO through NIPL procedure as per Ministry's Notification dated 23.11 2016 and 16.01.2020

Annexure II :MANUFACTURING PROCESS

1. SODIUM BROMIDE / ZINC HYDROXIDE / ZINC OXIDE [Solid NaBr / NaBr Liquid 40%]

List of Raw Materials:

Sr. No.	List of Raw Materials	Batch Qty. (Kg)
1.	Zinc Bromide 70%	6000 Kg = 42000 Kg (100%)
2.	Caustic Soda	1600 Kg
3.	Water	4800 Ltrs

A] REACTION:

$$ZnBr + 2\,NaOH \longrightarrow Zn(OH)_2 + 2\,NaBr$$

Zinc Bromide	Caustic Soda	Zinc Hydroxide	Sodium Bromide
M.W. = 224	M.W. = 2 X 40 = 80	M.W. = 99	M.W. = 224 = 208

B] BRIEF PROCESS:

Charge:

- 4800 Ltrs water, add under stirring.
- 1600 Kg Sodium Hydroxide Flakes stirred to dissolve completely.

Add:

6000 Kg Zinc Bromide Solution (70%) from top in 3 Hrs, stir well for 1 Hrs & centrifuged washed with 100 Ltrs water.

Output:

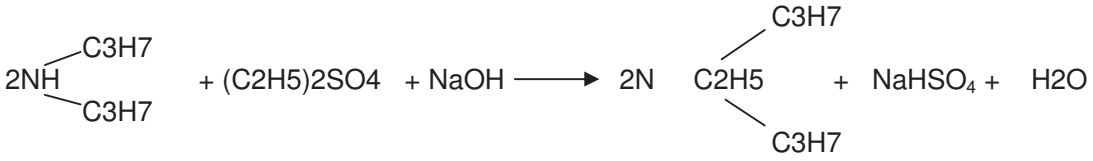
- Sodium Bromide 40 % solutions 9750 Kg.
- Zinc Hydroxide (wet Cake 30% moisture content) 2650 Kg.

2. DI ISOPROPYL ETHYL AMINE [DIPEA]

List of Raw Materials:

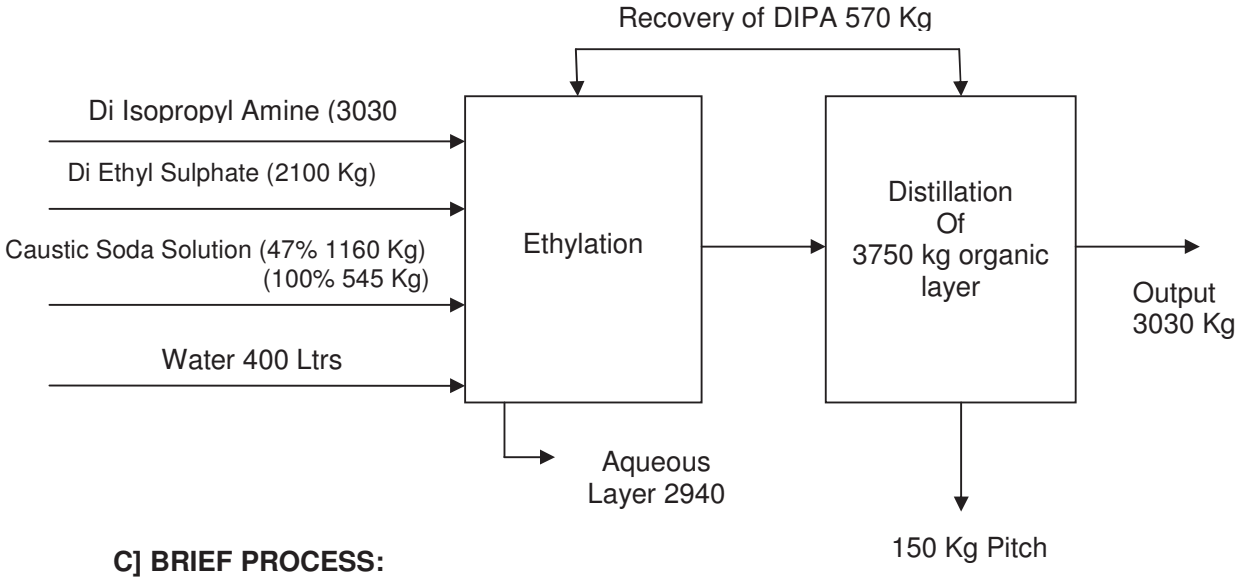
Sr. No.	List of Raw Materials	Batch Qty. (Kg)
1.	DI Isopropyl Amine [DIPA]	3030 Kg
2.	DI Ethyl Sulphate [DES]	2100 Kg
3.	Caustic Soda Flakes (47%)	1160 Kg = 545 Kg on 100%
4.	Water	400 Ltrs

A] REACTION:



Di Isopropyl Amine M.W. = 2 X 101 = 202	Di Ethyl Sulphate M.W. = 154	Caustic Soda M.W. = 40	Di Isopropyl Ethyl Amine M.W. = 2X 129 = 258	Sodium Bi Sulphate M.W.= 120	Water M.W.= 18

B] BLOCK DIAGRAM:



C] BRIEF PROCESS:

Charged Isopropyl Ethyl Amine & Diethyl Sulphate stirred well, then slowly added from the top caustic solution after completion of addition, heated for 3 Hrs. allow it to settle. Separate aqueous layer & organic layer. Organic layer is taken for recovery of DIPA & fractional distillation of DIPEA

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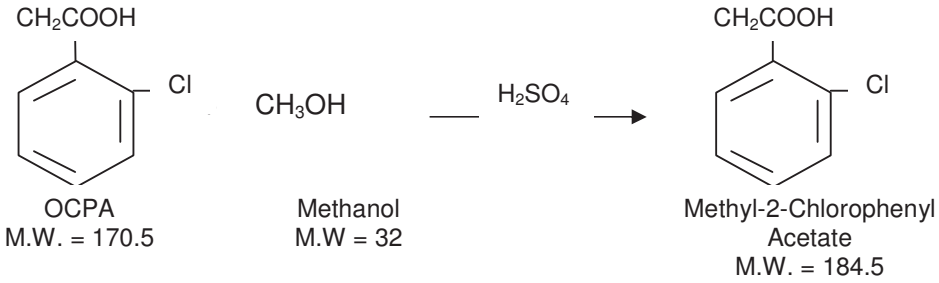
3. METHYL-2-CHLORO PHENYL ACETATE

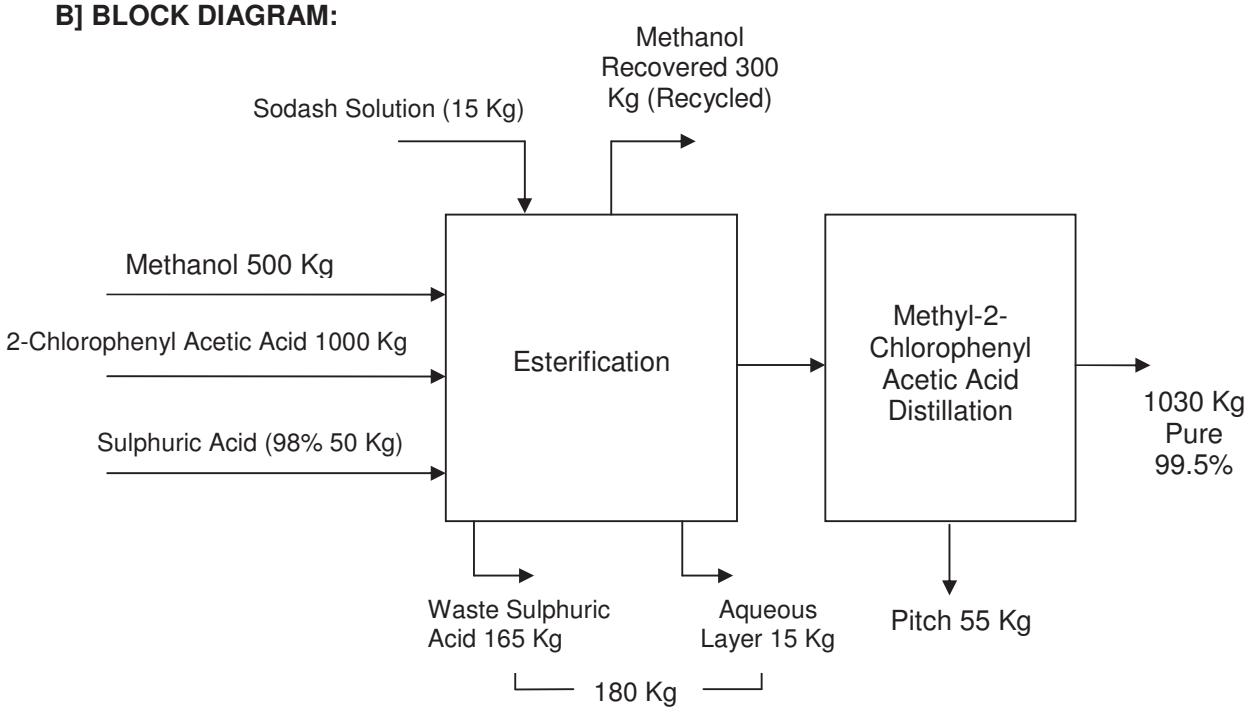
List of Raw Materials:

Sr. No.	List of Raw Materials	Batch Qty. (Kg)
1.	2-Chlorophenyl Acetic Acid	1000 Kg
2.	Methanol	500 Kg
3.	Sulphuric Acid (98%)	50 Kg
4.	Sodium Carbonate	3 Kg
5.	Water	Solution 12 Kg

A] REACTION:



B] BLOCK DIAGRAM:



C] BRIEF PROCESS:

Charged Methanol, 2-Chlorophenyl Acetic Acid & Sulphuric Acid. Start heating, maintain reflux temperature for 4 Hrs. Start recovery of excess of Methanol which is recycled in the next batch. Allow it to settle. Separate aqueous Sulphuric Acid then add Sodium Carbonate solution to neutralize the mass, separate aqueous layer. Organic material taken for distillation.

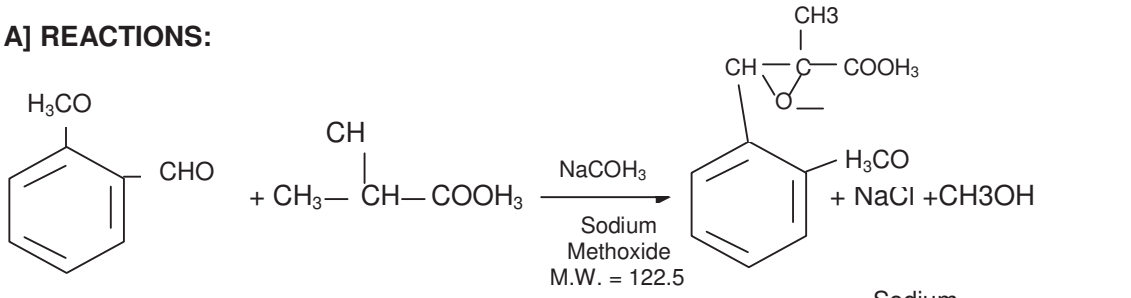
4. 4-METHOXY PHENYL ACETONE

List of Raw Material

Sr. No.	List of Raw Materials	Batch Qty. (Kg)
1.	4-Methoxy Benzaldehyde / P-Anisaldehyde	1000
2.	2-Chloro Methyl Propionate	975
3.	Sodium Methoxide (Powder)	440
4.	Sulphuric Acid (98%)	400
5.	Caustic Soda Flakes	300
6.	Water	1750

A] REACTIONS:

1)



Para Anisaldehyde M.W. = 136

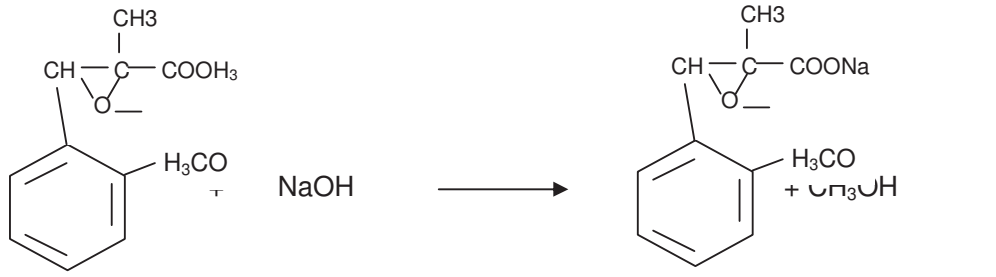
Methyl-2-Chloro Propionate M.W. = 122.5

Epoxy Ester M.W. = 222

Sodium Chloride M.W. = 58.5

Methanol M.W. = 32

2)



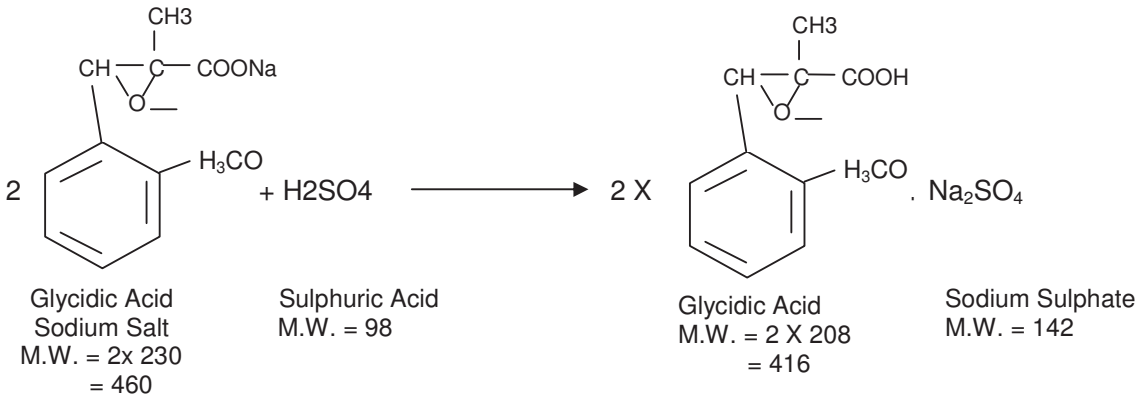
Epoxy Ester M.W. = 222

Caustic Soda M.W. = 40

Glycidic Acid Sodium Salt M.W. = 230

Methanol M.W. = 32

3)



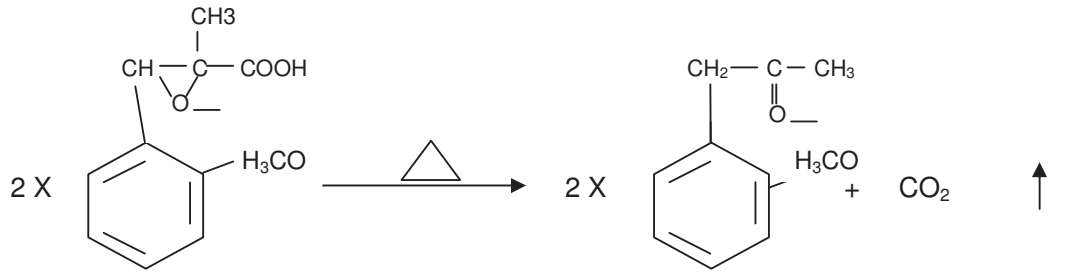
Glycidic Acid Sodium Salt M.W. = 2x 230 = 460

Sulphuric Acid M.W. = 98

Glycidic Acid M.W. = 2 X 208 = 416

Sodium Sulphate M.W. = 142

4)

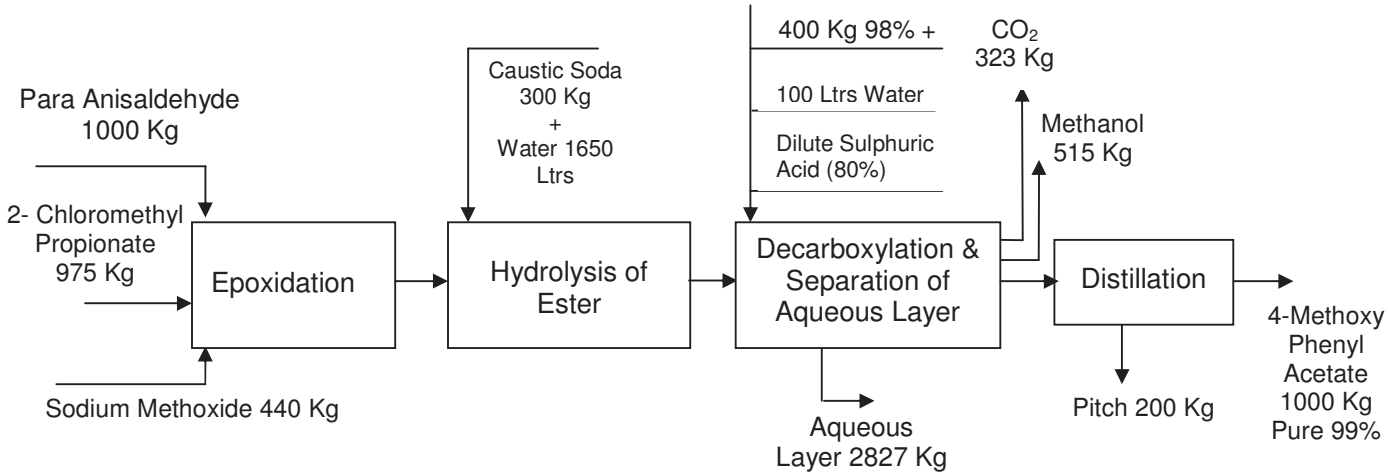


Glycidic Acid M.W. = 2 X 208 = 416

4- Methoxy Phenyl Acetate M.W. = 2 X 164 = 328

Carbon Dioxide M.W. = 44

B] BLOCK DIAGRAM:



C] BRIEF PROCESS:

2-Chloromethyl Propionate is charged along with Para-Anisaldehyde under stirring. Reaction mass is cooled & Sodium Methoxide is charged lot-wise. After completion of addition stirred for 3-4 Hrs till reaction is completed. Add Caustic Soda solution & material is heated to reflux. Dilute sulphuric acid is added slowly till pH is 2. Reaction mass is maintained at reflux temperature till completion of reaction. Allow it to settle to remove aqueous layer. Organic layer is taken for distillation to get pure 4-Methoxy Phenyl Acetone.

5. 2, 3-DICHLORO PYRIDINE

FOR STEP I & II
List of Raw Materials:

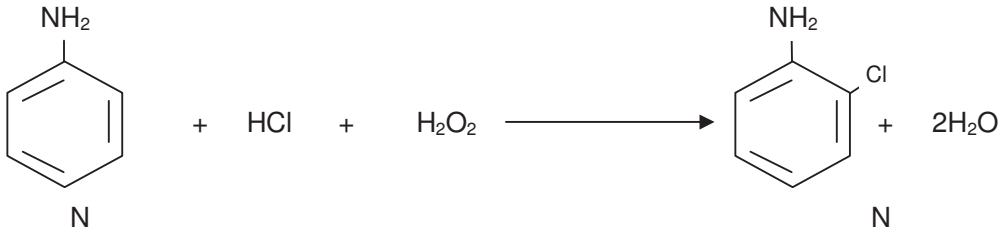
Sr. No.	List of Raw Materials	Batch Qty. (Kg)
1.	3-Amino Pyridine	250
2.	Hydrochloric Acid [35-37% w/w]	2500
3.	Hydrogen Peroxide [50% w/w]	194
4.	Sodium Nitrite [$NaNO_2$]	194 } 31 % soln
5.	Water	420
6.	Water	1750

FOR STEP III

Sr. No.	List of Raw Materials	Batch Qty. (Kg)
1.	(35-37% w/w) Hydrochloric Acid	400
2.	Sulphuric Acid	42
3.	Cupric Chloride Dihydrate	42
4.	Sodium Hydroxide Flakes	835 } 40% w/w
5.	Water	1570

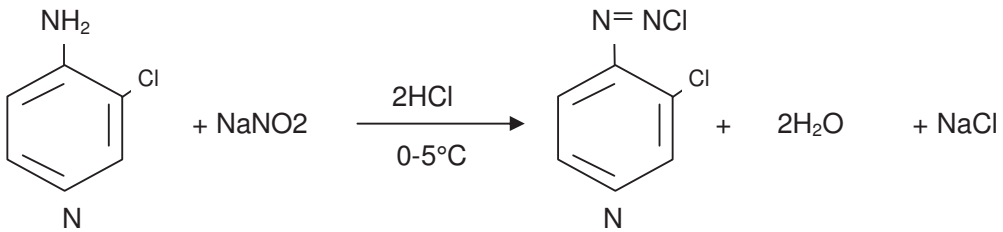
A] REACTIONS:

STEP- I CHLORINATION OF 3-AMINO PYRIDINE:



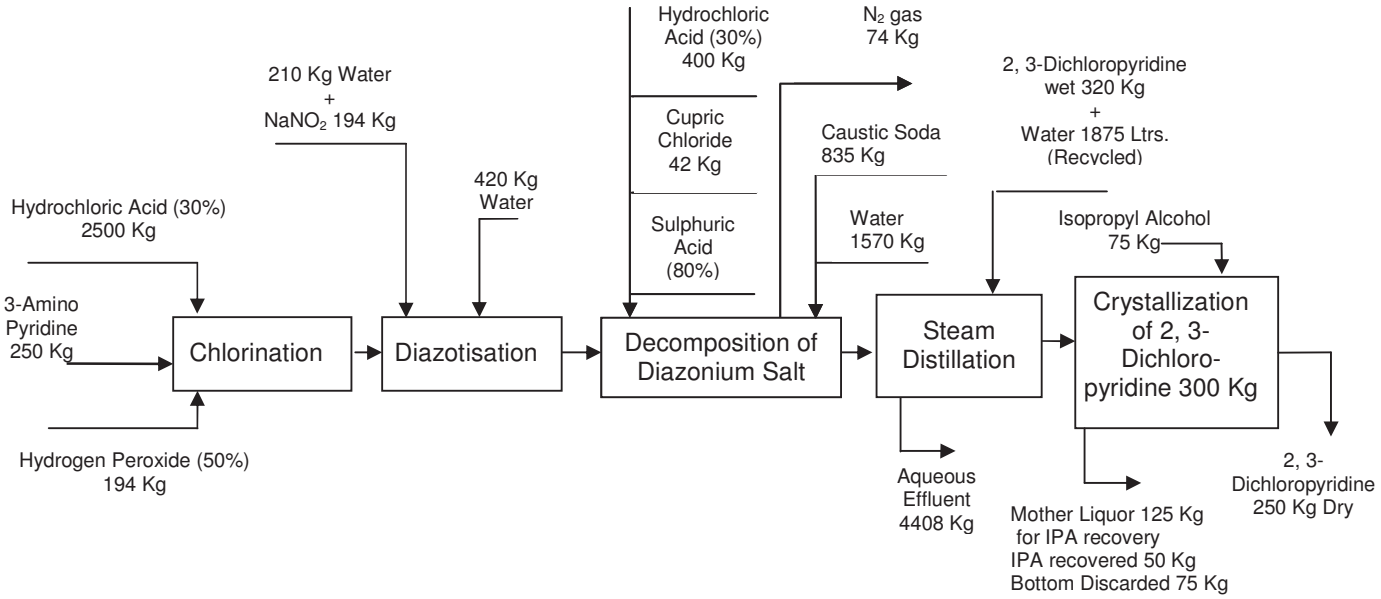
3-Aminopyridine M.W. = 94.12 | Hydrochloric Acid (35-37%) M.W. = 36.5 | Hydrogen Peroxide (50% w/w) M.W. = 34 | 3-Amino-2-Chloropyridine M.W. = 128.56 | Water M.W. = 18

STEP- II DIAZOTISATION OF 3-AMINO-2-CHLOROPYRIDINE:



3-Amino-2-Chloropyridine M.W. = 128.56 | Sodium Nitrite M.W. = 69 | Diazonium Salt ?? | Water M.W. = 18 | Sodium Chloride M.W. = 58.5

B] BLOCK DIAGRAM:



C] BRIEF PROCESS:

- **STEP I CHLORINATION OF 3-AMINO PYRIDINE:**

  3-Amino Pyridine is treated with Hydrochloric Acid [35% - 37% w/w] and Hydrogen Peroxide [50% w/w].

- **STEP II DIAZOSATION OF 3-AMINO-2-CHLOROPYRIDINE:**

  3-Amino-2-Chloropyridine formed in above step is treated with Sodium Nitrite solution. Diazonium Salt formed.

- **STEP III DECOMPOSITION OF DIAZONIUM SALT INTO 2, 3 DICHLOROPYRIDINE**

  Diazonium Salt is further reacted with previously heated solution of salt and acid. The evolved Nitrogen gas is scrubbed. On addition of (40% w/w) caustic solution to adjust pH 7-7.5 pass stream and product 2, 3-dichloropyridine starts distillating out along with steam water.

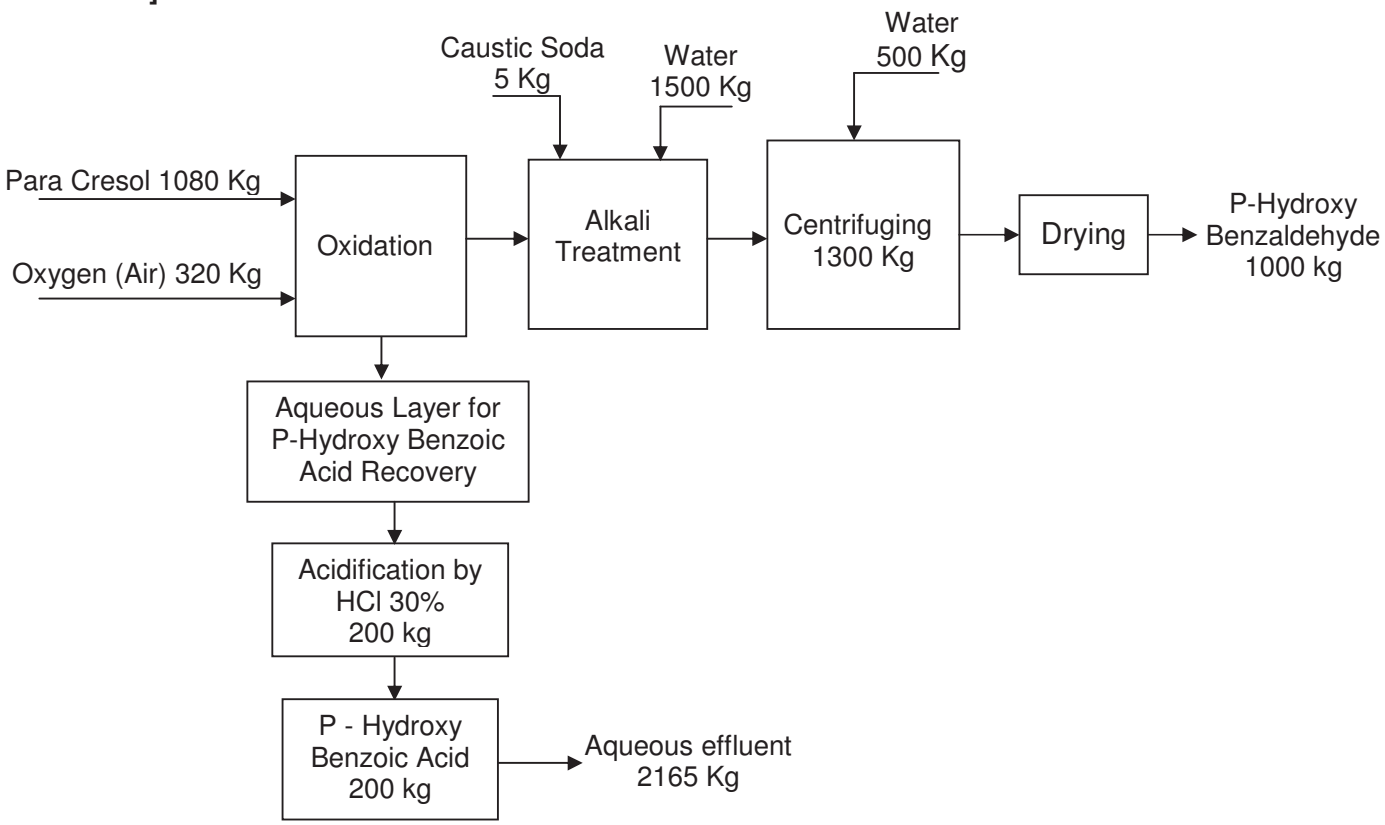
Sr. No.	List of Raw Materials	Batch Qty. (Kg)
1.	Para Cresol	1080
2.	Air (Oxygen)	320
3.	Caustic Soda	65
4.	Water	2000
5.	Hydrochloric Acid 30%	200

??

A] REACTION:

Para Cresol + Air [2(O)] ⟶ P-Hydroxy Benzaldehyde + P-Hydroxy Benzoic Acid + Water

B] BLOCK DIAGRAM:



C] BRIEF PROCESS:

Para Cresol along with catalyst and water is fed continuously to the oxidation reactor and air is passed at desired temperature. After maintaining period, material is continuously withdrawn from the oxidation reactor at fixed interval. The material is further treated with dilute Caustic Soda Solution to remove p-Hydroxy Benzoic Acid. The slurry is fed to centrifuge washed & dried to get p-Hydroxy Benzaldehyde. The alkali aqueous layer is neutralized with Hydrochloride acid 30% and precipitated
p-Hydroxy Benzoic Acid is centrifuged, washed & dried.

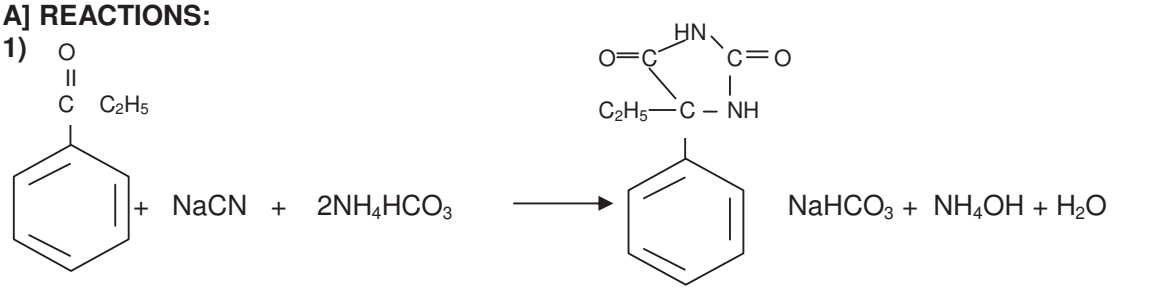
6. 2-AMINO-2-PHENYL BUTYRIC ACID

List of Raw Materials:

Sr. No.	List of Raw Materials	Batch Qty. (Kg)			
				Moles	Per Mole
1.	Propiophenone	550 Kg	=	4.10	1
2.	Methanol	700 Kg			
3.	Ammonium Bicarbonate	660 Kg	=	8.35	2.036
4.	Sodium Cyanide	225 Kg	=	4.59	1.12
5.	Acetic Acid	135 Kg	=	2.25	0.55
6.	Water	800 Kg + 1725 kg			
7.	Sodium Hydroxide Flakes	675 Kg	=	16.87	4.11
8.	Hydrochloric Acid (30% w/w)	2000 Kg 600 Kg (100 %)	=	16.44	4.00

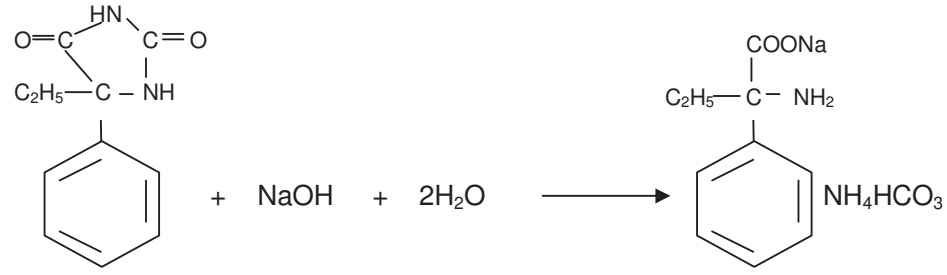
A] REACTIONS:

1)



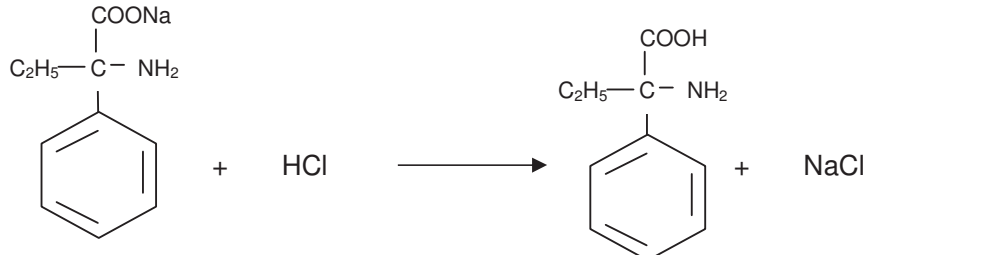
Propiophenol M.W. = 134 | Sodium Cyanide M.W. = 49 | Ammonium Bicarbonate M.W. = 2 X 79 = 158 | 5-Phenyl-5-Ethyl Hydention M.W. = 204 | Sodium Bicarbonate M.W. = 84 | Ammonium Hydroxide M.W. = 34 | Water M.W. = 18

2)



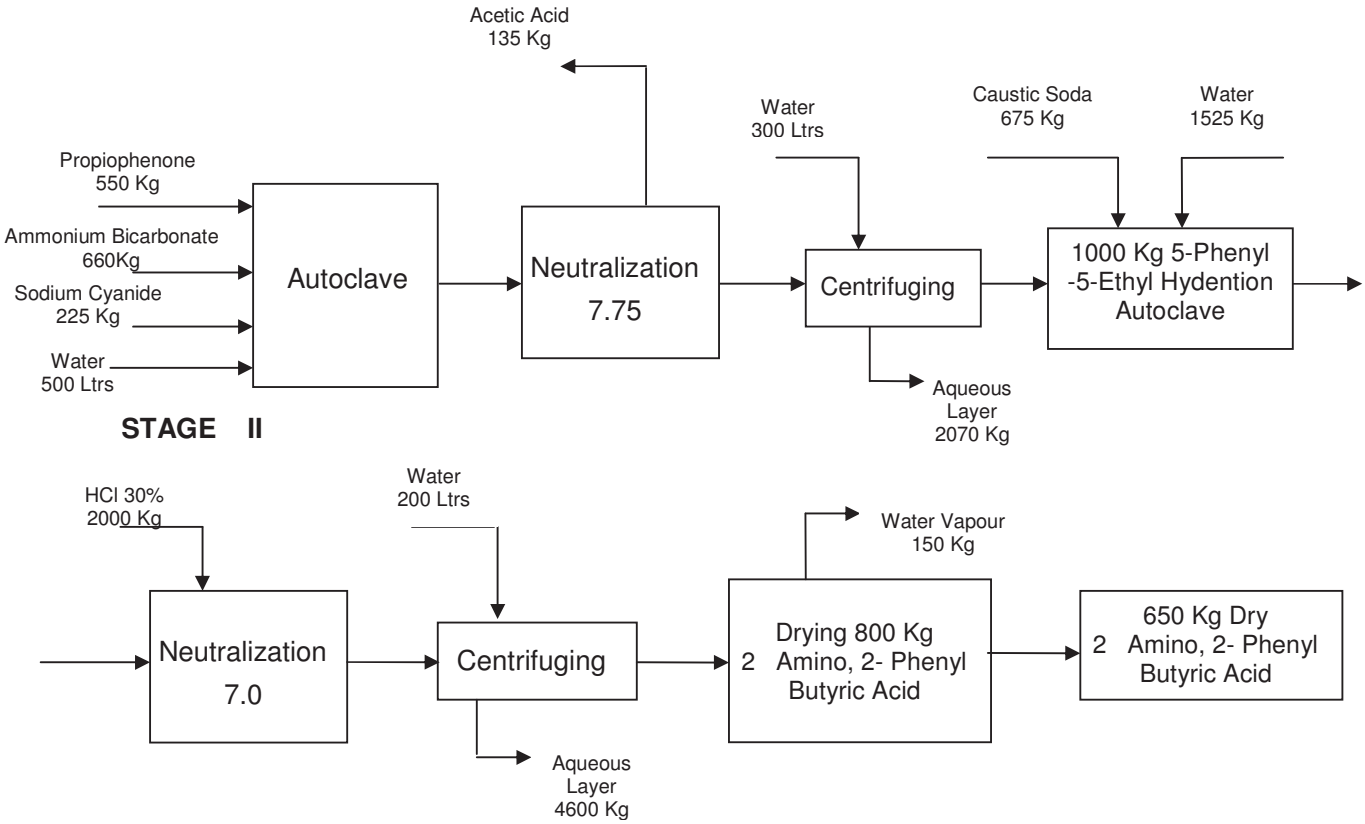
5-Phenyl-5- Ethyl Hydention M.W. = 204 | Caustic Soda M.W. = 40 | Water M.W. = 2X 18 = 36 | Sodium Salt 9, 2-Amino- 2- Phenyl Butyric Acid M.W. = 201 | Ammonium Bicarbonate M.W. = 79

3)



Sodium Salt 9, 2-Amino- 2- Phenyl Butyric Acid M.W. = 201 | Hydrochloric Acid M.W. = 36.5 | 2-Amino -2- Phenyl Butyric Acid M.W. = 179 | Sodium Chloride M.W. = 58.5

B] BLOCK DIAGRAM:



C] BRIEF PROCESS:

Charge in to autoclave, Propiophenone, Methanol, Ammonium Bicarbonate, Sodium Cyanide, Water. Close the autoclave. Heat to get desire temperature & pressure. After completion of reaction, material is acidified to adjust pH 7.0 then centrifuged to get 5-Phenyl-5-Ethyl Hydention. It is further treated in autoclave with Caustic Soda solution. It is further neutralized with 30% HCl to adjust pH 7.0 to 7.5. It is then centrifuged washed with water, dried to get 2-Amino-2-Phenyl Butyric Acid.

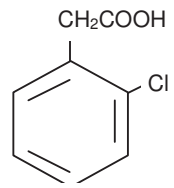
7. ORTHO HYDROXYL PHENYL ACETIC ACID / 2-HYDROXY PHENYL ACETIC ACID

List of Raw Materials:

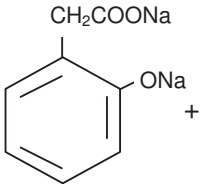
Sr. No.	List of Raw Materials	Batch Qty. (Kg)
1.	2-Chloro Phenyl Acetic Acid	1000
2.	Caustic Soda Flakes	940
3.	Copper Sulphate.$7H_2O$	40
4.	Hydrochloric Acid (30% w/w)	2850
5.	Water	2200

A] REACTIONS:

1)



+ 3NaOH ⟶



+ NaCl + 2H2O

Ortho Chloro Phenyl Acetic Acid

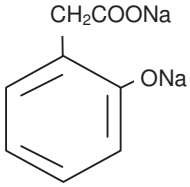
Caustic Soda M.W. = 3 X 40 = 120

Sodium Salt of 2-Hydroxy Phenyl Acetic Acid M.W. = 196

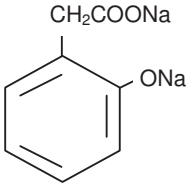
Sodium Chloride M.W. = 58.5

Water M.W. = 2 X 18 = 36

2)



+ 2 HCl ⟶



+ 2NaCl

Sodium Salt of 2-Hydroxy Phenyl Acetic Acid M.W. = 196

Hydrochloric Acid M.W. = 2X 36.5 = 73

2-Hydroxy phenyl Acetic Acid M.W. = 152

Sodium Chloride M.W. = 2 X 58.5 = 117

3)

NaOH + HCl ⟶ NaCl + H2O

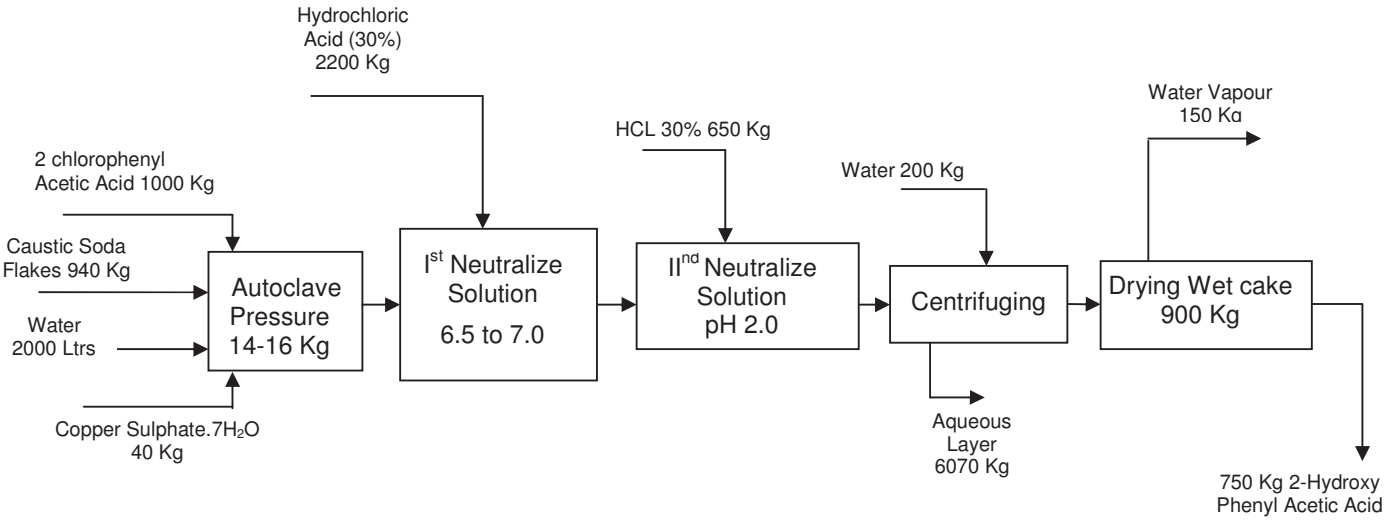
Caustic Soda M.W. = 40

Hydrochloric Acid M.W. = 36.5

Sodium Chloride M.W. = 58.5

Water M.W. = 18

B] BLOCK DIAGRAM:



C] BRIEF PROCESS:

In autoclave charge water, caustic Soda flakes, Copper Sulphate.$7H_2O$ and Orthochloro Phenyl Acetic Acid and heated till desire pressure is reached.

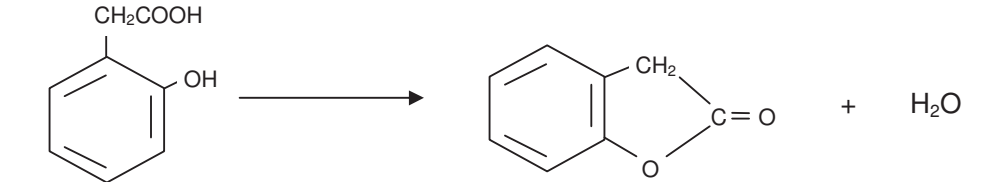
Reaction temperature is maintain till completion of reaction. Autoclave is cooled and material transferred to neutralization tank. The hydrochloric Acid is added till pH 6.5 to 7.0 and allowed to settle. The bottom Copper sludge is separated. The material is further neutralized to pH 2. It is then cooled to 20^0C.It is then cooled to 20^0C. It is centrifuged, washed with water, dried to get

8. 2-COUMARANONE

List of Raw Materials:

Sr. No.	List of Raw Material	Batch Qty. (Kg)
1.	Ortho Hydroxy Phenyl Acetic Acid	750

A] REACTION:

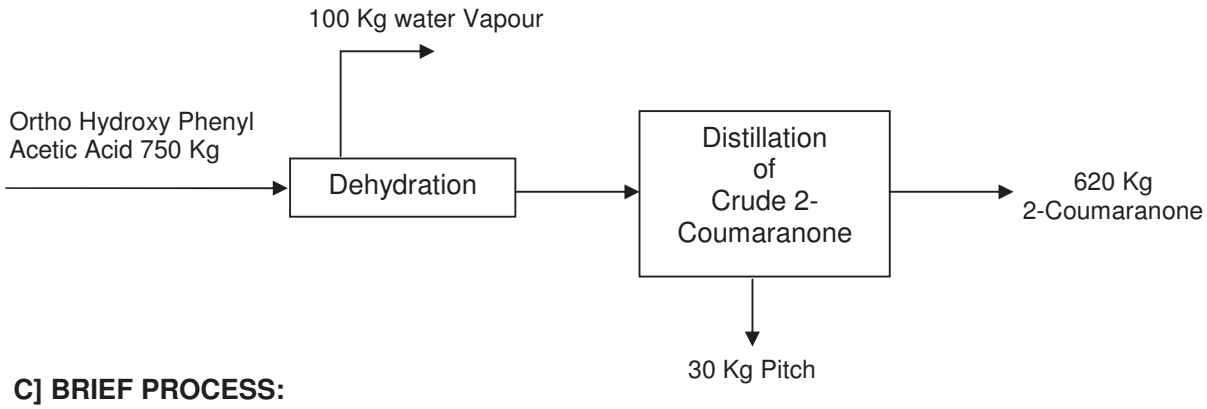


2-Hydroxy Phenyl Acetic Acid M.W. = 152

2-Coumaranone M.W. = 134

Water M.W. = 18

B] BLOCK DIAGRAM:



C] BRIEF PROCESS:

Ortho Hydroxy Phenyl Acetic Acid is charged into reactor and heated to 150° C to distilled out water of reaction. Vacuum is applied and crude 2-Coumanone is distilled to get pure 2-Coumanone

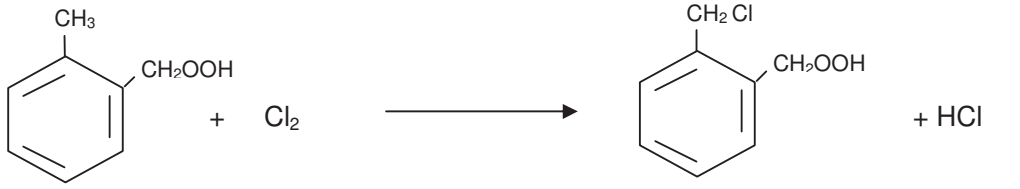
9. 3- ISO CHROMANONE

List of Raw Materials:

Sr. No.	List of Raw Materials	Batch Qty. (Kg)
1.	Ortho Methyl Phenyl Acetic Acid	1000
2.	Mono Chlorobenzene	1500
3.	Catalyst	20
4.	Chlorine	408
5.	Ammonia	840
6.	Water	2000
7.	Toluene	600

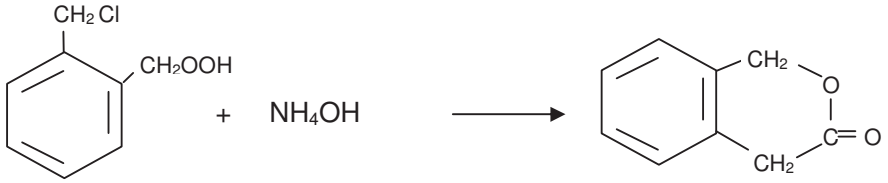
A] REACTIONS:

1)



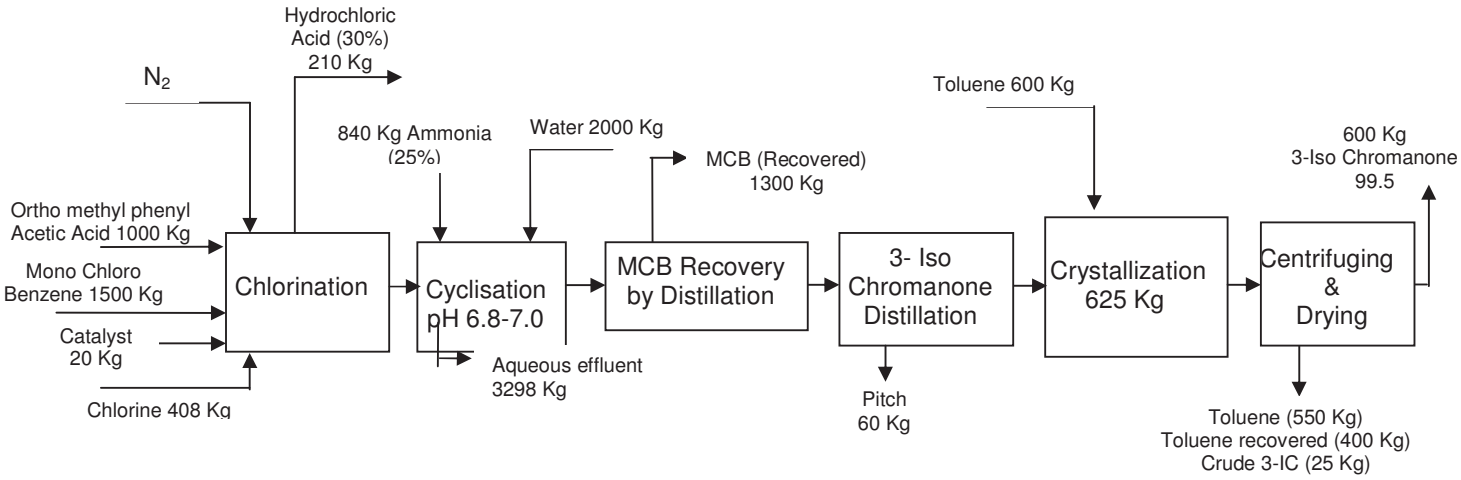
Ortho-methyl Phenyl Acetic Acid M.W. = 150 | Chlorine M.W. = 71 | 2- Chloromethyl Phenyl Acetic Acid M.W. = 184.5 | Hydrochloric Acid M.W. = 36.5

2)



2- Chloromethyl Phenyl Acetic Acid M.W. = 184.5 | Ammonia | 3- Iso Chromanone M.W. = 148 | Ammonium Chloride M.W. = 53.5

B] BLOCK DIAGRAM:



C] BRIEF PROCESS:

Charge into glass lined reactor 2-Methyl Phenyl Acetic Acid, Mono Chlorobenzene and Catalyst .chlorine is pass at 90^0C till desire conversion is obtained. The evolved hydrochloric acid is scrubbed in to water. After completion of reaction nitrogen is purged to remove HCl from the system. Material is cooled to 25^0C and ammonia solution is added till pH 6.5 -7. After reaching pH 6.5 -7 organic layer is separated & washed with water, unreacted 2-Methyl Phenyl Acetic Acid is recovered by acidification of aqueous layer. Organic layer is distilled to recovered MCB. The bottom left material 3-IC is distilled under high Vaccum and further crystallized in Toluene. Toluene is recovered from mother liquor by distillation.

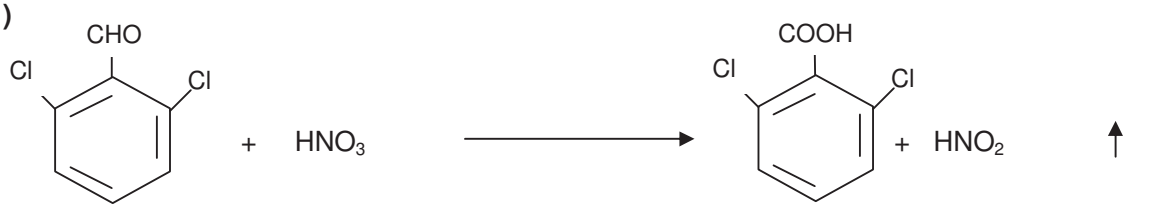
10. 2, 6- DICHLORO BENZOYL CHLORIDE

List of Raw Materials:

Sr. No.	List of Raw materials	Batch Qty. (Kg)
1.	2,6 Dichloro Benzaldehyde	900
2.	Nitric Acid 60%	1350
3.	Sodium Hydroxide Flakes	230
4.	HCl 30%	650
5.	Thionyl Chloride	1170
	Thionyl Chloride (Recovered)	500
	Thionyl Chloride (Consumption)	670
6.	Water	650

A] REACTIONS:

1)

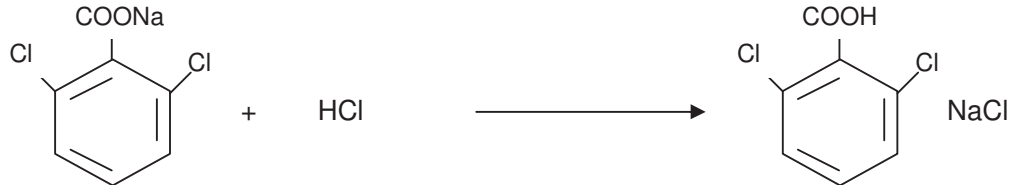


2, 6 Dichloro Benzaldehyde M.W. = 175 | Nitric Acid M.W. = 63 | 2, 6 Dichlorobenzoic Acid M.W. = 191 | Nitrous Acid

2)

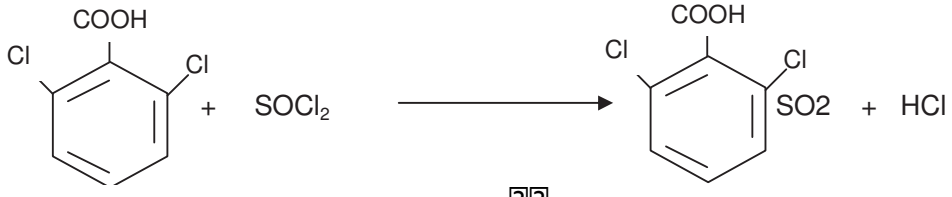
2, 6 Dichlorobenzoic Acid M.W. = 63 | Sodium Hydroxide M.W. = 40 | 2, 6 Dichlorobenzoic Acid Sodium Salt M.W. = 213 | Water M.W. = 18

3)



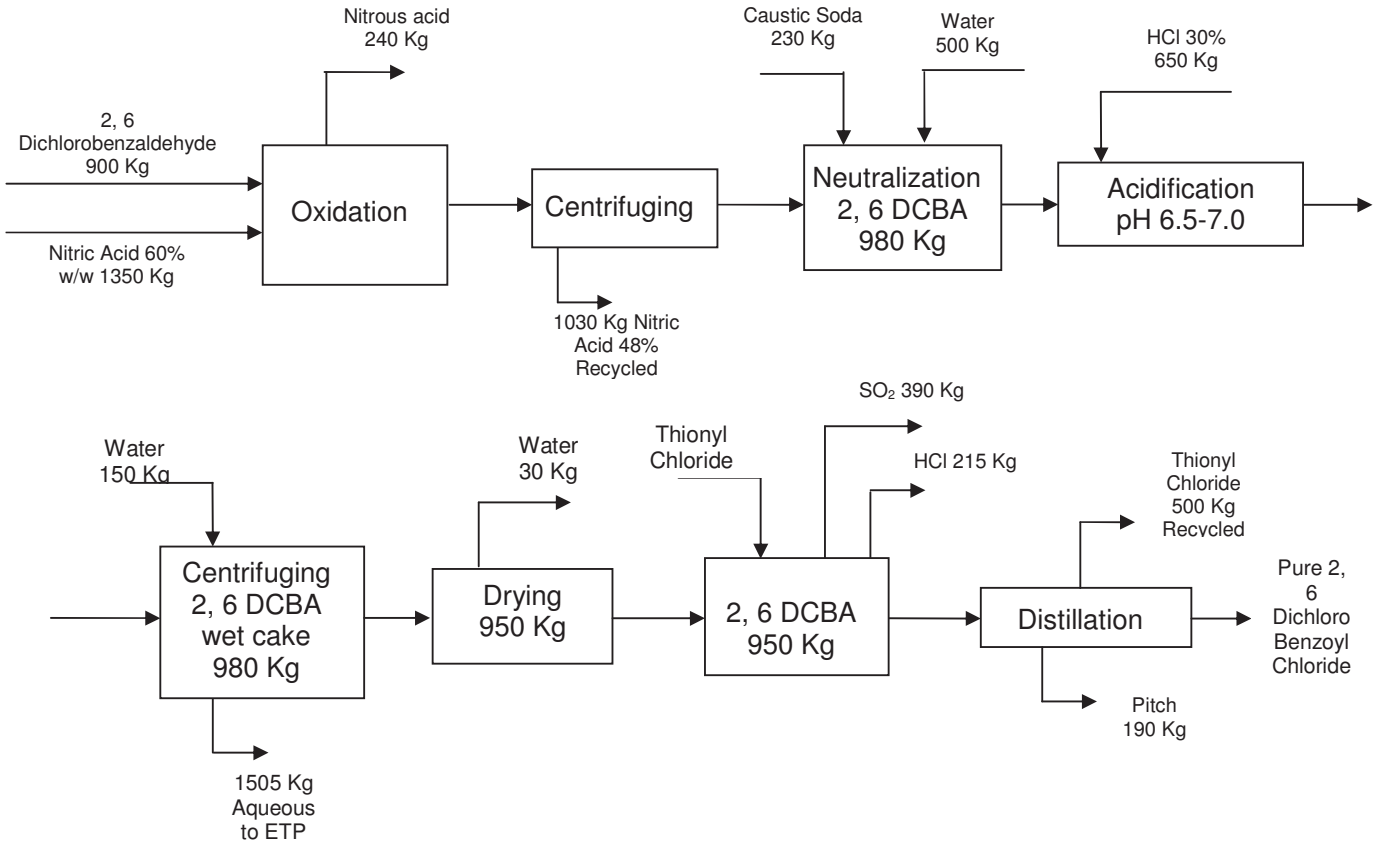
2, 6 Dichlorobenzoic Acid Sodium Salt M.W. = 213 | Hydrochloric Acid M.W. = 40 | 2, 6 Dichlorobenzoic Acid M.W. = 191 | Sodium Chloride M.W. = 58.5

4)



2, 6 Dichlorobenzoic Acid M.W. = 191 | Thionyl Chloride M.W. = 119 | ?? | 2, 6 Dichlorobenzoyl Chloride M.W. = 209.5 | Sulphur Dioxide M.W. = 64 | Hydrochloric Acid M.W. = 36.5

B] BLOCK DIAGRAM:



C] BRIEF PROCESS:

- **STEP I : OXIDATION OF 2,6 DICHLORO BENZALDEHYDE**

  2, 6 Dichloro Benzaldehyde is treated with nitric acid 60%.The evolved nitric acid is Scrubbed into caustic soda solution to get sodium nitrite solution which is sold in the market. The 2, 6 Dichloro Benzoic acid formed is cooled & centrifuged. It is further neutralized with caustic soda solution, clarified and neutralized with Hydrochloric acid 30%. The Precipitated 2, 6 Dichloro Benzoic acid is centrifuge, washed with water & dried.

- **Step II**

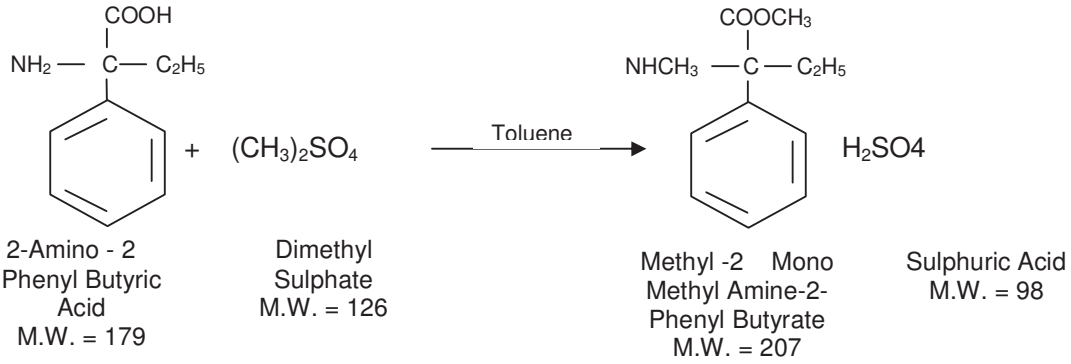
  The dry 2, 6 Dichloro Benzoic acid is further treated with Thionyl Chloride. The evolved gas of Sulphur Dioxide is scrubbed in to caustic soda solution and Hydrogen Chloride gas is scrubbed in to water scrubber. After completion of reaction excess Thionyl Chloride is distilled & recycled and bottom material is Vaccum distilled to get pure 2, 6 Dichloro Benzoyl Chloride.

11. METHYL 2 DIMETHYL AMINO 2 PHENYL BUTYRATE

Sr. No.	List of Raw Materials	Batch Qty. (Kg)			
				Moles	Per Mole
1.	2-Amino-2-Phenyl Butyric Acid	1000	=	5.586	1
2.	Toluene	1800			
3.	Dimethyl Sulphate	760	=	6.03	1.079
4.	Sodium Hydroxide Flakes	40	=	1.0	
5.	Formic Acid	800	=	14.78	2.646
6.	Formaldehyde 37% w/w 407 Kg 100%	1100	=	13.56	2.427
7.	Water	1800			

A] REACTIONS:

1)



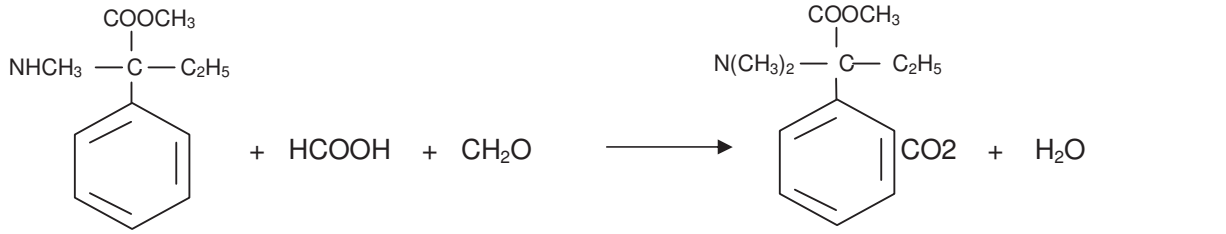
2-Amino - 2 Phenyl Butyric Acid M.W. = 179

Dimethyl Sulphate M.W. = 126

Methyl -2 Mono Methyl Amine-2-Phenyl Butyrate M.W. = 207

Sulphuric Acid M.W. = 98

2)



Methyl -2 Mono Methyl Amine-2-Phenyl Butyrate M.W. = 207

Formic Acid M.W. = 46

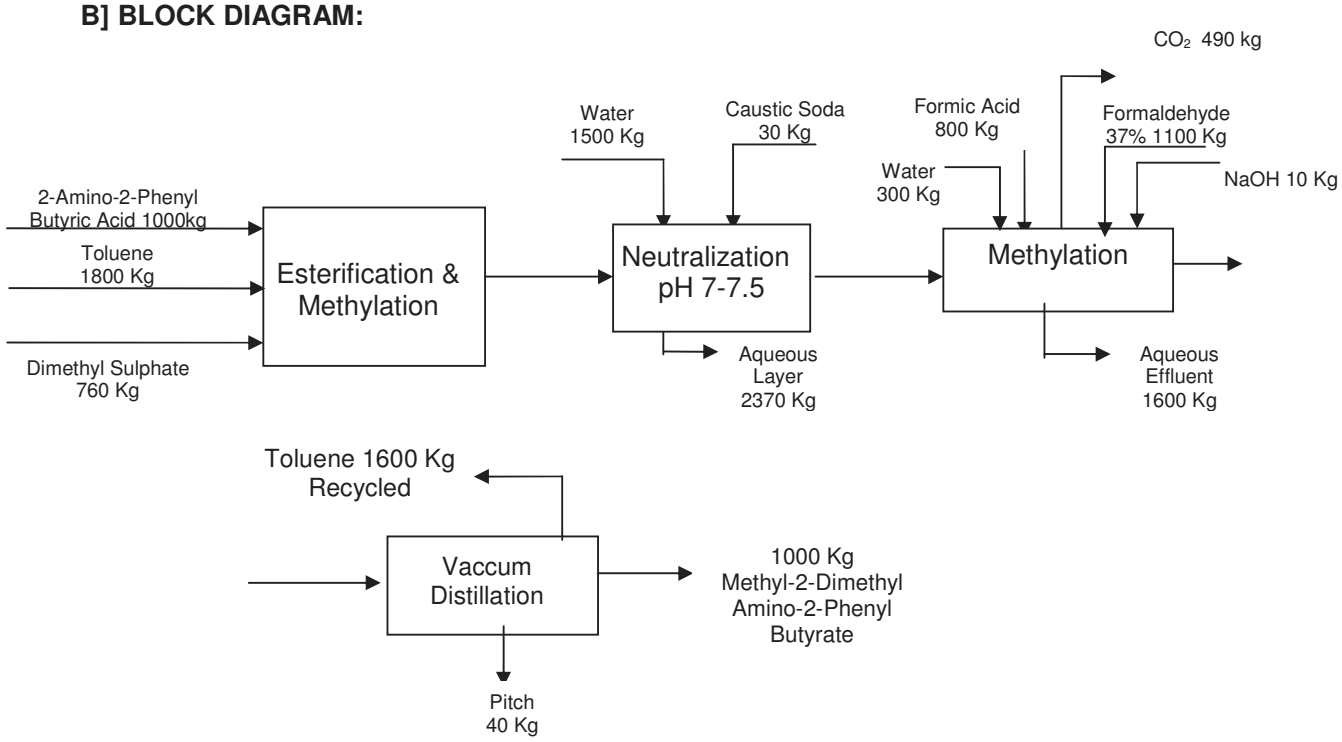
Formaldehyde M.W. = 30

Methyl-2-Dimethyl Amino 2 Phenyl Butyrate M.W. = 221

Carbon Dioxide M.W. = 44

Water M.W. = 18

B] BLOCK DIAGRAM:



C] BRIEF PROCESS:

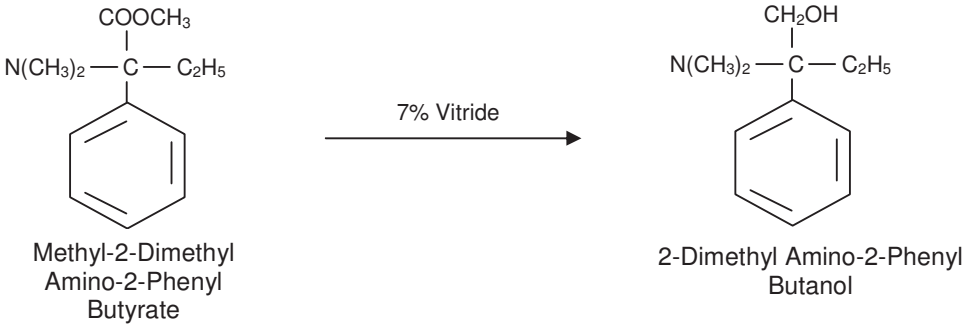
In a reactor, Toluene, 2-Amino-2-Phenyl Butyric Acid and Dimethyl Sulphate is charged. After completation of reaction. Water is added. Organic layer is separated and neutralized with caustic soda solution to pH 7 to 7.5.Organic layer is mixed with Formaldehyde solution 37 %,formic acid 85% and reflux till completation of reaction. Aqueous layer is separated and washed with water and neutralized with Caustic soda solution. Toluene is recovered by distillation and recycled. The Bottom material is Vaccum distilled. Pitch is drained.

12. 2- DIMETHYL AMINO 2 PHENYL BUTANOL

List of Raw Materials:

Sr. No.	List of Raw Materials	Batch Qty. (Kg)
1.	Methyl-2-Dimethylamine-2-Phenyl Butyrate	550
2.	Toluene	720
3.	Toluene (R)	870
4.	Vitride 70% in Toluene	Vitride 750 + Toluene 320 =1070
5.	Sodium Hydroxide Flakes	280
6.	Water	2000

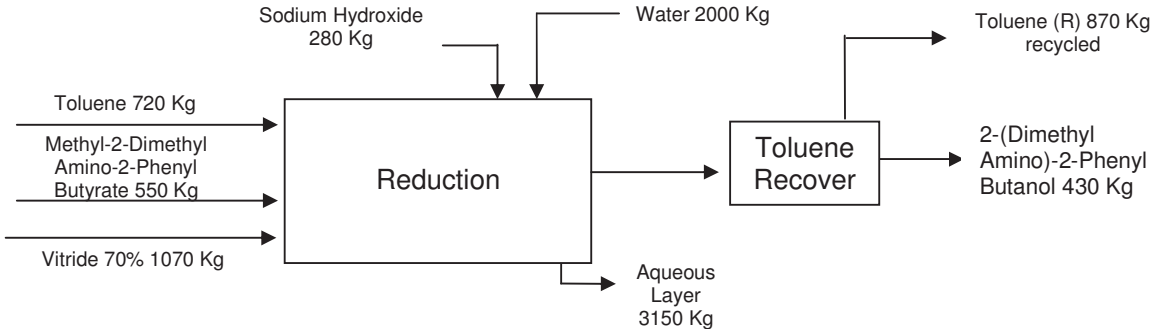
A] REACTION:



Methyl-2-Dimethyl Amino-2-Phenyl Butyrate

2-Dimethyl Amino-2-Phenyl Butanol

B] BLOCK DIAGRAM:



C] BRIEF PROCESS:

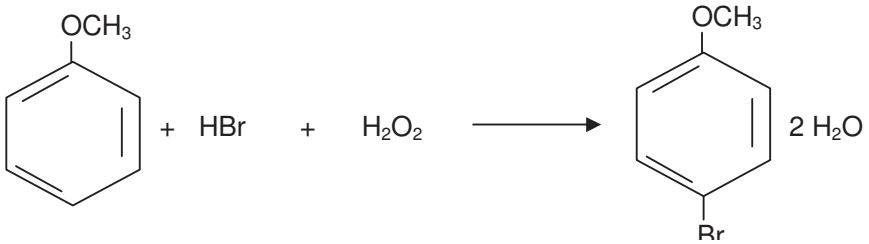
In a S.S. reactor, toluene is charged along with Methyl-2-Dimethylamine-2-Phenyl Butyrate. Vitride 70% is added from the top slowly. After completion of addition reaction is maintain till completion. The effluent of Vitride is decomposed by addition of Caustic soda solution. The organic layer is separated. Toluene is recovered by distillation and Product is drained from the bottom.

13. 4 BROMO ANISOLE

List of Raw Materials:

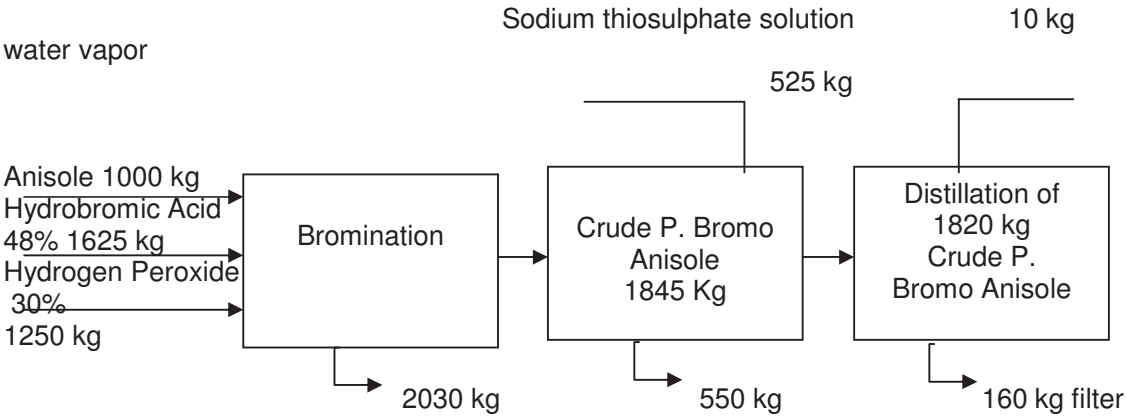
Sr. No.	List of Raw Materials	Batch Qty. (Kg)
1.	Anisole	100
2.	HBr	1625
3.	Hydrogen Peroxide 50%	750 } Mixed to get 30% w/w 1250 Kg
4.	Water	500 }
5.	Sodium Thiosulphate	25 } Soln. 525 Kg
6.	Water	500 }

A] REACTION:



Anisole M.W. = 108	Hydrobromic Acid M.W. = 81	Hydrogen Peroxide M.W. = 34	P. Bromo Anisole M.W = 187	Water M.W = 2 X 18 = 36

B] BLOCK DIAGRAM:



C] BRIEF PROCESS:

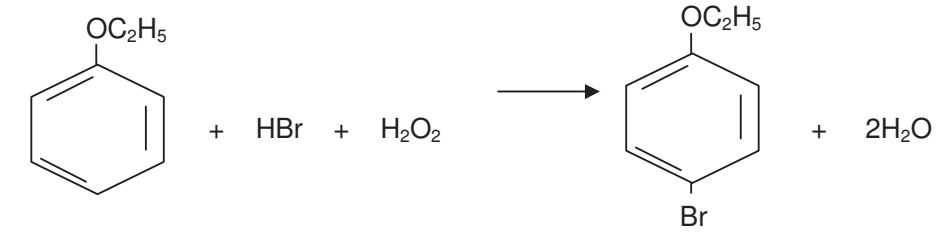
In the glass lined reactor anisole and Hydrobromic Acid (48%) is charged. The materials are cooled to 50C and then add slowly Hydrogen peroxide (30%) solution. Reaction is exothermic. Chilling is required. Temperature is controlled between 10-12^{0}C throughout the addition of Hydrogen peroxide solution after completion of reaction. Material is stirred at 10-15^{0}C for 1 hr check completion of reaction. conversion repeated is above 99%. If it is less then stirred 1 hr more. After completion of reaction material allowed to settle. Separate out bottom organic material for aqueous layer. Organic material recharged and washed with 5% sodium Thiosulphate solution till colour changes to light yellow. Material is allowed to settle. separate Organic layer for aqueous layer and taken for Vacuum distillation to get pure form.

14. 4 - BROMOPHENETOLE

List of Raw Materials:

Sr. No.	List of Raw Materials	Batch Qty. (Kg)
1.	Phenetole	1000
2.	Hydrobromic Acid (HBr) [48% w/w]	1450 = 696 Kg (100%)
3.	Hydrogen Peroxide (H_2O_2) [50% w/w]	670 } = 335 Kg (100%) 30% soln.
4.	Water	430 }
5.	Sodium Thiosulphate	25
6.	Water	500

A] REACTION:



Phenetole
M.W. = 122.17

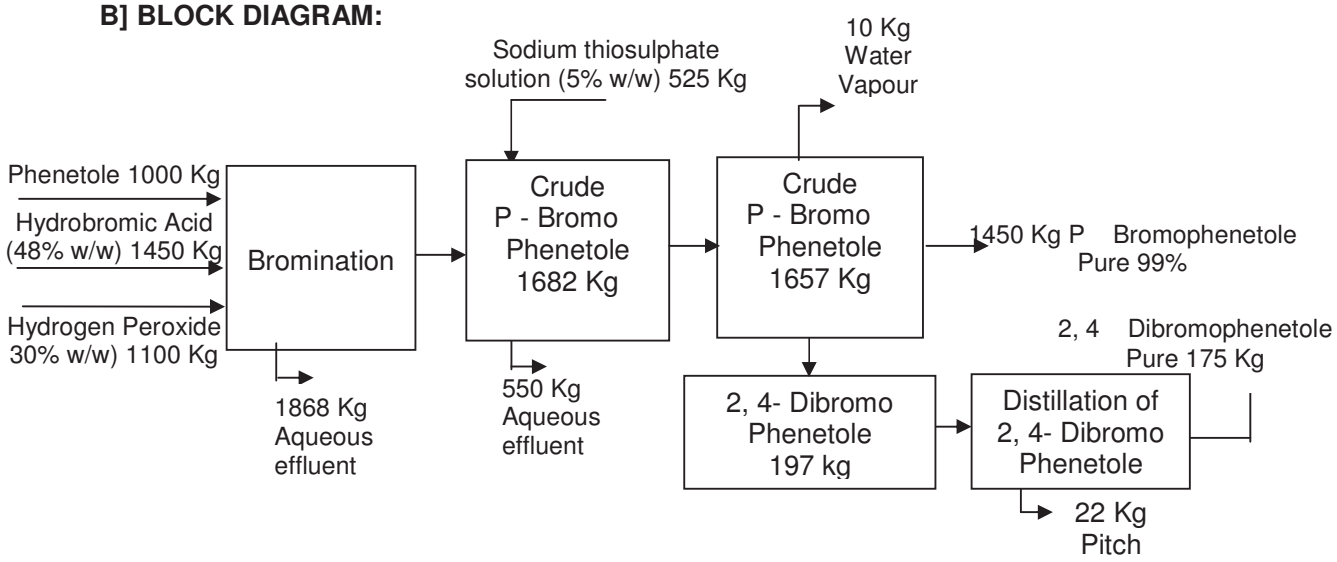
Hydrobromic Acid
M.W. = 81

Hydrogen Peroxide
M.W. = 34

Para Bromo Phenetole
M.W. = 201.06

Water
M.W. = 2 X 18
= 36

B] BLOCK DIAGRAM:



C] BRIEF PROCESS:

In a glass lined reactor, Phenetole and Hydrobromic acid (48 %) are charged. The material is cooled to 5^0C and then add slowly Hydrogen Peroxide (30 % w/w) solution. Reaction is exothermic. Chilling is required. Temperature controlled between 10-12^0C throughout the addition of Hydrogen peroxide solution. After completion of reaction material is stirred at 10-15^0C for 1 hr. Check completion of reaction. Conversion expected is above 99%. If it is less than that stirred 1hr more. After completion of reaction material is allowed to settle. separate out bottom organic material from aqueous layer. Organic material is recharged and washed with 5% w/w sodium thiosulphate solution. Till colour changes to light yellow material is allowed to settle. Separate organic layer from aqueous layer and taken for vacuum distillation to get pured form.

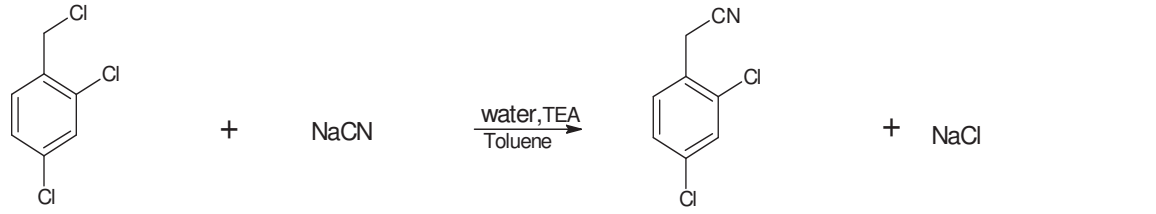
15. 2, 4 DICHLORO PHENYL ACETYL CHLORIDE

List of Raw materials:

Sr. No.	Name of Raw Material	Batch quantity in Kg
1	2,4-Dichloro benzyl chloride	2000
2	Triethyl amine	20
3	Sodium cyanide	500
4	Water	4844
5	Toluene	1000
6	Sodium Hydroxide	486
7	Conc. HCl	1800
9	Thionyl chloride	944

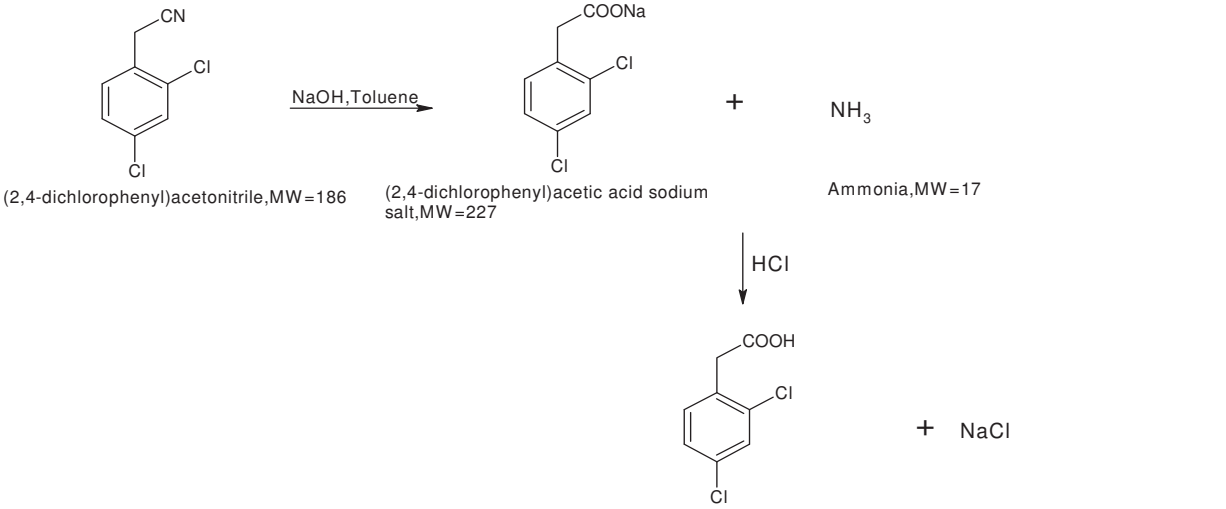
A] REACTIONS:

Stage I: Cyanation



2,4-Dichloro benzyl chloride,MW=195.5 | sodium cyanide,MW=49 | (2,4-dichlorophenyl)acetonitrile,MW=186 | Sodium Chloride,MW=58.5

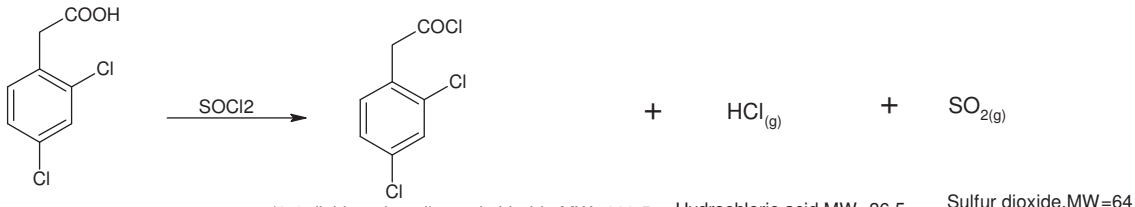
Stage II: Hydrolysis



(2,4-dichlorophenyl)acetonitrile,MW=186 | (2,4-dichlorophenyl)acetic acid sodium salt,MW=227 | Ammonia,MW=17

(2,4-dichlorophenyl)acetic acid,MW=205 | Sodium Chloride,MW=58.5

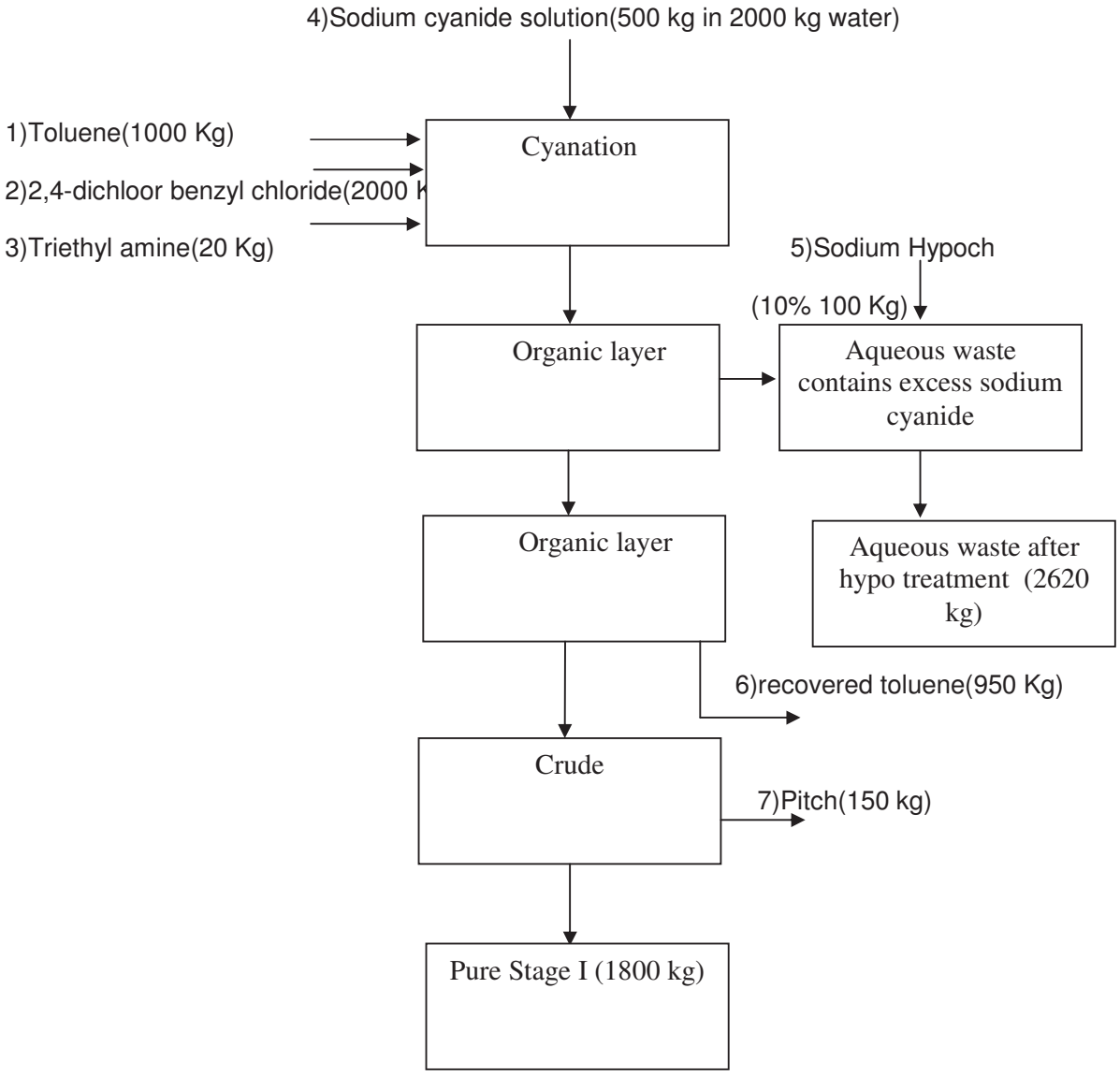
Stage III: Chlorination



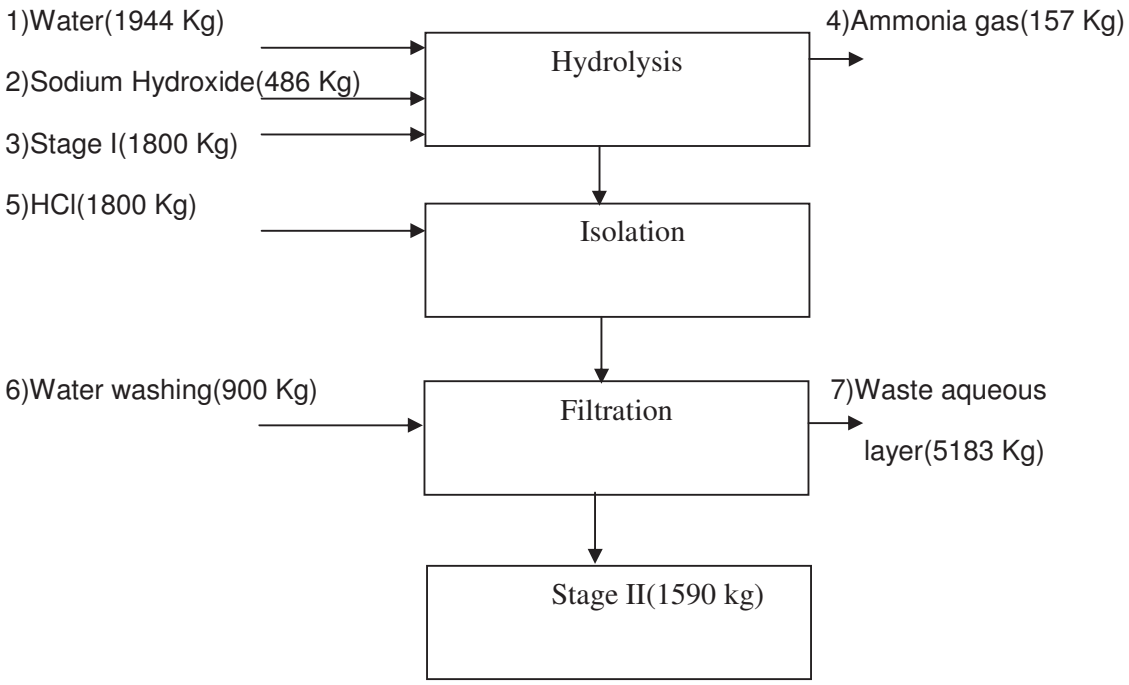
(2,4-dichlorophenyl)acetic acid,MW=205 | (2,4-dichlorophenyl)acetyl chloride,MW=223.5 | Hydrochloric acid,MW=36.5 | Sulfur dioxide,MW=64

B] FLOW CHART:

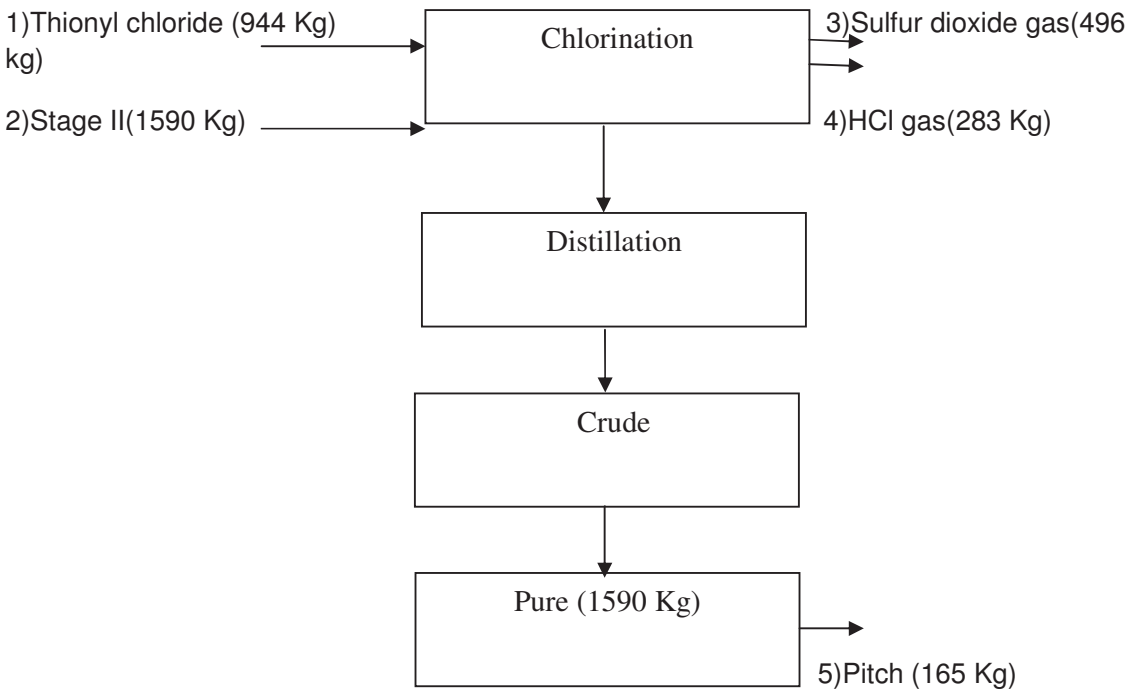
Stage I :Cyanation



Stage II (Hydrolysis)



Stage III (chlorination)



C] BRIEF PROCESS:

Stage I : Cyanation

2,4 dichloro benzyl chloride is coverted into cyanide by using sodium cyanide and toluene as a solvent and triethyl amine as a base.The product is isolate by layer separation.The organic layer is distilled out to recover toluene followed by fractional distillation gives pure product stage I as (2,4-dichlorolphenyl)acetonitrile.The aqueous layer contains extra sodium cyanide is destroyed by using sodium hypochlorite as a oxidizing agent.

Stage II : Hydrolysis

Stage I is hydrolyzed to acid using sodium hydroxide as a hydrolyzing agent.The product is isolated by acidifying with hydrochloric acid and it is isolated by filtration followed by water washing gives wet product which on drying gives stage II as a 2,4-dichloro phenyl acetic acid.

Stage III: Chlorination:

Stage II i.e 2,4-dichloro phenyl acetic acid is converted into acid chloride using thionyl chloride as a chlorinating agent.the liberated and hydrochloric acid gas is scrubbed into water and sulphur dioxide gas into alkali scrubber which converts into sodium sulfite .The product is isolated by fractional distillation gives pure product as 2,4-dichloro phenyl acetyl chloride.

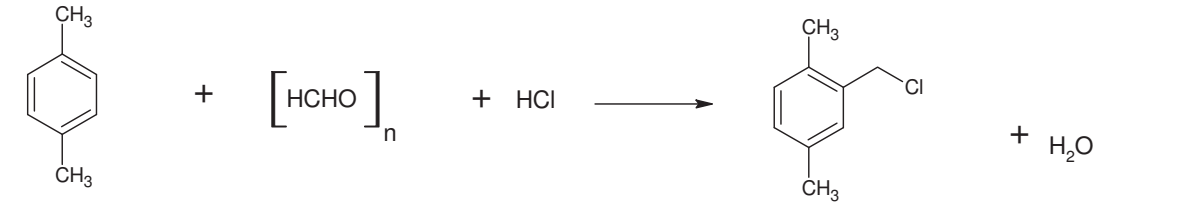
16. 2,5 DIMETHYL PHENYL ACETYL CHLORIDE

List of Raw materials:

Sr. No.	Name of Raw Material	Batch quantity in Kg
1	P-xylene	1500
2	p-formaldehyde	1110
3	Conc. HCl	6095
4	Sodium carbonate	44
5	water	3669
6	Zinc Chloride	45
7	Sodium cyanide	470
9	Sodium Hydroxide	439

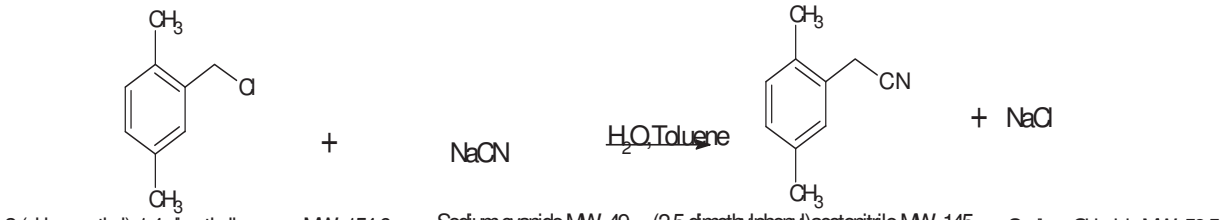
A] REACTIONS:

Stage I: Chloromethylation



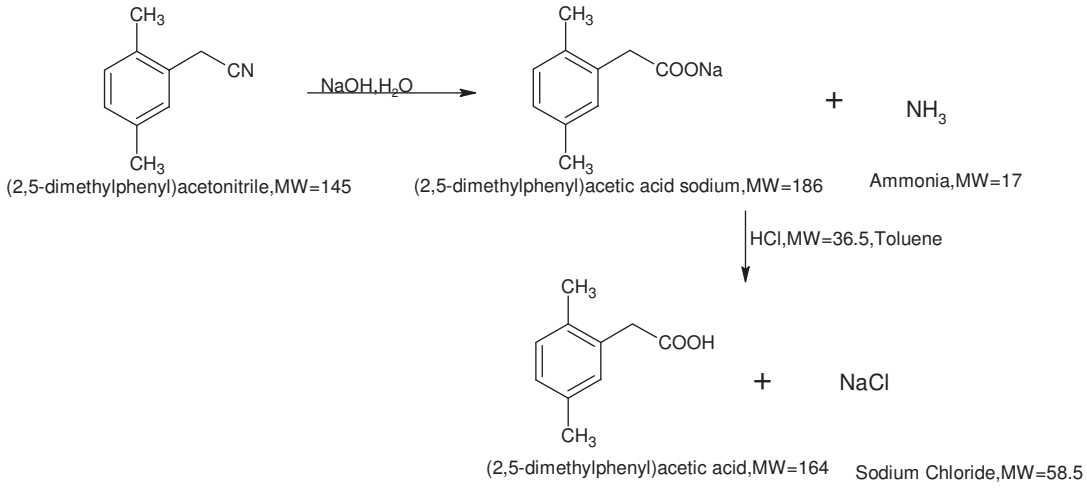
p-Xylene,MW=106 p-formaldehyde,MW=30 2-(chloromethyl)-1,4-dimethylbenzene,MW=154.6 water,MW=18

Stage II : Cyanation



2-(chloromethyl)-1,4-dimethylbenzene,MW=154.6 Sodium cyanide,MW=49 (2,5-dimethylphenyl)acetonitrile,MW=145 Sodium Chloride,MW=58.5

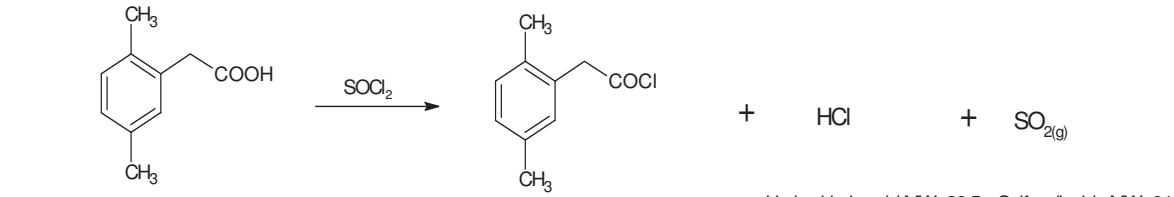
Stage III: Hydrolysis



(2,5-dimethylphenyl)acetonitrile,MW=145 (2,5-dimethylphenyl)acetic acid sodium,MW=186 Ammonia,MW=17

(2,5-dimethylphenyl)acetic acid,MW=164 Sodium Chloride,MW=58.5

Stage IV: Chlorination



(2,5-dimethylphenyl)acetic acid,MW=164 (2,5-dimethylphenyl)acetyl chloride,MW=182.6 Hydrochloric acid,MW=36.5 Sulfur dioxide,MW=64

B] FLOW CHART:

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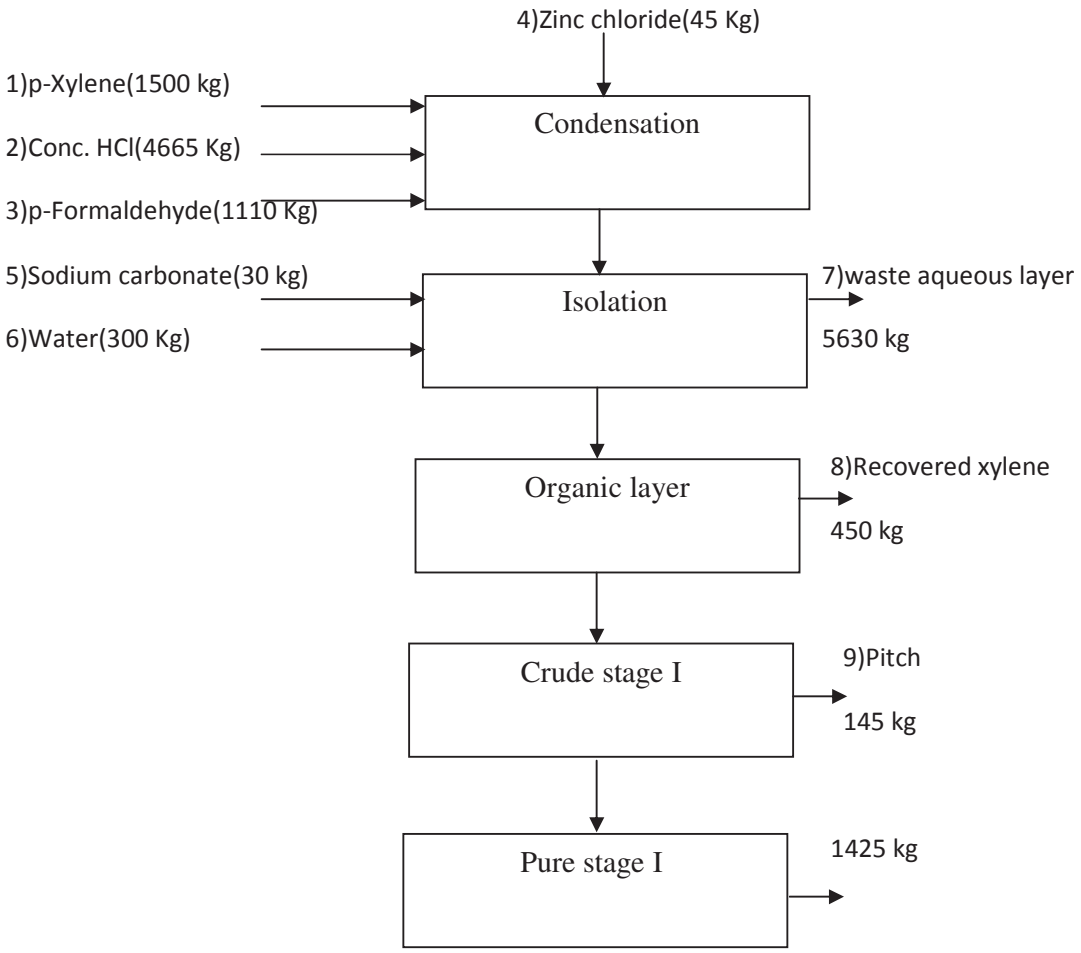
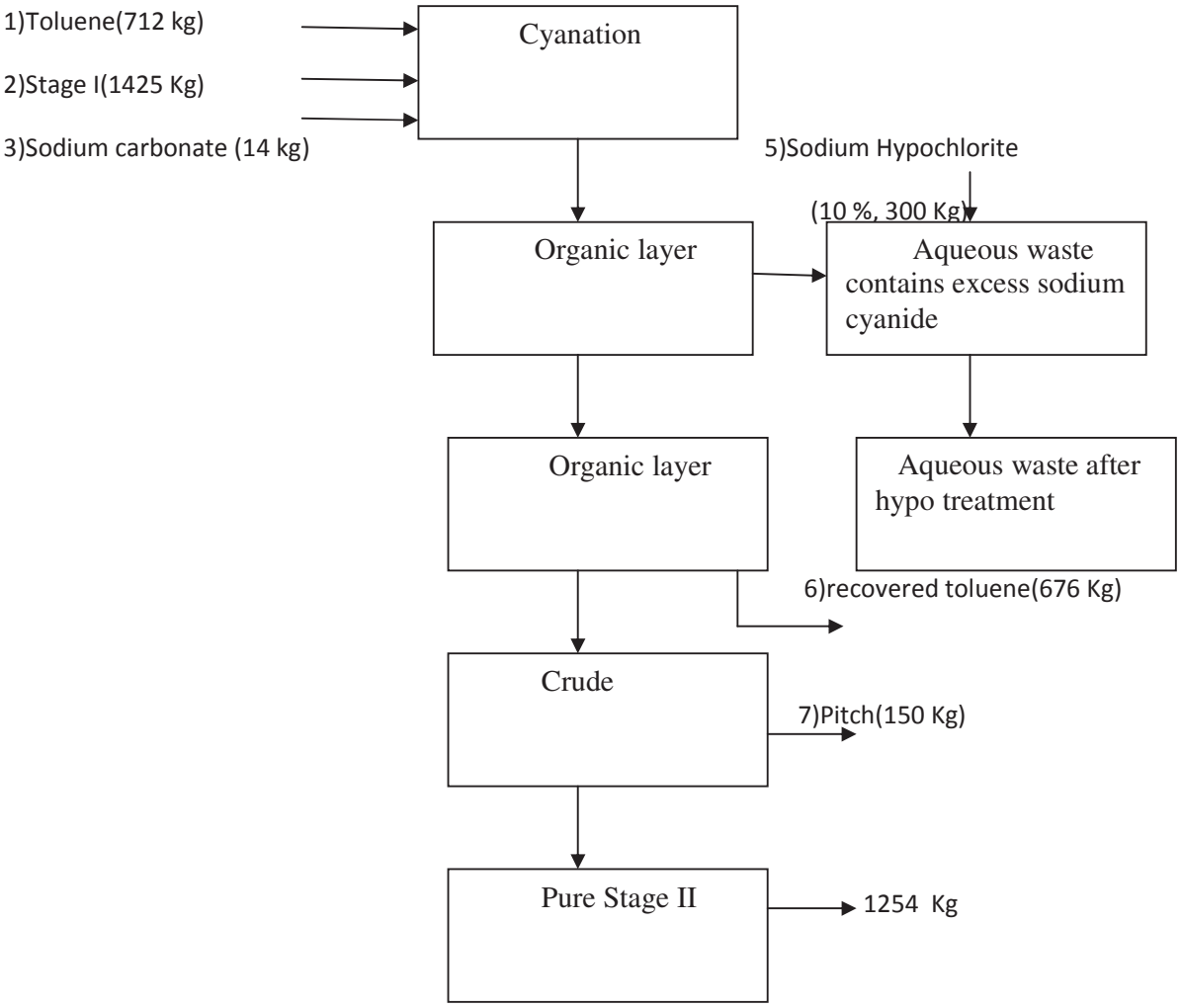
Stage I : Chloromethylation

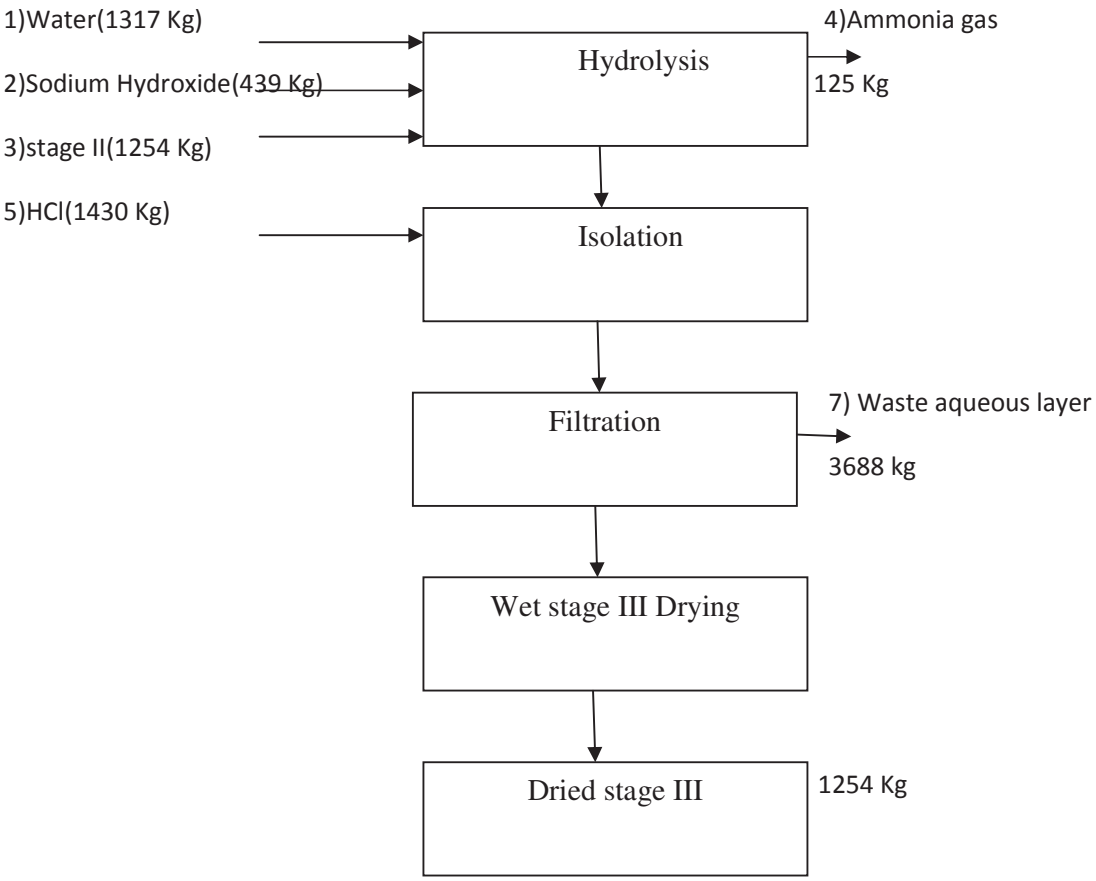


Stage II : Cyanation

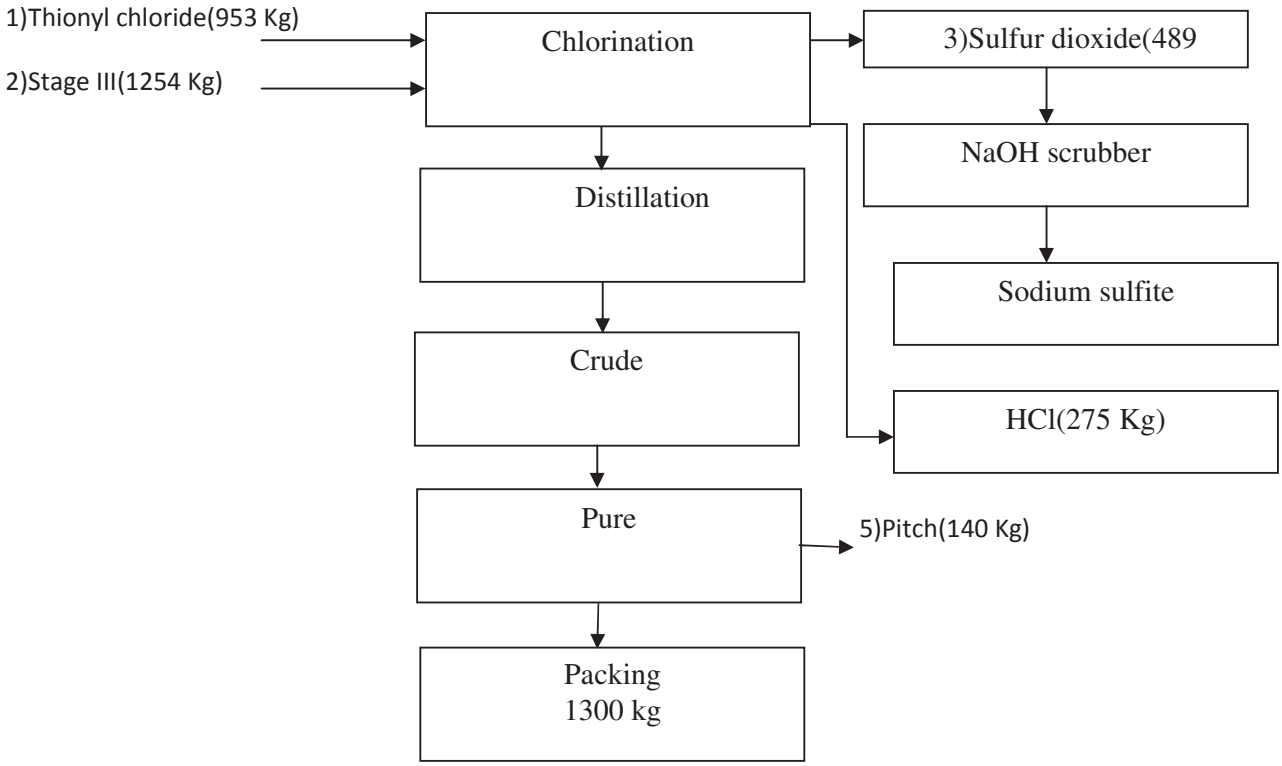
4)Sodium cyanide solution(470 Kg in 1425 Kg water)



Stage III : Hydrolysis



Stage IV : Chlorination



C] BRIEF PROCESS:

Stage I : Chloromethylation

P-xylene is chloromethylated using p-formaldehyde and concentrated hydrochloric acid and zinc chloride as a catalyst.The product is isolated by separating organic layer, followed by sodium carbonate washing to remove excess acidity.The organic layer is distilled out to remove p-xylene followed by fractional distillation gives pure product stage I as 2-(chloromethyl)-1,4-dimethylbenzene

Stage II : Cyanation

Stage I 2-(chloromethyl)-1,4-dimethylbenzene is coverted into cyanide by suing sodium cyanide and toluene as a solvent.The product is isolate by layer separation.The organic layer is distilled out to recover toluene followed by fractional distillation gives pure product stage II as (2,5-dimethylphenyl)acetonitrile

Stage III : Hydrolysis

Stage II is hydrolyzed to acid using sodium hydroxide as a hydrolyzing agent.The product is isolated by acidifying with hydrochloric acid and it is isolated by filtration followed by water washing gives wet product which on drying gives stage III as a 2,4-dimethyl phenyl acetic acid.

Stage IV : Chlorination:

Stage III i.e 2,4-dimethyl phenyl acetic acid is converted into acid chloride using thionyl chloride as a chlorinating agent.the liberated sulphur dioxide gas and hydrochloric acid gas is scrubbed into scrubber. The product is isolated by fractional distillation gives pure product as 2,5-dimethyl phenyl acetyl chloride.

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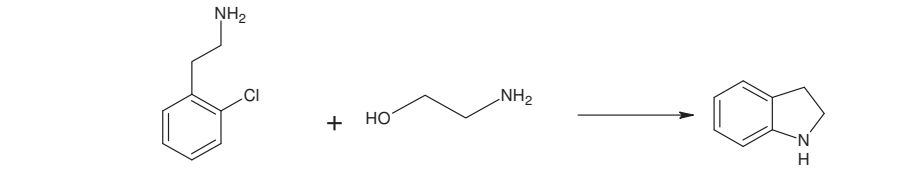
17. INDOLINE

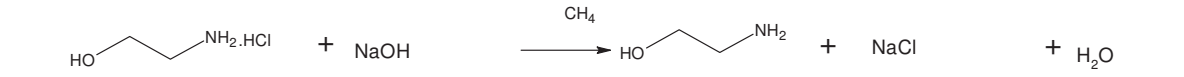
List of Raw materials:

Sr. No.	Name of Raw Material	Batch quantity in Kg
1	2-chloro phenyl ethyl amine	2000
2	Ethanolamine	2800
3	Xylene	2800
4	Sodium Hydroxide	515

A] REACTION:

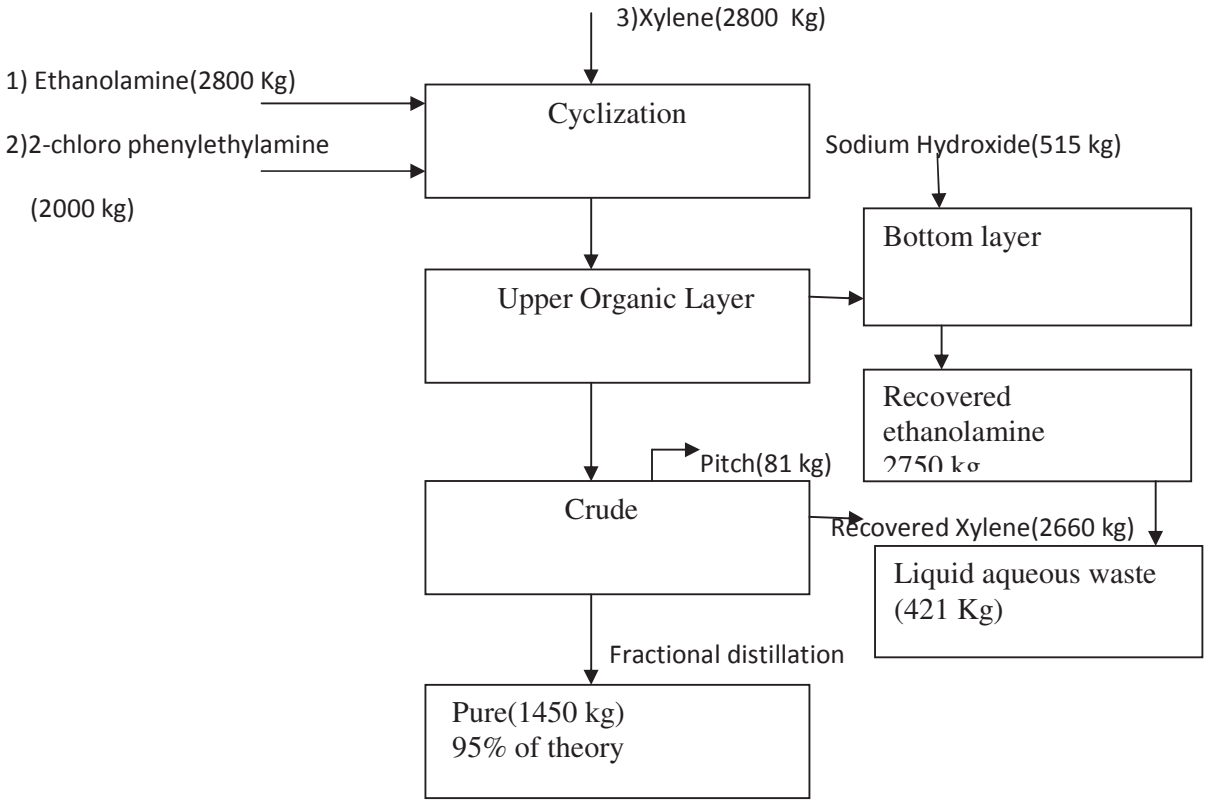


2-(2-chlorophenyl)ethanamine,MW=155.5 Ethanolamine,MW=61 2,3-dihydro-1*H*-indole,MW=119



Ethanolamine hydrochloride,MW=97.5 sodium Hydroxide,MW=40 Ethanolamine,MW=61 Sodium chloride,MW=58.5 water,MW=18

B] FLOW CHART:



C] BRIEF PROCESS:

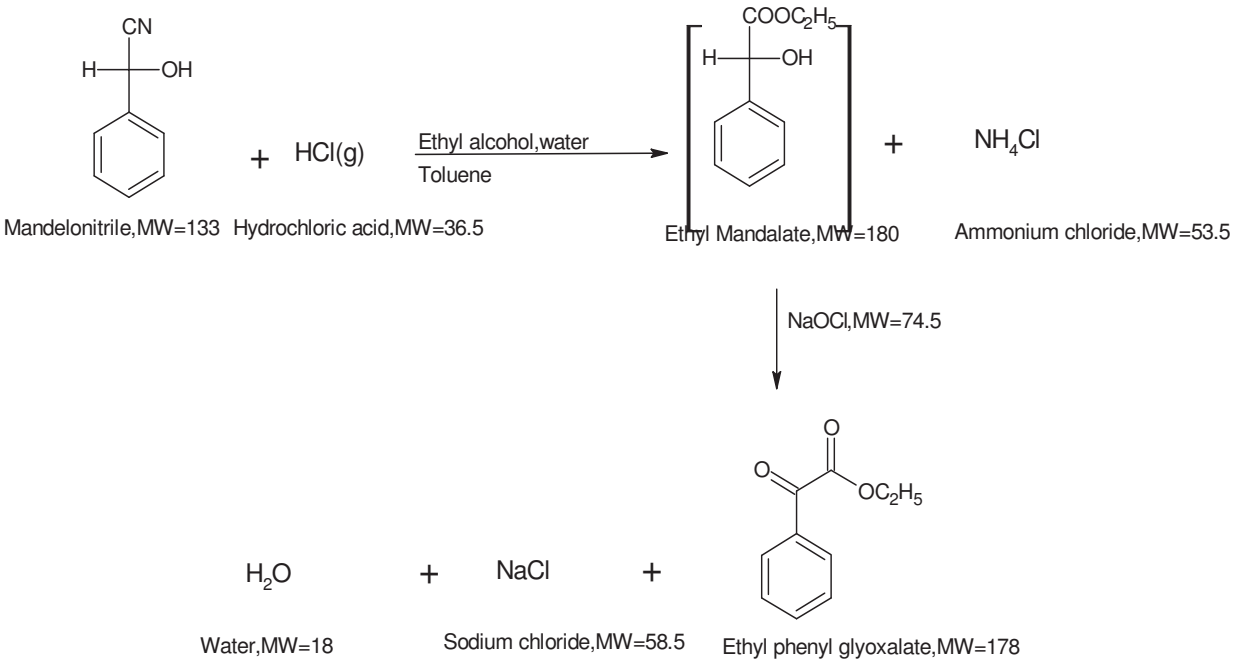
Brief Process:2-chloro phenyl ethylamine is cyclised to 3-indoline by using ethanolamie as a base. The product is isolated by extraction in xylene followed by solvent distillation gives crude product which on fractional distillation gives pure product. The by-product ethanolamine hydrochloride is basified with sodium hydroxide liberates free base which is used in the next reaction.

18. ETHYL PHENYL GLYOXALATE (EPG)

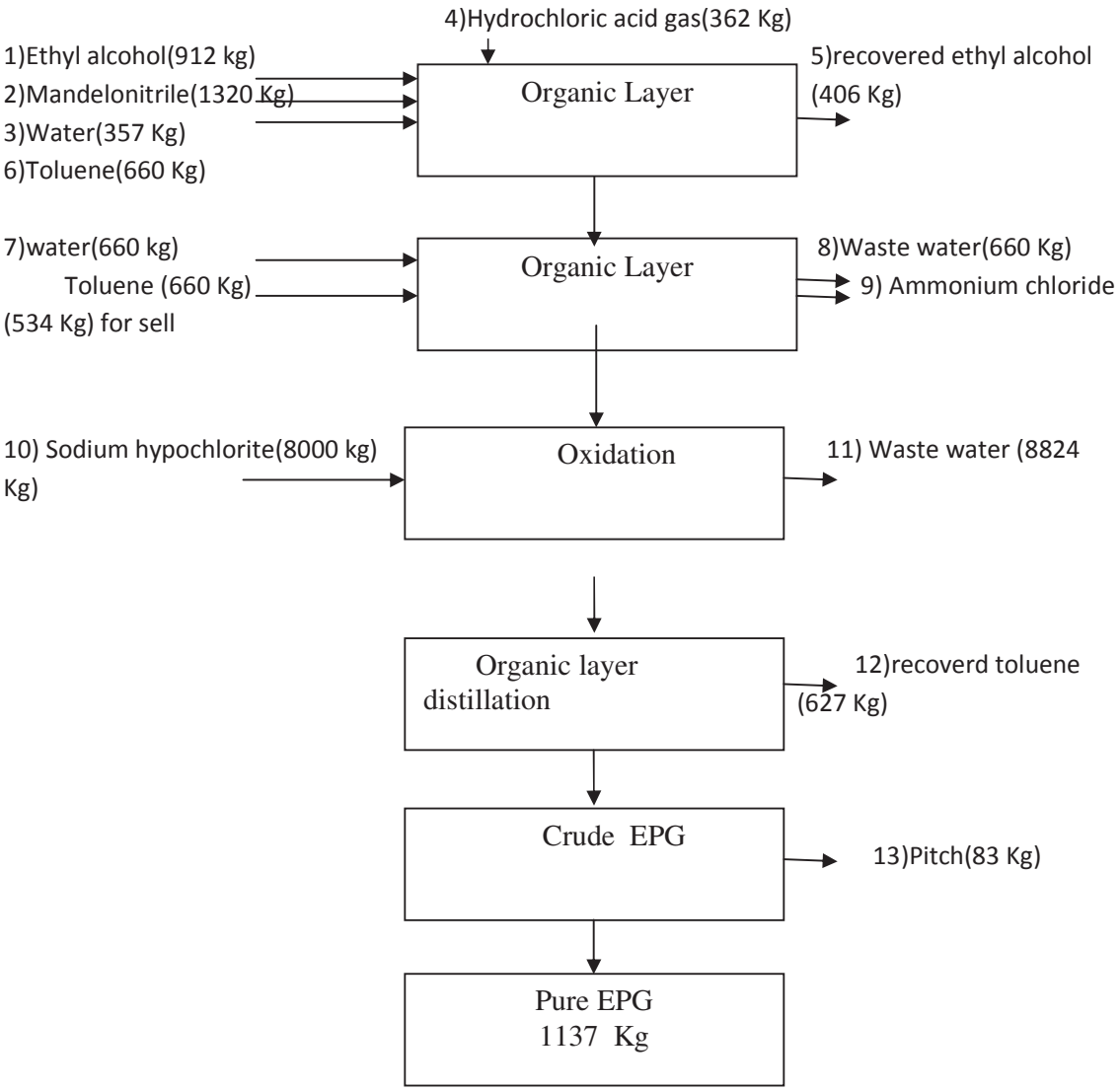
List of Raw materials:

Sr. No.	Name of Raw Material	Batch quantity in Kg
1	Mandelonitrile(MN)	1320 Kg
2	Ethyl alcohol	912 kg
3	Hydrochloric acid gas	362 Kg
4	Wtaer for reaction	357 Kg
5	Toluene	660 Kg
6	Water for dissolution	660

A] REACTION:



B] FLOW CHART:



C] BRIEF PROCESS:

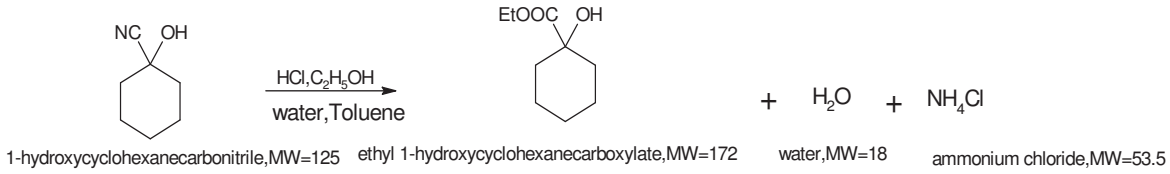
Mandelonitrile is reacted with hydrochloric acid and water and hydrolyzed to acid which is in-situ esterfied with etyla alcohol to give ethyl mandalate. The excess ethyl alcohol is distilled out and re-used in the next batchs. After that water and toluene is added ,water layer is separated which contains ammonium chloride. Organic layer contains product is oxidized with sodium hypochlorite. The organic layer is separated followed by tolune distillation gives crude ethyl phenyl glyoxalate which on fractional distillation gives pure ethyl phenyl glyoxalate.

19. ETHYL-1-HYDROXY CYCLOHEXANE CARBOXYLATE

List of Raw materials:

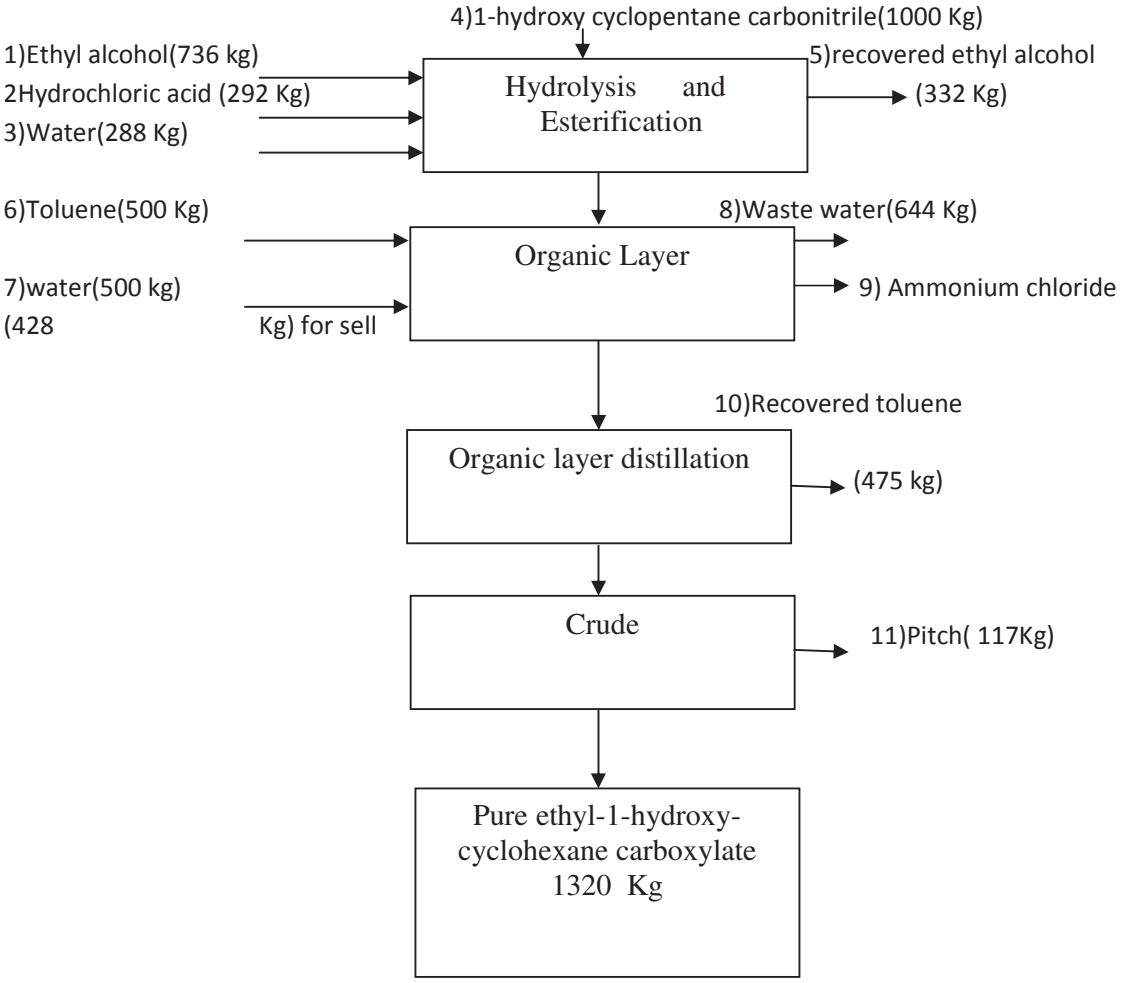
Sr. No.	Name of Raw Material	Batch quantity in Kg
1	1-hydroxy cyclohexane carbonitrile	1000
2	Hydrochloric acid gas	292
3	Ethyl alcohol	736
4	Water for reaction	288
5	Toluene	500
6	Water for washing	500

A] REACTION:



1-hydroxycyclohexanecarbonitrile,MW=125 ethyl 1-hydroxycyclohexanecarboxylate,MW=172 water,MW=18 ammonium chloride,MW=53.5

B] FLOW CHART:



C] BRIEF PROCESS:

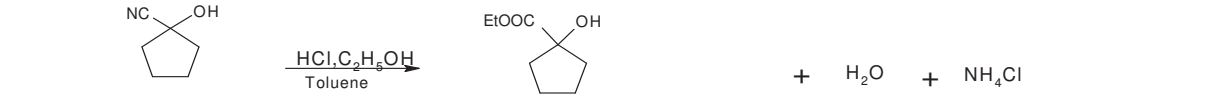
1-hydroxy cyclohexane carbonitrile is hydrolyzed with hydrochloric acid and esterifies with ethanol in-situ gives desired product. The formed product is isolated by adding water followed by toluene extraction. The aqueous layer is separated contains ammonium chloride and organic layer contains product. The solvent is distilled out gives crude product which on fractional distillation gives ethyl-1-hydroxy cyclohexane carboxylate.

20. ETHYL-1-HYDROXY CYCLOPENTANE CARBOXYLATE

List of Raw materials:

Sr. No.	Name of Raw Material	Batch quantity in Kg
1	1-hydroxy cyclopentane carbonitrile	1000 Kg
2	Hydrochloric acid gas	329 kg
3	Ethyl alcohol	829 kg
4	Water for reaction	320 Kg
5	Toluene	500 Kg
6	Water for washing	500

A] REACTION:



1-hydroxycyclopentanecarbonitrile,MW=111 ethyl 1-hydroxycyclopentanecarboxylate,MW-158 water,MW=18 ammonium chloride,MW=53.5

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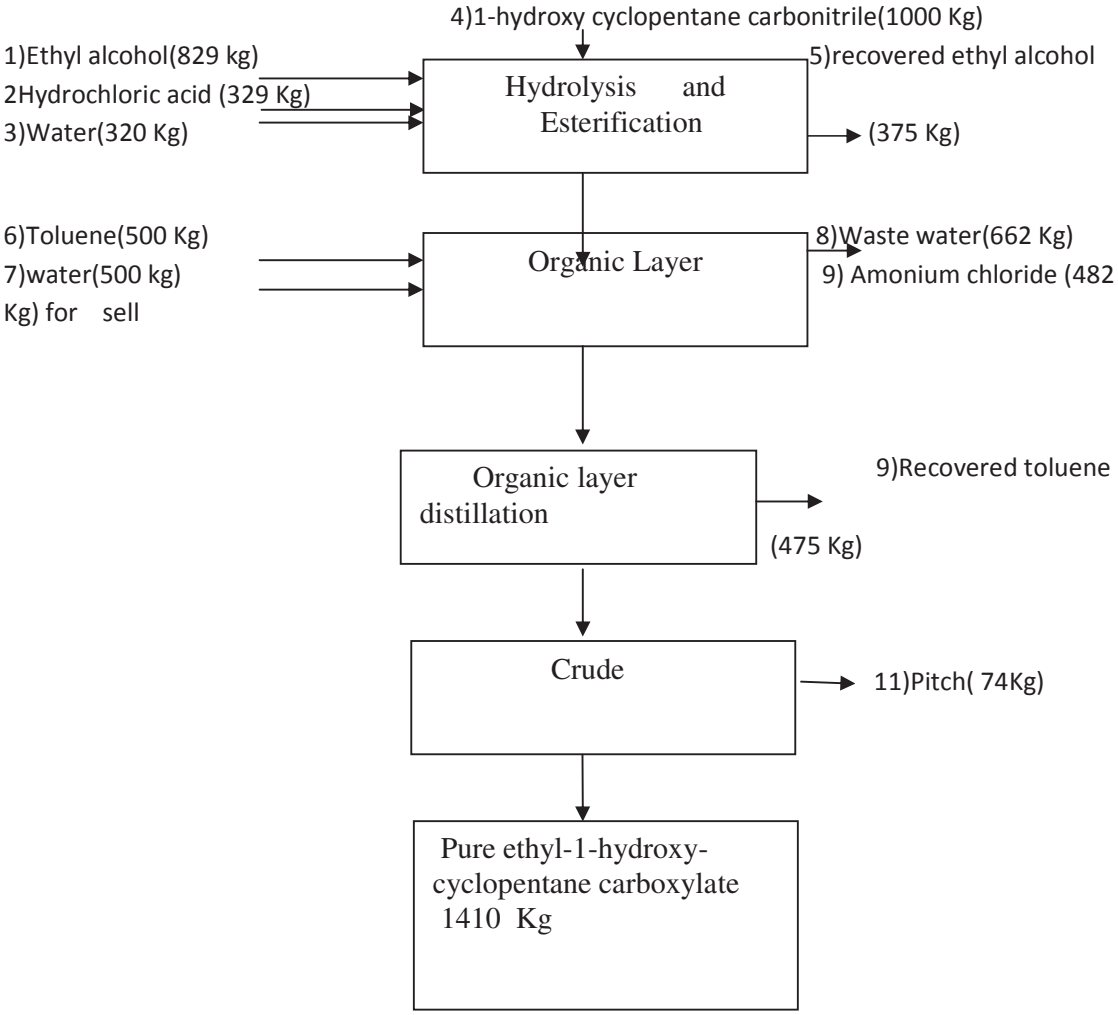
B] FLOW CHART:



C] BRIEF PROCESS:

1-hydroxy cyclopentane carbonitrile is hydrolyzed with hydrochloric acid and esterifies with ethanol in-situ gives desired product. The formed product is isolated by adding water followed by toluene extraction. The aqueous layer is separated contains ammonium chloride and organic layer contains product. The solvent is distilled out gives crude product which on fractional distillation gives ethyl-1-hydroxy cyclopentane carboxylate.

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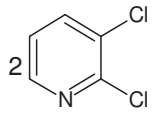
21. 3-CHLORO-2-HYDRAZINYL PYRIDINE

List of Raw materials:

Sr. No.	Name of Raw Material	Batch quantity in Kg
1	2,3-Dichloro pyridine	2000 Kg
2	Hydrazine hydrate (60% aqueous solution)	3587 Kg
3	n- butanol	5000 Kg
4	Potassium carbonate	1840

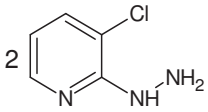
A] REACTION:



+ 2 NH_2NH_2 + K_2CO_3

2,3-dichloropyridine,MW=296 Hydrazine ,MW=64 Potassium carbonate,MW=138

n-Butanol

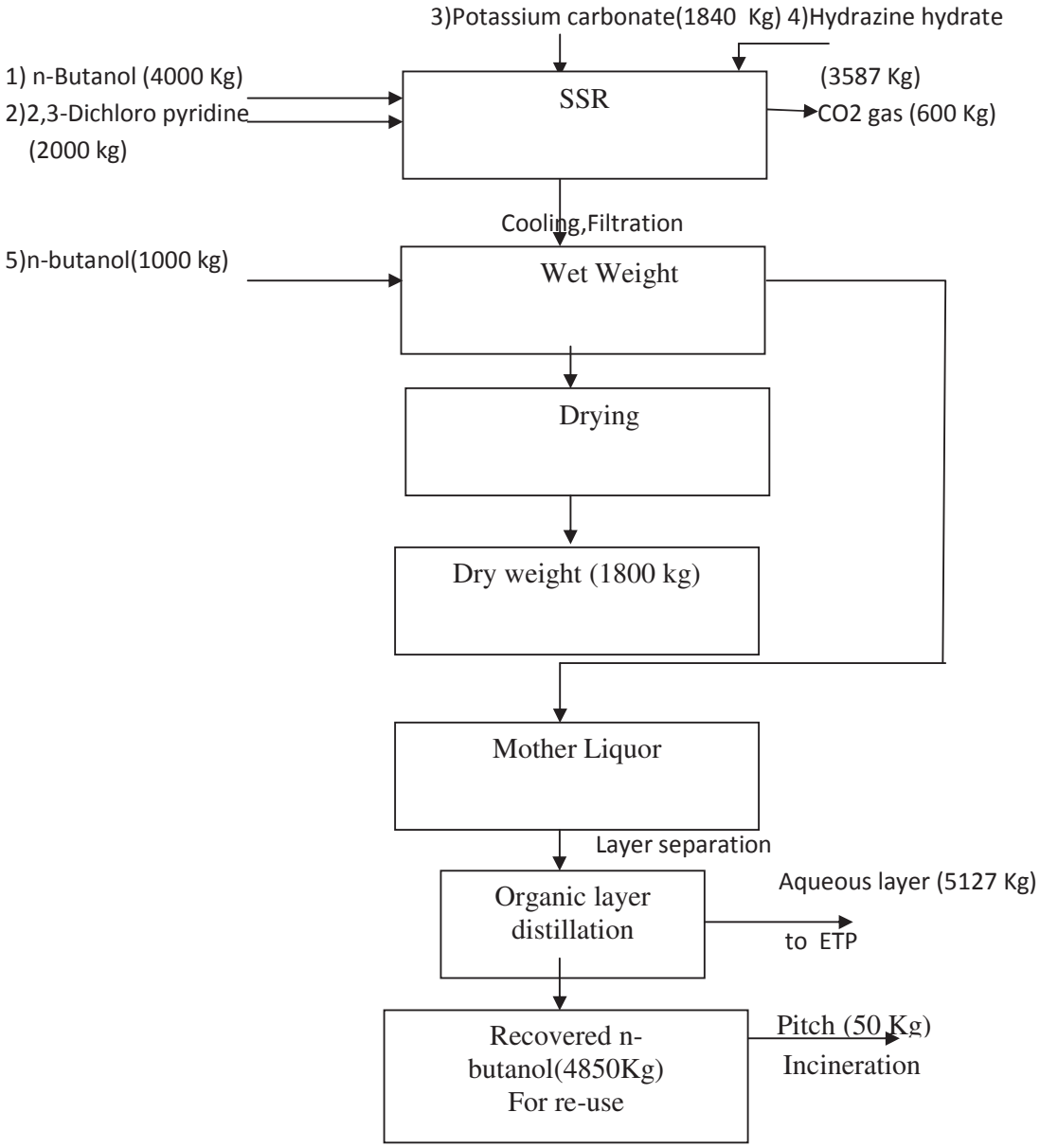


+ 2KCl + CO_2 + H_2O

3-chloro-2-hydrazinylpyridine,MW=287 Potassium Chloride,MW=149 Carbon Dioxide,MW=44 Water,MW=18

??

B] FLOW CHART:



C] BRIEF PROCESS:

2, 3-Dichloro pyridine is reacted with hydrazine hydrate in presence of potassium carbonate as a neutralizing agent and n-butanol as a solvent. The product is precipitated out during course of reaction is isolated by filtration followed by n-butanol washing gives final product 3-chloro-2-hydrazinyl pyridine as a solid. The biphasic mother liquor is separated by layer separation method. Aqueous layer is sent to ETP for treatment and organic layer is taken for n-butanol distillation and recovered n-butanol is re-used for next batch. The remaining pitch after n-butanol distillation is sent for incineration.

MASS BALANCE DETAILS W.R.T EACH PRODUCT TO BE MANUFACTURED UNDER PROPOSED FINE CHEMICAL INTERMEDIATES MANUFACTURING UNIT

1. Product: Sodium Bromide / Zinc Hydroxy / Zinc Oxide

- **Product: Sodium Bromide Sol. 40%= 390 MT/Month**
  Sodium Bromide Powder = 232 MT/Month

Kg per Batch: 9750
Stage: 1 **Batches Per Month: 40**

Name Of The Raw Material	Input qty. in kg / Batch	Recycle qty. in kg / Batch	Liquid Effluent in kg / batch	Solid Waste in kg / batch	Gaseous Emissions in kg / batch	Output in kg / batch
Zinc Bromide 70%	6000					
Sodium Hydroxide Flakes	1600					
Water	4800					
Sodium Bromide 40% Solution						9750
Zinc Hydroxide 30%						2650
Total	**12400**	0	0	0	0	**12400**

Stage : 2

Name Of The Raw Material	Input qty. in kg / Batch	Recycle qty. in kg / Batch	Liquid Effluent in kg / batch	Solid Waste in kg / batch	Emissions in kg / batch	Output in kg / batch
Zinc Hydroxide	2650					
Zinc Oxide					800	1850
Total	**2650**	0	0	0	**800**	**1850**

Stage: 3

Name Of The Raw Material	Input qty. in kg / Batch	Recycle qty. in kg / Batch	Liquid Effluent in kg / batch	Solid Waste in kg / batch	Emissions in kg / batch	Output in kg / batch
Sodium Bromide Solid	9750	3950				5800
Total	**9750**	**3950**	0	0	0	**5800**

??

- **Product: Zinc Hydroxy = 106 MT/Month**

Kg per Batch: 2650
Stage: 1 **Batches Per Month: 40**

Name Of The Raw Material	Input qty. in kg / Batch	Recycle qty. in kg / Batch	Liquid Effluent in kg / batch	Solid Waste in kg / batch	Gaseous Emissions in kg / batch	Output in kg / batch
Zinc Bromide	6000					
Sodium Hydroxide Flakes	1600					
Water	4800					
Sodium Bromide 40% Solution						9750
Zinc Hydroxide 30%						2650
Total	**12400**	0	0	0	0	**12400**

Stage: 2

Name Of The Raw Material	Input qty. in kg / Batch	Recycle qty. in kg / Batch	Liquid Effluent in kg / batch	Solid Waste in kg / batch	Emissions in kg / batch	Output in kg / batch
Zinc Hydroxide	2650					
Zinc Oxide					800	1850
Total	**2650**	0	0	0	**800**	**1850**

- **Product: Zinc Oxide= 74 MT/Month**

Kg per Batch: 1850
Stage: 1 **Batches Per Month: 40**

Name Of The Raw Material	Input qty. in kg / Batch	Recycle qty. in kg / Batch	Liquid Effluent in kg / batch	Solid Waste in kg / batch	Gaseous Emissions in kg / batch	Output in kg / batch
Zinc Bromide	6000					
Sodium Hydroxide Flakes	1600					
Water	4800					
Sodium Bromide 40% Solution						9750
Zinc Hydroxide 30%						2650
Total	**12400**	0	0	0	0	**12400**

??

Stage: 2

Name Of The Raw Material	Input qty. in kg / Batch	Recycle qty. in kg / Batch	Liquid Effluent in kg / batch	Solid Waste in kg / batch	Emissions in kg / batch	Output in kg / batch
Zinc Hydroxide	2650				0	
Zinc Oxide					800	1850
Total	**2650**	0	0	0	**800**	**1850**

2. Product: Di Isopropyl Ethylamine (DIPEA) = 18.18 MT/Month

Kg per Batch: 3030

Stage: 1 **Batches Per Month: 6**

Name Of The Raw Material	Input qty. in kg / Batch	Recycle qty. in kg / Batch	Liquid Effluent in kg / batch	Solid Waste in kg / batch	Gaseous Emissions in kg / batch	Output in kg / batch
Di Isopropylamine	3030	570		150		
Sodium Hydroxide (47%)	1160					
Water	400		2940			
Di Ethyl Sulphate	2100					
Di Isopropyl Ethylamine (DIPEA)						3030
Total	**6690**	**570**	**2940**	**150**	**0**	**3030**

3. Product: Methyl-2-Chloro Phenyl Acetate = 10.3 MT/Month

Kg per Batch: 1030

Stage: 1 **Batches Per Month: 10**

Name Of The Raw Material	Input qty. in kg / Batch	Recycle qty. in kg / Batch	Liquid Effluent in kg / batch	Solid Waste in kg / batch	Gaseous Emissions in kg / batch	Output in kg / batch
2-Chloro Phenyl Acetic Acid	1000			55		
Methanol	500	300				
Sulphuric Acid 98%	50					
Sodium Carbonate	3					
Water	12		180			
Methyl-2-Chloro Phenyl Acetate						1030
Total	**1565**	**300**	**180**	**55**	**0**	**1030**

??

4. Product; 4 Methoxy Phenyl Acetone= 10 MT/Month

Kg per Batch: 1000

Stage: 1 **Batches Per Month: 10**

Name Of The Raw Material	Input qty. in kg / Batch	Recycle qty. in kg / Batch	Liquid Effluent in kg / batch	Solid Waste in kg / batch	Gaseous Emissions in kg / batch	Output in kg / batch
Para Anisaldehyde	1000			200		
Methyl 2 Chloro Propionate	975				CO_2 323	
Sodium Methoxide	440				Methanol 515	
Water	1750		2827			
Sodium Hydroxide	300					
Sulphuric Acid	400					
4 Methoxy Phenol Acetone						1000
Total	**4865**	**0**	**2827**	**200**	**838**	**1000**

5. Product: 2,3 Dichloro Pyridine= 10 MT/Month

Kg per Batch: 250

Stage: 1 **Batches Per Month: 40**

Name Of The Raw Material	Input qty. in kg / Batch	Recycle qty. in kg / Batch	Liquid Effluent in kg / batch	Solid Waste in kg / batch	Gaseous Emissions in kg / batch	Output in kg / batch
3-Amino Pyridine	250			75	N_2-74	
HCl 30%	2900					
Hydrogen Peroxide 50%	194					
Sodium Nitrate	194					
Water	2200	1875				
Sodium Hydroxide Flakes	835					
Cupric Chloride Dihydrate	42					
Sulphuric Acid	42					
Iso Propyl Alcohol	75	50				
Liquid Waste			4408			
2,3 Dichloro Pyridine						250
Total	**6732**	**1925**	**4408**	**75**	**74**	**250**

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6. Product: 2-Amino-2-Phenyl Butyric Acid= 6.5 MT/Month

Kg per Batch: 650

Stage: 1 **Batches Per Month: 10**

Name Of The Raw Material	Input qty. in kg / Batch	Recycle qty. in kg / Batch	Liquid Effluent in kg / batch	Solid Waste in kg / batch	Gaseous Emissions in kg / batch	Output in kg / batch
Propiophenone	550					
Methanol	700					
Ammonium Bi Carbonate	660					
Sodium Cyanide	225					
Acetic Acid	135					
Water	800		2070			
5 Phenyl-5-Ethyl Hydantoin						1000
Total	**3070**	**0**	**2070**	**0**	**0**	**1000**

Stage: 2

Name Of The Raw Material	Input qty. in kg / Batch	Recycle qty. in kg / Batch	Liquid Effluent in kg / batch	Solid Waste in kg / batch	Gaseous Emissions in kg / batch	Output in kg / batch
5-Phenyl-5-Ethyl Hydantoin	1000					
Sodium Hydroxide	675				Water vapour - 150	
Water	1725		4600			
Hydrochloric Acid 30%	2000					
2-Amino-2-Phenyl Butyric Acid						650
Total	**5400**	**0**	**4600**	**0**	**150**	**650**

7. Product: Ortho Hydroxy Phenyl Acetic Acid = 15 MT/Month

Kg per Batch: 750
Stage: 1 **Batches Per Month: 20**

Name Of The Raw Material	Input qty. in kg / Batch	Recycle qty. in kg / Batch	Liquid Effluent in kg / batch	Solid Waste in kg / batch	Gaseous Emissions in kg / batch	Output in kg / batch
2-Chloro Phenyl Acetic Acid	1000			60		
Sodium Hydroxide	940					
Copper Sulphate	40					
HCl 30%	2850					
Water	2200		6070		150	
OHPAA						750
Total	**7030**	**0**	**6070**	**60**	**150**	**750**

8. Product: 2 Coumaranone = 12.4 MT/Month

Kg per Batch: 620
Stage: 1 **Batches Per Month: 20**

Name Of The Raw Material	Input qty. in kg / Batch	Recycle qty. in kg / Batch	Liquid Effluent in kg / batch	Solid Waste in kg / batch	Gaseous Emissions in kg / batch	Output in kg / batch
Ortho Hydroxy Phenyl Acetic Acid	750			30	Water Vapour 100	
2 Coumaranone						620
Total	**750**	0	0	**30**	**100**	**620**

9. Product: 3-Isochromanone= 12 MT/Month

Kg per Batch: 600
Stage: 1 **Batches Per Month: 20**

Name Of The Raw Material	Input qty. in kg / Batch	Recycle qty. in kg / Batch	Liquid Effluent in kg / batch	Solid Waste in kg / batch	Gaseous Emissions in kg / batch	Output in kg / batch
Ortho Methyl Phenyl Acetic Acid	1000	100		60	HCl 210	
Monochloro Benzene	1500	1300			200	
Catalyst	20					
Chlorine	408					
Water	2000		3298			
Ammonia 25%	840					
Toluene	600	400			200	
3-Isochromanone						600
Total	**6368**	**1800**	**3298**	**60**	**610**	**600**

??

Stage: 2

Name Of The Raw Material	Input qty. in kg / Batch	Recycle qty. in kg / Batch	Liquid Effluent in kg / batch	Solid Waste in kg / batch	Gaseous Emissions in kg / batch	Output in kg / batch
Hydrochloric Acid Gas	210					
Water	490					
Hydrochloric Acid 30%						700
Total	**700**	**0**	**0**	**0**	**0**	**700**

10. Product: 2,6 Dichloro Benzoyl Chloride = 22.1 MT/Month

Kg per Batch: 850

Stage: 1 **Batches Per Month: 26**

Name Of The Raw Material	Input qty. in kg / Batch	Recycle qty. in kg / Batch	Liquid Effluent in kg / batch	Solid Waste in kg / batch	Gaseous Emissions in kg / batch	Output in kg / batch
2,6 Dichloro Benzaldehyde	900		1505	190		
Nitric Acid 60%	1350	1030			240	
Sodium Hydroxide Flakes	230					
HCl 30%	650					
Thionyl Chloride	1170	500			HCl 215 SO_2 390	
Water	650				30	
2,6 Dichloro Benzoyl Chloride						850
Total	**4950**	**1530**	**1505**	**190**	**875**	**850**

Stage : 2

Name Of The Raw Material	Input qty. in kg / Batch	Recycle qty. in kg / Batch	Liquid Effluent in kg / batch	Solid Waste in kg / batch	Emissions in kg / batch	Output in kg / batch
Nitrous acid	240					Sodium nitrite 30% soln.
Caustic soda	205					
water	725					
Total	**1170**					**1170 Kg**
Hcl	215					HCl 30% w/w Soln.
Water	500					
Total	**715**					**715**
Sulpher dioxide	390					Sodium Sulphite 25 % w/w soln.
Sodium Hydroxide Flakes	490					
Water	2195					
Total	**3075**					3075
Grand Total	**4960**	0	0	0	0	**4960**

11. Product: Methyl-2-Dimethylamino-2-Phenyl Butyrate= 10 MT/Month

Kg per Batch: 1000

Stage: 1 **Batches Per Month: 10**

Name Of The Raw Material	Input qty. in kg / Batch	Recycle qty. in kg / Batch	Liquid Effluent in kg / batch	Solid Waste in kg / batch	Gaseous Emissions in kg / batch	Output in kg / batch
2-Amino-2-Phenyl Butyric Acid	1000		3970	40	CO_2 490	
Toluene	1800	1600			200	
Dimethyl Sulphate	760					
Sodium Hydroxide Flakes	40					
Formic Acid	800					
Formaldehyde 37%	1100					
Water	1800					
Methyl-2-Dimethylamino-2-Phenyl Butyrate						1000
Total	**7300**	**1600**	**3970**	**40**	**690**	**1000**

12. Product: 2-Dimethylamino-2-Phenyl Butanol = 3.01 MT/Month

Kg per Batch: 430

Stage: 1 **Batches Per Month: 7**

Name Of The Raw Material	Input qty. in kg / Batch	Recycle qty. in kg / Batch	Liquid Effluent in kg / batch	Solid Waste in kg / batch	Gaseous Emissions in kg / batch	Output in kg / batch
Methyl-2-Dimethylamine-2-Phenyl Butyrate	550		3150		170	
Toluene	720	870				
Vitride 70%	1070					
Sodium Hydroxide Flakes	280					
Water	2000					
2-Dimethylamino-2-Phenyl Butanol						430
Total	**4620**	**870**	**3150**	**0**	**170**	**430**

13. Product: P-Bromonisole / 4-Bromo Anisole =16.5 MT/Month

Kg per Batch: 1650

Stage: 1 **Batches Per Month: 10**

Name Of The Raw Material	Input qty. in kg / Batch	Recycle qty. in kg / Batch	Liquid Effluent in kg / batch	Solid Waste in kg / batch	Gaseous Emissions in kg / batch	Output in kg / batch
Anisole	1000		2030	160	Water vapor- 10	
HBr(48%) w/w	1625		550			
Hydrogen Peroxide (50%) w/w	750					
Water	500					
Sodium thiosulphate	25					
Water	500					
P- Bromonisole						1650
Total	**4400**	**0**	**2580**	**160**	**10**	**1650**

14. Product: Para Bromo Phenetole / 4-Bromophenetole=14.5 MT/Month

Kg per Batch: 1450

Stage: 1 **Batches Per Month: 10**

Name Of The Raw Material	Input qty. in kg / Batch	Recycle qty. in kg / Batch	Liquid Effluent in kg / batch	Solid Waste in kg / batch	Gaseous Emissions in kg / batch	Output in kg / batch
Phenetole	1000		1868		Water Vapor - 10	
hydrobromic Acid (48%)w/w	1450		550			
Hydrogen Peroxide (30%)w/w	1100					
Sodium thio-Sulphate Soln.(5%) w/w	525					
P- Bromo phenetole						1450
2,4 Dibromophenetrol (crude)						197
Total	**4075**	**0**	**2418**	**0**	**0**	**1647**

Stage: 2

Name Of The Raw Material	Input qty. in kg / Batch	Recycle qty. in kg / Batch	Liquid Effluent in kg / batch	Solid Waste in kg / batch	Gaseous Emissions in kg / batch	Output in kg / batch
2,4 Dibromophenetole (crude)	197			22		
2,4 Dibromophenetole (Pured)						175
Total	**197**	**0**	**0**	**22**	**0**	**175**

15. Product: 2,4- Dicloro Phenyl Acetyl

Kg per Batch: 2000

Stage I: Cyanation **Batches per month:25**

Name Of The Raw Material	Input qty. in kg / Batch	Recycle qty. in kg / Batch	Liquid Effluent in kg / batch	Solid Waste in kg / batch	By-product	Gaseous Emissions in kg / batch	Output in kg / batch
2,4-Dichloro benzyl chloride	2000						
Triethyl amine	20						
Sodium cyanide	500						
Water for sodium cyanide dissolution	2000		2620	150 kg pitch			
Toluene	1000	950					
Total	**5520**	**950**	**2620**	**150**			**1800**

Stage II: Hydrolysis

Name Of The Raw Material	Input qty. in kg / Batch	Recycle qty. in kg / Batch	Liquid Effluent in kg / batch	Solid Waste in kg / batch	By-product	Gaseous Emissions in kg / batch	Output in kg / batch
Stage I Product	1800					157	
Sodium Hydroxide	486						
Water for sodium hydroxide dissoltion	1944	2483					
Conc. HCl	1800	1800					
Water for washing	900	900					
Total	**6930**	**5183**				**157**	**1590**

Stage III: Chlorination

Name Of The Raw Material	Input qty. in kg / Batch	Recycle qty. in kg / Batch	Liquid Effluent in kg / batch	Solid Waste in kg / batch	By-product	Gaseous Emissions in kg / batch	Output in kg / batch
Stage II Product	1590					283	
Thionyl Chloride	944					496	
Total	**2534**			**165 pitch**		**779**	**1590**

16. 2,5-Dimethyl Phenyl Acetyl Chloride

Kg per Batch: 2000

Stage I: Chloromethylation **Batches per month:25**

Name Of The Raw Material	Input qty. in kg / Batch	Recycle qty. in kg / Batch	Liquid Effluent in kg / batch	Solid Waste in kg / batch	By-product	Gaseous Emissions in kg / batch	Output in kg / batch
P-xylene	1500	450			145 pitch		
p-formaldehyde	1110		780				
Conc. HCl	4665		4800				
Zinc Chloride	45		50				
Sodium carbonate	30						
water	300						
Total	**7650**	**450**	**5630**		**145**		**1425**

Stage II: Cyanation

Name Of The Raw Material	Input qty. in kg / Batch	Recycle qty. in kg / Batch	Liquid Effluent in kg / batch	Solid Waste in kg / batch	By-product	Gaseous Emissions in kg / batch	Output in kg / batch
Stage I Product	1425						
Sodium cyanide	470						
Water for sodium cyanide dissolution	1425						
Toluene	712	676	1966				
Sodium carbonate	14						
Total	**4046**	**676**	**1966**	**150 pitch**			**1254**

Stage III: Hydrolysis

Name Of The Raw Material	Input qty. in kg / Batch	Recycle qty. in kg / Batch	Liquid Effluent in kg / batch	Solid Waste in kg / batch	By-product	Gaseous Emissions in kg / batch	Output in kg / batch
Stage II Product	1254				125		
Sodium Hydroxide	439						
Water for sodium hydroxide dissoltion	1317		1631				
Conc. HCl	1430		1430				
Water for washing	627		627				
Total	**5067**		**3688**		**125**		**1254**

Stage IV: Chlorination

Name Of The Raw Material	Input qty. in kg / Batch	Recycle qty. in kg / Batch	Liquid Effluent in kg / batch	Solid Waste in kg / batch	By-product	Gaseous Emissions in kg / batch	Output in kg / batch
Stage III Product	1254				275		
Thionyl chloride	950				489		
Total	**2204**				**764**	**140 pitch**	**1300**

17. Indoline

Kg per Batch: 2000
Batches per month: 25

Name Of The Raw Material	Input qty. in kg / Batch	Recycle qty. in kg / Batch	Liquid Effluent in kg / batch	Solid Waste in kg / batch	Gaseous Emissions in kg / batch	Output in kg / batch
2-chloro phenyl ethyl amine	2000			81		
Ethanolamine	2800	2750	50			
Xylene	2800	2660	140			
Sodium Hydroxide	515		984			
Total	**8115**	**5410**	**1174**	**81**		**1450**

18. Ethyl Phenyl Glyoxalate (Epg)

Kg per Batch: 1320
Batches per month: 25

Name Of The Raw Material	Input qty. in kg / Batch	Recycle qty. in kg / Batch	Liquid Effluent in kg / batch	Solid Waste in kg / batch	By-product	Gaseous Emissions in kg / batch	Output in kg / batch
Mandelonitrile(MN)	1320 kg				534 kg		
Ethyl alcohol	912 kg	406 kg					
HCl (gas)	362 Kg						
Water	357 kg						
Water for dissolution	660 kg		660 kg				
Toluene	660 Kg	627 kg					
Sodium hypochlorite(10% assay)	8000 kg		8824	83 kg pitch			
Total	**12271**	**1033**	**9484**	**83**	**534**		**1137**

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19. Ethyl-1-Hydroxy Cyclohexane Carboxylate

Kg per Batch: 1000
Batches per month: 25

Name Of The Raw Material	Input qty. in kg / Batch	Recycle qty. in kg / Batch	Liquid Effluent in kg / batch	Solid Waste in kg / batch	By-product	Gaseous Emissions in kg / batch	Output in kg / batch
1-hydroxy cyclohexane carbonitrile	1000			117 kg pitch	428		
Hydrochloric acid gas	292						
Ethyl alcohol	736	332					
water	288						
Toluene	500	475					
Water for washing	500		644				
Total	3316	807	644	117	428		1320

20. Ethyl-1-Hydroxy Cyclopentane Carboxylate

Kg per Batch: 1000
Batches per month: 25

Name Of The Raw Material	Input qty. in kg / Batch	Recycle qty. in kg / Batch	Liquid Effluent in kg / batch	Solid Waste in kg / batch	By-product	Gaseous Emissions in kg / batch	Output in kg / batch
1-hydroxy cyclopentane carbonitrile	1000			74 Kg pitch	482		
Hydrochloric acid gas	329						
Ethyl alcohol	829	375					
Water for reaction	320						
Toluene	500	475					
Wtaer for washing	500		662				
Total	3478	850	662	74 kg pitch	482		1410

21. 3-Chloro-2-Hydrazinyl Pyridine

Kg per Batch: 2000
Batches per month: 20

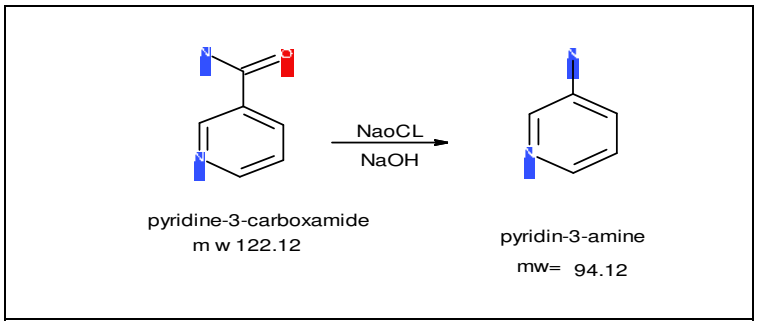
Name Of The Raw Material	Input qty. in kg / Batch	Recycle qty. in kg / Batch	Liquid Effluent in kg / batch	Solid Waste in kg / batch	Gaseous Emissions in kg / batch	Output in kg / batch
2,3-Dichloro pyridine	2000				600 Kg CO2	
Hydrazine hydrate(60% aqueous solution)	3587		5127			
n-butanol	5000	4850		50 kg pitch		
Potassium carbonate	1840					
Total	12427	4850	5127	50	600	1800

Ann. II : BREIF MANUFACTURING PROCESS:

22. 3-AMINO PYRIDINE

Manufacturing process :-Preparation of 3- Amino pyridine by Nicotinamide in single step in the presence of sodium hypochlorite , 30%NaOH .

CHEMICAL REACTION :-



MASS BALANCE :-

No any gas Emission during reaction

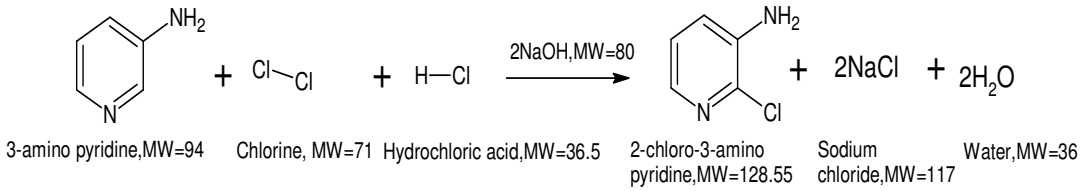
IN PUT RAW MATERIAL		Unit
Nicotinamide	1347	kg
Water	5987	kg
NaOH Lot -I	526	kg
NaOH Lot-II	3885	kg
Sodium Hypochlorite (10-12%)	8628	kg
Sodium Sulphate	4609	kg
IPA	6815	kg
MDC	2694	kg
Total	34491	kg

SSR for Reaction

OUT PUT		Unit
3-Amino Pyridine	1000	kg
Aq.MLR (water)	24461	kg
pH	>9	
TDS	24-25%	
IPA (Recovered)	6474	kg
MDC (Recovered)	2556	kg
COD	2-3%	
Total	34491	kg

22. 3-amino-2-chloro pyridine:

Reaction Scheme:

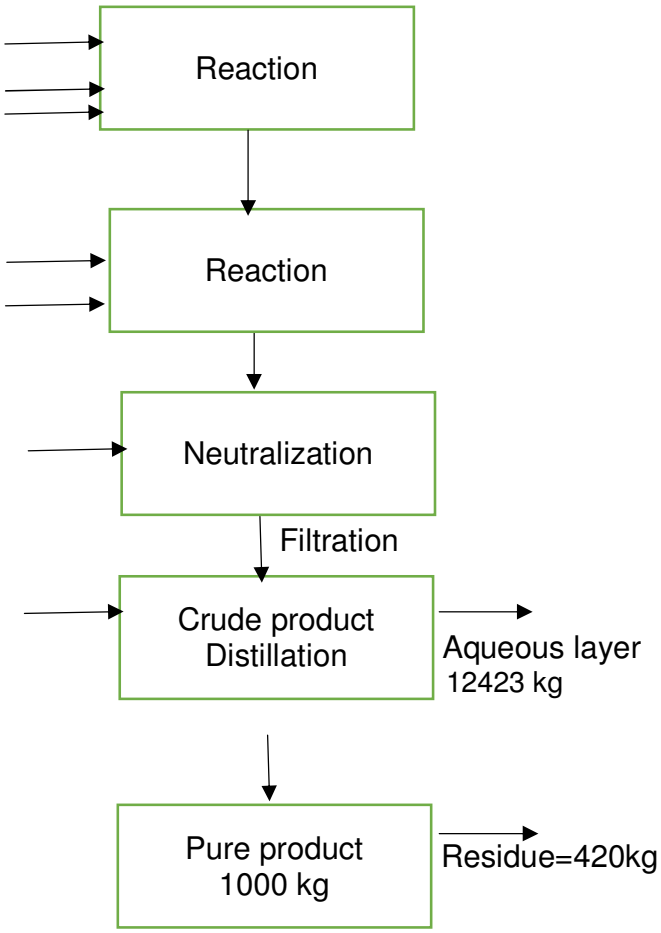


Brief Process:

3-Amino pyridine is reacted with chlorine gas in presence of catalyst kit Kat and aqueous HCl as a protonating agent to gives 3-amino-2-chloro pyridine as a major product along with isomer. The excess chlorine is destroyed by sodium bisulfite and the product is isolated by neutralization with caustic lye. It is isolated by filtration followed by distillation to get pure product.

Flow Chart:

1)3-Amino Pyridine =950 kg
2) HCl (30%) =5340 kg
3) Kitkat=220 kg



4) Chlorine =700 kg
5) Sodium bisulfite=8 kg

6) Caustic lye (48%) =2750

7) Water=3875

Material Balance:

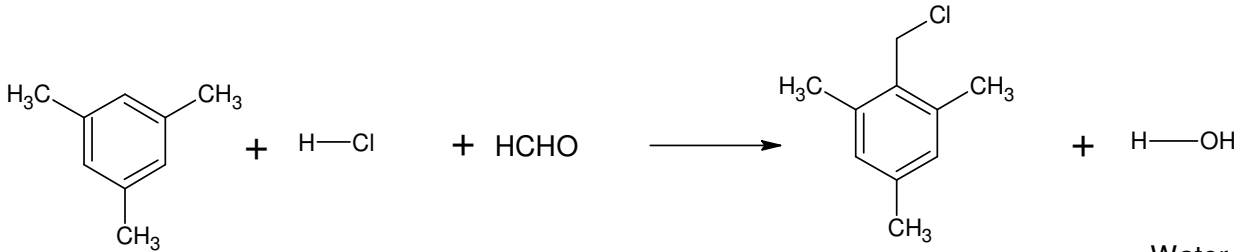
Material Balance of 3-amino-2-chloro pyridine

Batch Size: 1010 Kgs

Name of the input	Quantity in Kg		Name of the out put	Quantity in Kg
3-Amino Pyridine	950		3-Amino-2-chloro pyridine	1000
Conc. HCl (32%)	5340		Effluent water to ETP	12423
KitKat	220		TDS (%)	11.88
Chlorine gas	700		COD (%)	0.44
Caustic lye (48%)	2750		PH(Basic)	9-10
Water	3875		Spent residue	420
Sodium bisulfite	8			
Total	13843		Total	13843

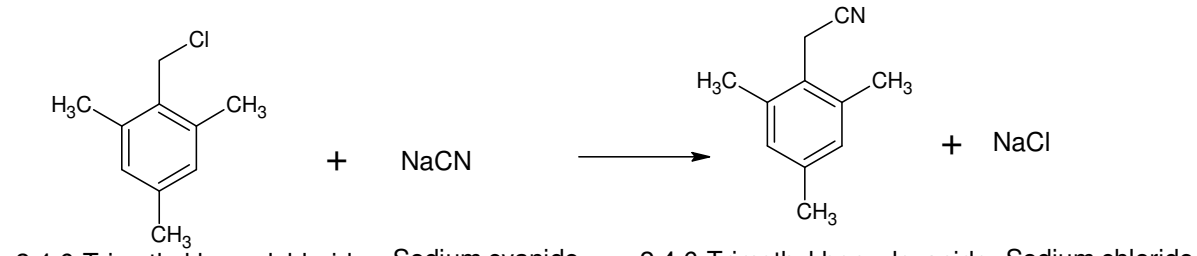
23. 2, 4, 6-Trimethyl phenylacetylchloride:

Reaction Scheme:



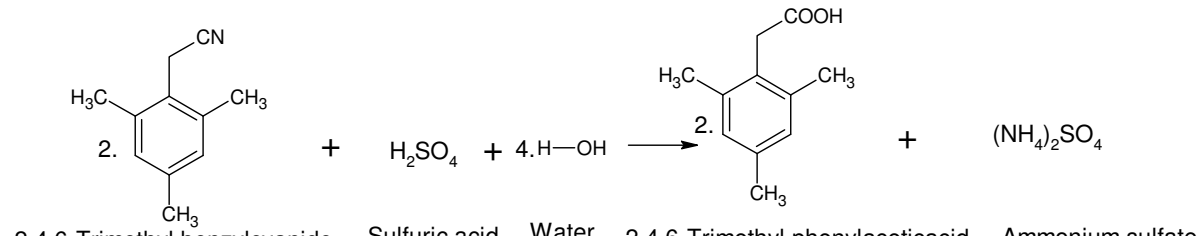
Mesitylene MW=120 | Hydrochloric acid MW=36.5 | Formaldehyde MW=30 | 2,4,6-trimethyl benzylchloride MW=168.5 | Water MW=18

Stage II (Cyanation):



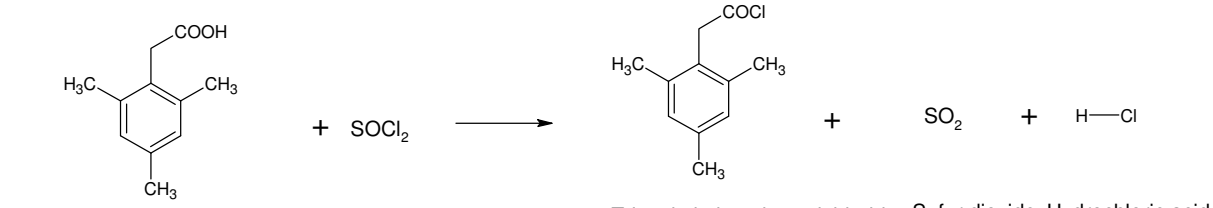
2,4,6-Trimethyl benzylchloride MW=168.5 | Sodium cyanide MW=49 | 2,4,6-Trimethyl benzylcyanide MW=159 | Sodium chloride MW=58.5

Stage III (Hydrolysis):



2,4,6-Trimethyl benzylcyanide MW=318 | Sulfuric acid MW=98 | Water MW=72 | 2,4,6-Trimethyl phenylaceticacid MW=356 | Ammonium sulfate MW=132

Stage IV (Chlorination):



2,4,6-Trimethyl phenylaceticacid MW=178 | Thionyl chloride MW=119 | 2,4,6-Trimethyl phenylacetylchloride MW=196.5 | Sufur dioxide MW=64 | Hydrochloric acid MW=36.5

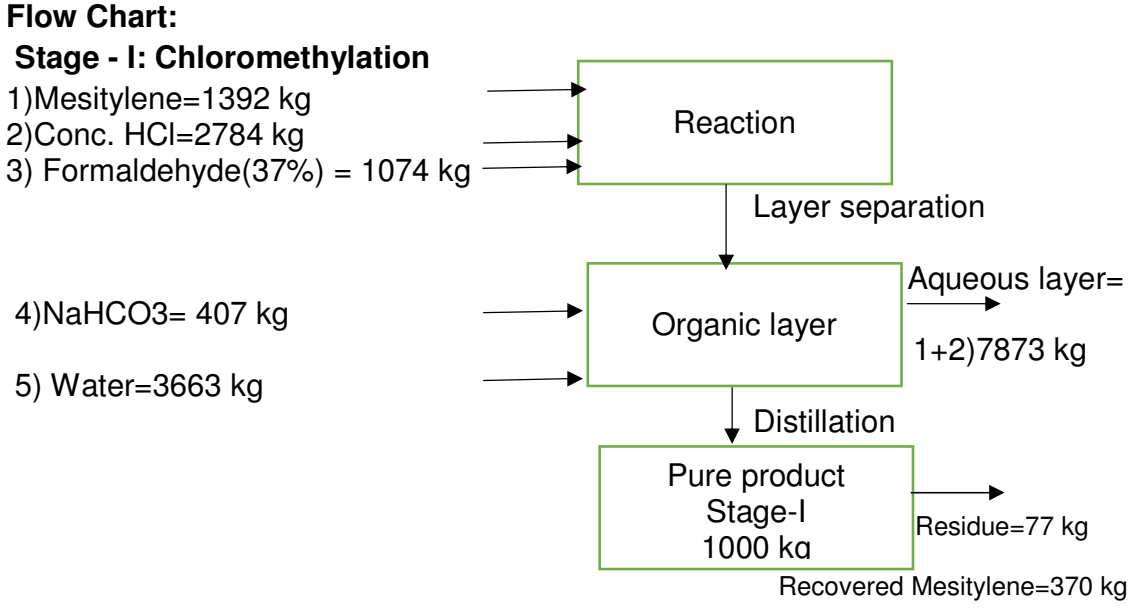
Stage I: Mesitylene is chloromethylaed with Conc. Hydrochloric acid and formaldehyde gives 2, 4, 6-Trimethyl benzyl chloride (Stage-I) along with bis impurity. The product is isolated by layer separation followed by brine sodium bicarbonate washing. The product is purified by fractional distillation to give impurity free pure stage I.

Stage II: Stage I is cyanated with aqueous sodium cyanide and toluene as a solvent. The product is isolated by layer separation followed by solvent distillation to give 2, 4, 6-Trimethyl benzyl cyanide (Stage-II) which is directly taken for next stage i.e. hydrolysis.

Stage III: Stage II i.e. 2, 4, 6-Trimethyl benzyl cyanide is hydrolyzed with 60% sulfuric acid at elevated temperature. The product is isolated by filtration followed by water washing. The final product is dried under vacuum to give moisture free acid.

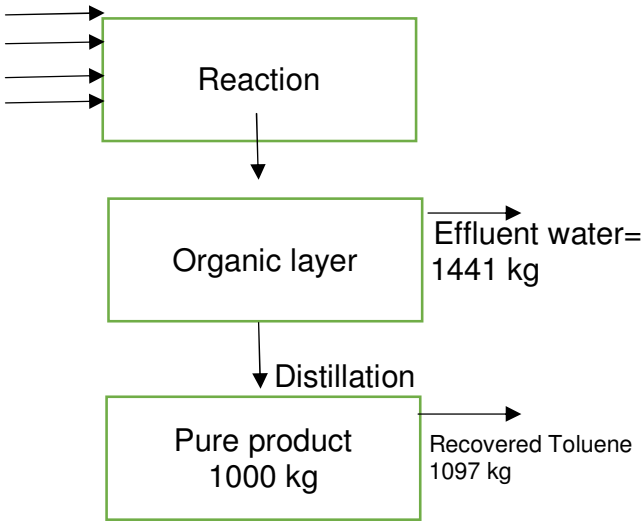
Stage IV: 2, 4, 6-Trimethyl phenyl acetic acid is chlorinated with thionyl chloride. The product is isolated by fractional distillation to give pure **2, 4, 6-Trimethyl phenylacetylchloride.**

Flow Chart:



Stage- II:Cyanation

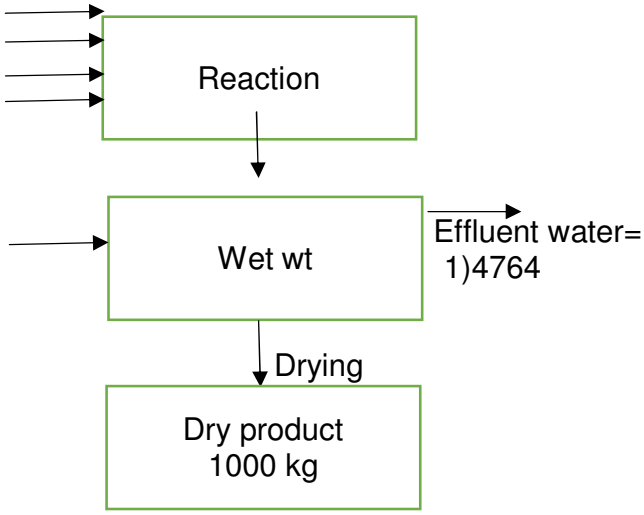
1) Water =858 kg
2) NaCN= 370 kg
3) Stage I= 1155 kg
4)Toluene= 1155 kg



Stage- III:Hydrolysis

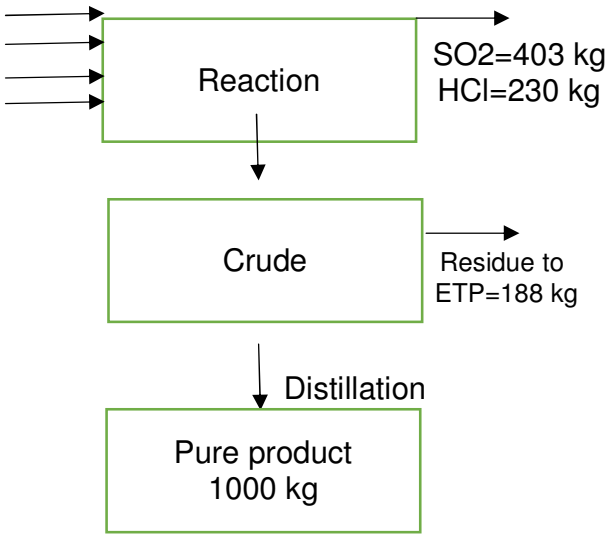
1) H2SO4 =1789 kg
2) Water= 1192 kg
3) Stage II= 994 kg

4) Water= 1789 kg



Stage- IV:Chlorination

1) Stage III =1068 kg
2) Thionyl chloride= 748 kg
3) DMF= 5 kg



???

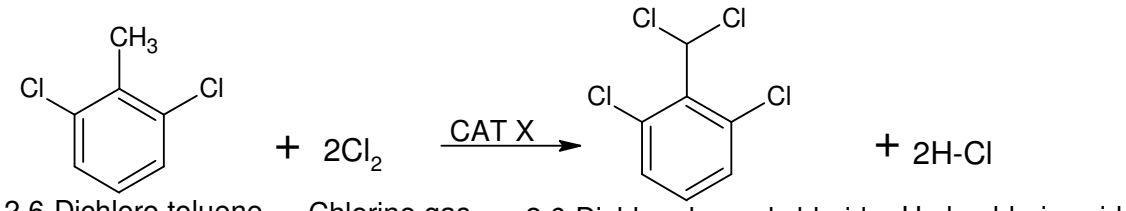
Material Balance: Material Balance of 2,4, 6-trimethyl phenyl acetyl chloride Batch Size: 1000 Kgs				
Name of the input	Quantity in Kg		Name of the out put	Quantity in Kg
Stage-I(Chloromethylation)			Output	
Mesitylene	1392		Stage I	1000
Conc. HCl	2784		Recovered Mesitylene for re-use	370
Formaldehyde (37%)	1074		Aqueous layer(I +II)	7873
Sodium bicarbonate	407		COD (%)	0.93
Water(I)	3663		PH(acidic)	1-2
			Residue	77
Total	9320		Total	9320
Stage II (Cyanation)				
Stage-I	1155		Output Stage II	1000
Toluene	1155		Recovered toluene for re-use	1097
Water	858		Aqueous layer	1441
NaCN	370		COD (%)	4.02
			TDS (%)	28.56
			PH(Basic))	9-10
Total	3538		Total	3538
Stage III(Hydrolysis)				
Stage II	994		Output(stage III)	1000
Sulfuric acid (98%)	1789		Aqueous layer	4764
Water(I)	1192		COD(%)	2.34
Water(II)	1789		TDS(%)	8.56
			PH(acidic)	1-2
Total	5764		Total	5764
Stage IV(chlorination)				
Stage III	1068		Output(Stage IV)	1000
Thionyl chloride	748		46% Na2SO3 solution	3424
DMF	5		20% aqueous HCL solution	1150
Water for HCL gas scrubber	920		COD (%)	3.56
20% caustic solution	3021		Residue	188
Total	5762		Total	5762

???

24. 2, 6-Dichloro benzaldehyde:

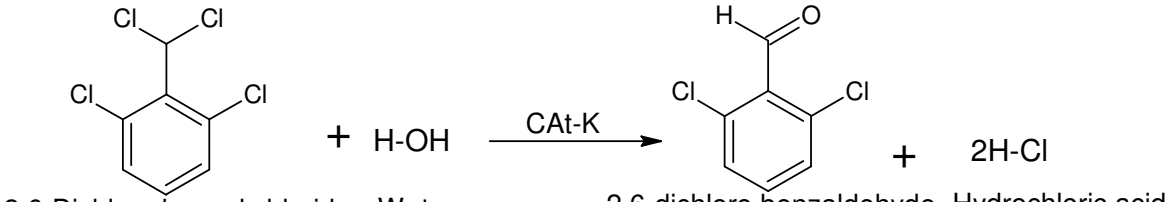
Reaction Scheme:

Stage I:



2,6-Dichloro toluene MW=161 | Chlorine gas MW=142 | 2,6-Dichloro benzal chloride MW=230 | Hydrochloric acid MW=73

Stage II:



2,6-Dichloro benzal chloride MW=230 | Water MW=18 | 2,6-dichloro benzaldehyde MW=175 | Hydrochloric acid MW=73

Brief Process:

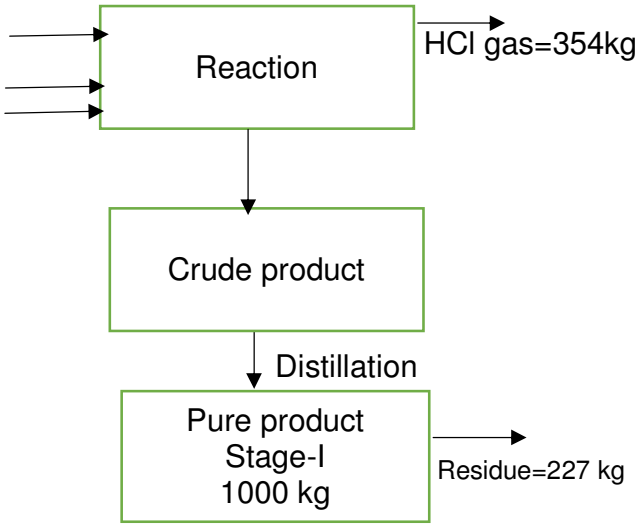
Stage-I: 2,6-Dichloro toluene is chlorinated with chlorine gas in presence of free radical initiator to give crude 2, 6-dichloro benzal chloride contains some nuclear impurities and high boiler which on fractional distillation gives pure product.

Stage-II: Pure 2, 6-Dichloro benzal chloride on hydrolysis with water in presence of CAT K at elevated temperature gives crude product which is washed with aqueous HCl followed by repeated water wash to remove CAT K traces, which on distillation gives pure product as molten mass.

Flow Chart:

Stage - I:

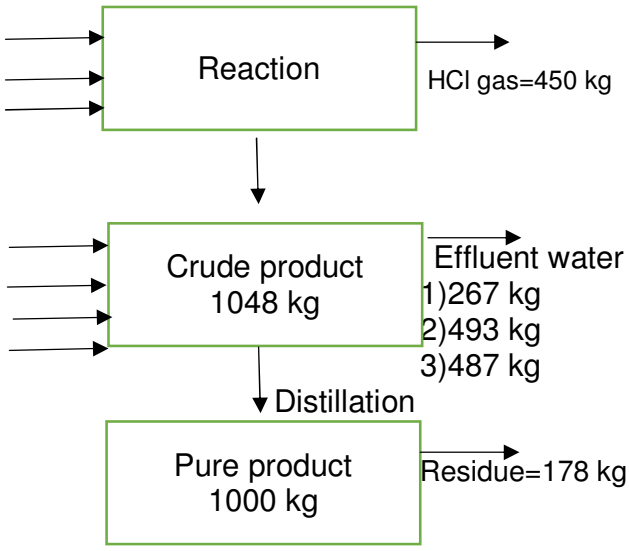
1)2, 6-Dichloro toluene =781 kg
2) CAT X = 42 kg
3)Chlorine gas = 758 kg



Stage- II

1) Stage-I =1420 kg
2) Water= 129 kg
3) CAT K= 16 kg

4) Aq. HCl=25 kg
5) Water-1=219 kg
6) Water-2= 483 kg
7) Water-3= 483kg



Material Balance:

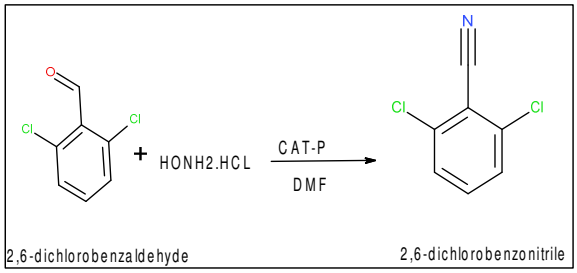
Material Balance of 2, 6-Dichloro benzaldehyde Batch Size: Kgs				
Name of the input	Quantity in Kg		Name of the out put	Quantity in Kg
Stage-I			Output	
2,6-Dichloro toluene	781		Stage I(benzal)	1000
Chlorine gas	758		30% HCl solution from scrubber	1180
CAT X	42			
Water for scrubber	826		Residue for incineration	227
Total	2407		Total	2407
Stage -II				
2,6-Dichloro benzal chloride(Stage-I)	1420		Output	1000
Water-1	129		Aqueous layer-(1+2+3)	1247
CAT K	16		PH (acidic)	1-2
Aqueous HCl	25			
Water-2	219		30% HCl solution from scrubber	1500
Water-3	483			
Water-4	483		Residue for incineration	178
Water for scrubber	1150			
Total	3925		Total	3925

25. 2,6 DICHLOROBENZONITRILE

Manufacturing process : - Synthesis of 2,6-Dichlorobenzonitrile from 2,6-dichlorobenzaldehyde and Hydroxylamine hydrochloride in presence of CAT-P

Heat Reaction mass @ 140-145^{0}C ,after completion filter and solid wash with water and dry @70-750C

CHEMICAL REACTION :-



MASS BALANCE :-

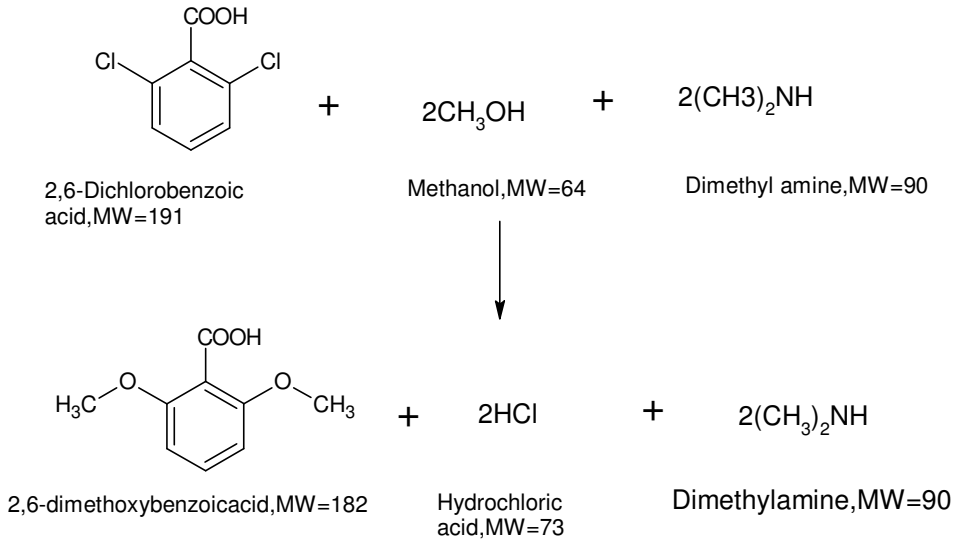
IN PUT RAW MATERIAL	
2.6-Dichlorobenzaldehyde	500kg
DMF	470kg
Hydroxylamine.HCL	210kg
CAT-P	25kg
Water	500 kgs
Total	**1705 kgs**

GLR
Hydrolysis Reaction

OUT PUT	
Solid	480 kg
Recovered DMF	451 kgs
Aqueous layer	774 kgs
pH	6.-8
TDS	4-6%
COD	3-5%
Total	**1705kg**

26. 2, 6-Dimethoxy benzoic acid:

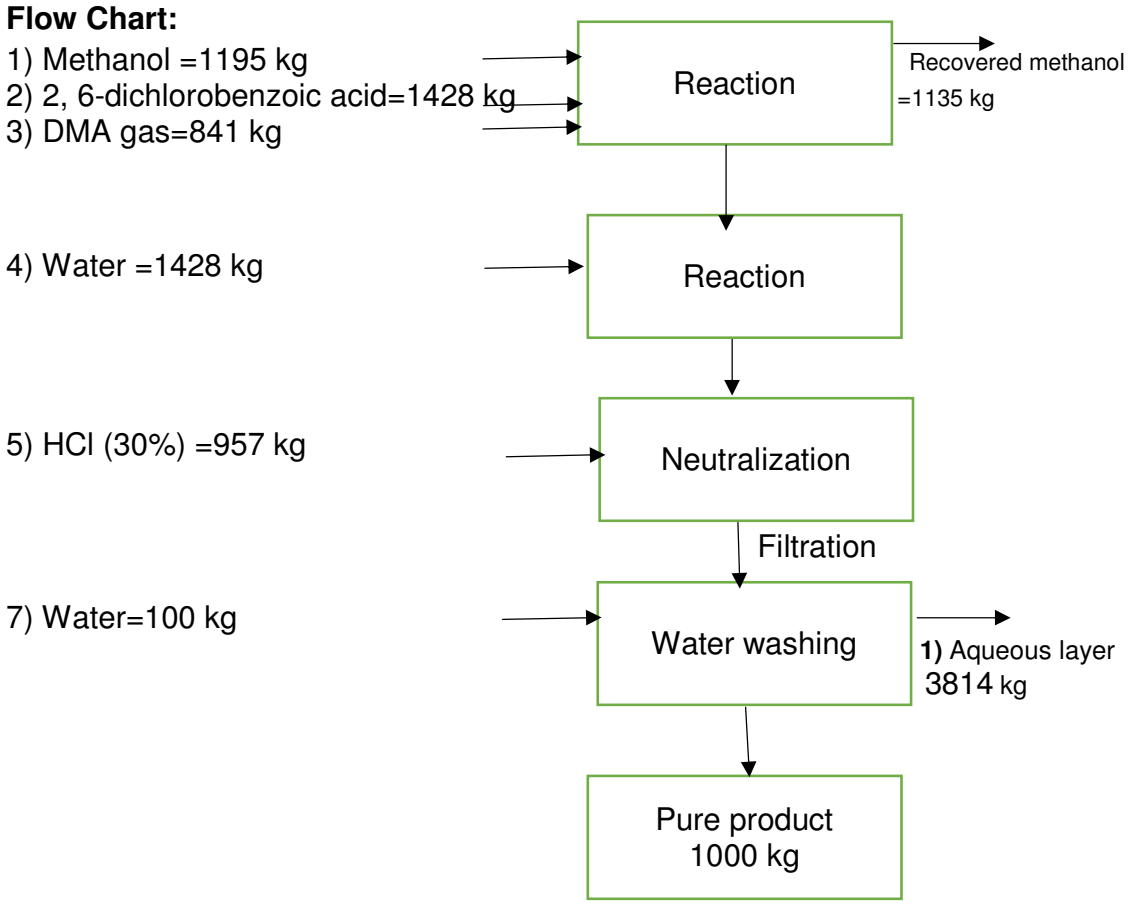
Reaction Scheme:



Brief Process:

2, 6-Dichloro benzoic acid is reacted with methanol as a reactant and dimethyl amine as an acid scavenger, which on neutralization with hydrochloric acid gives 2, 6-dimethoxy benzoic acid as solid product.

Flow Chart:



Material Balance:

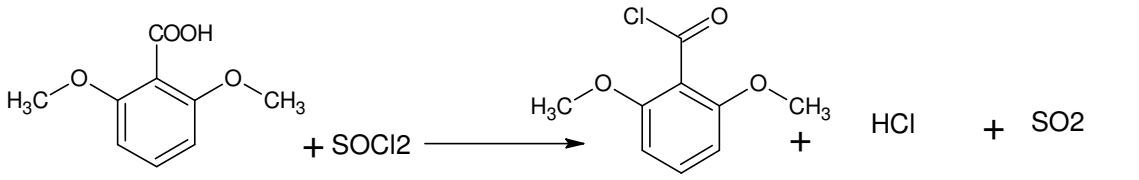
Material Balance of 2, 6-dimethoxy benzoic acid

Batch Size: 1000 Kgs

Name of the input	Quantity in Kg		Name of the out put	Quantity in Kg
2,6-Dichlorobenzoic acid	1428		2,6-dimethoxy benzoic acid	1000
Methanol	1195		Recovered methanol for re-use	1135
DMA gas	841		Effluent water (I+II) to ETP	3814
Water(I)	1428		COD (%)	15
HCl (30%)	957		PH(acidic)	1-2
Water for washing(II)	100			
Total	5949		Total	5949

27. 2, 6-Dimethoxy Benzoyl Chloride:

Reaction Scheme:

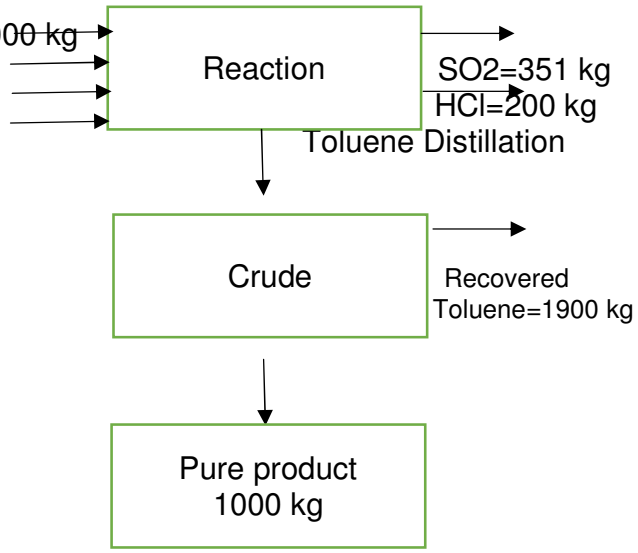


2,6 Dimethoxy Benzoic Acid	Thionyl Choride	2.6 Dimethoxy Benzoyl Chloride	Hydrochioric Acid	Sulfur Dioxide
MW 182	MW 119	MW 200.5	MW 36.5	MW 64

Brief Process:
2, 6-Dimethoxy Benzoic Acid is Chlorinated with Thionyl Chloride as a reactant ,Toluene as a solvent gives 2, 6-dimethoxy benzoyl Chloride as Solid product.

Flow Chart:
Chlorination:-

1) 2,6 Dimethoxy Benzoic Acid =1000 kg
2) Thionyl chloride= 687 kg
3) DMF= 12 kg
4)Toluene=2000 Kg



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Material Balance:

Material Balance of 2, 6-Dimethoxy benzoyl Chloride

Batch Size: 1000 Kgs

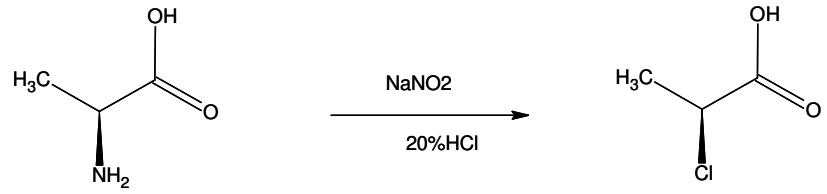
Name of the input	Quantity in Kg		Name of the out put	Quantity in Kg
2,6-Dimethoxy benzoic acid	1000		2,6-dimethoxy benzoyl Chloride	1000
Thionyl Choride	687		Recovered Toluene	1900
DMF	12		20% sodium sulfite solution	2764
Toluene	2000		20% aqueous HCL solution	1000
Water for HCl gas	800		COD(%)	10
20% Caustic solution for SO2 scrubber	2175			
Total	6674		Total	6674

28 **S-2-CHLORO PROPIONIC ACID**

Manufacturing process

- Diazotization of L-Alanine and extract with organic solvent and product purified by High vacuum distillation

ROS : -



(2*S*)-2-aminopropanoic acid

(L-Alanine)

(2*S*)-2-chloropropanoic acid

	Kg
L-Alanine	1200
25% HCL	8784
NaNO2	1380
water for NaNO2	3196

dizotization of L-Alanine

MIBK	2880

Extract with MIBK,contents product

	kg
Aq.layer	13264

Organic

HVD Distillation

Re.MIBK	3112.56
Product	1008
Vap.loss	31.44
Residue	24

Total in put 17440

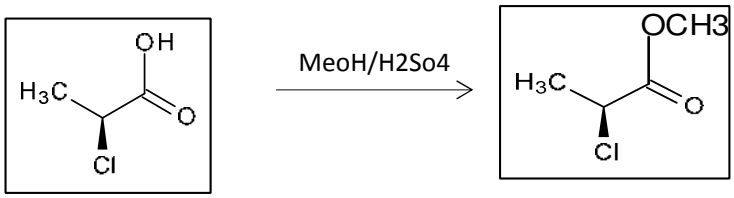
Total output 17440

29 **S-M2CPA**

Manufacturing process

Synthesis S-M-2CPA by Estrification of S-2CPA to and product purified by High vacuum distillation

ROS : -



	Kg
S-2CPA	1270
H2SO4	151
Methanol	564

Estrification

	Kg
Aq.layer	895

Organic 1090kg

25%Brine solution	470

Aq.layer	470
Organic layer	999
Residue	82
V.loss	9

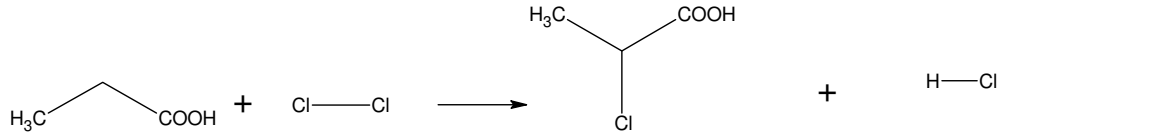
Total in put 2455

Total output 2455

30. M2CP:

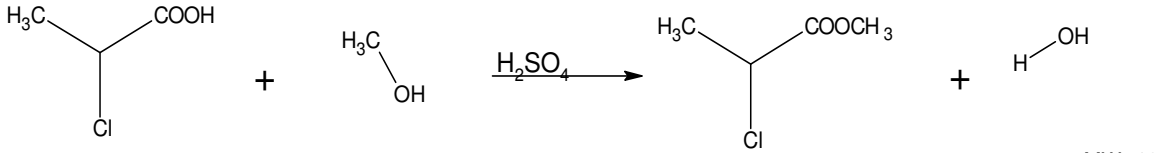
Reaction Scheme:

Stage I:



propanoic acid,MW=74 Chlorine,MW=71 2-Chloro propinoic acid,MW=108.5 Hydrochloric acid,MW=36.5

Stage II:



2-chloropropanoic acid,MW=108.5 Methanol,MW=32 2-chloromethyl propionate,MW=122.5 water,MW=18

Brief Process:

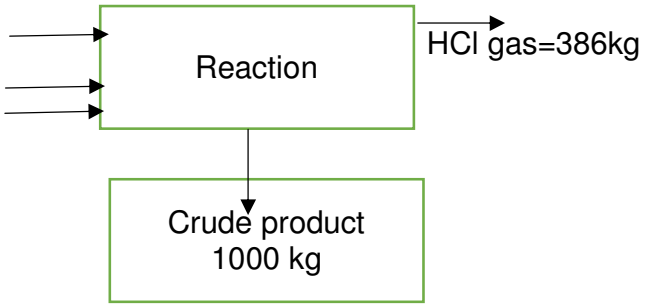
Stage-I: .Propionic acid is treated with chlorine gas gives 2-chloro propionic acid. The HCl liberated is scrubbed in water. The crude product is taken for esterification.

Stage-II: 2-chloro propionic acid from above step is treated with methanol and sulfuric acid as a catalyst to give crude product M2CP which on fractional distillation gives pure product as a liquid.

Flow Chart:

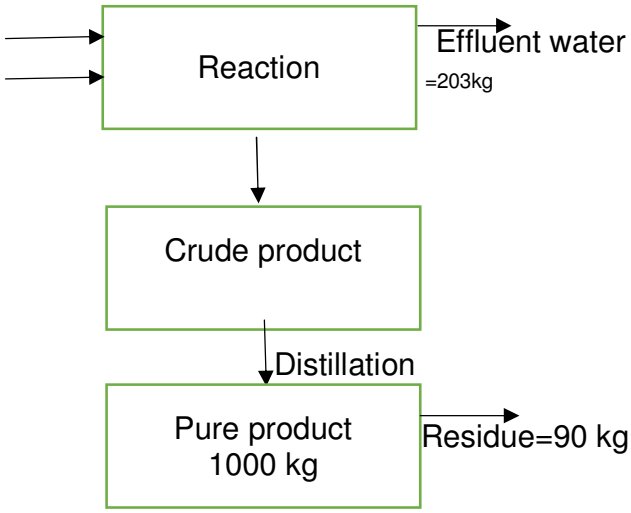
Stage - I: Chlorination

1) Propionic acid =718 kg
2) CAT X = 42 kg
3) Chlorine gas = 758 kg



Stage- II: Esterification

1) Stage-I =981 kg
2) Methanol (95%) = 309 kg
3)H2SO4(98%) = 3 kg



Material Balance:

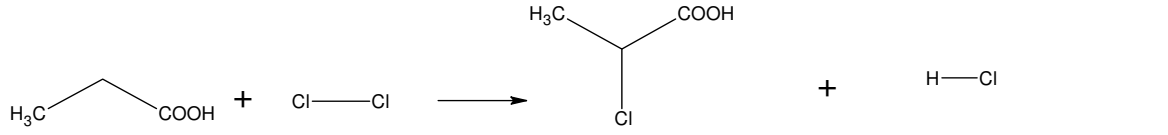
Material Balance of M2CP Batch Size: Kgs				
Name of the input	Quantity in Kg		Name of the out put	Quantity in Kg
Stage-I			Output	
Propionic acid	718		Stage I(2-chloro propionic acid)	1000
Chlorine gas	750		16% Aqueous HCl solution	2398
Water for HCl gas scrubber	1930		COD (%)	3.41
Total	3398		Total	3398
Stage -II				
Stage I(2-chloro propionic acid)	981		Output	1000
Methanol	309		Aqueous layer to ETP	203
Sulfuric acid (98%)	3		COD(%)	
			PH(acidic)	1-2
			Pitch	90
Total	1293			1293

???

31. E2CP:

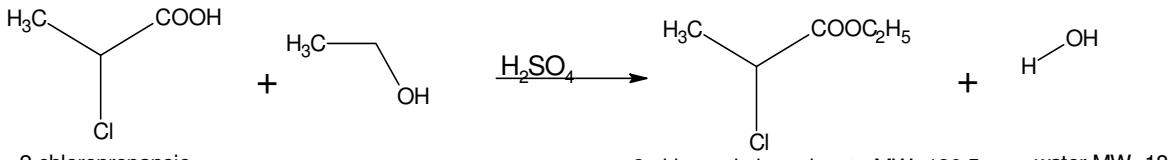
Reaction Scheme:

Stage I:



propanoic acid,MW=74 Chlorine,MW=71 2-Chloro propinoic acid,MW=108.5 Hydrochloric acid,MW=36.5

Stage II:



2-chloropropanoic acid,MW=108.5 ethanol,MW=46 2-chloro ethyl propionate,MW=136.5 water,MW=18

Brief Process:

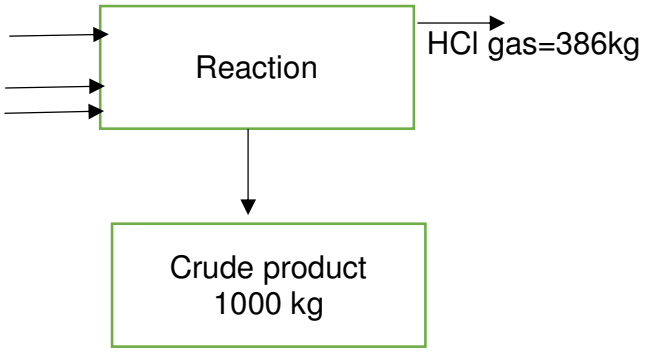
Stage-I: .Propionic acid is treated with chlorine gas gives 2-chloro propionic acid. The HCl liberated is scrubbed in water. The crude product is taken for esterification.

Stage-II: 2-chloro propionic acid from above step is treated with ethanol and sulfuric acid as a catalyst to give crude product E2CP which on fractional distillation gives pure product as a liquid.

Flow Chart:

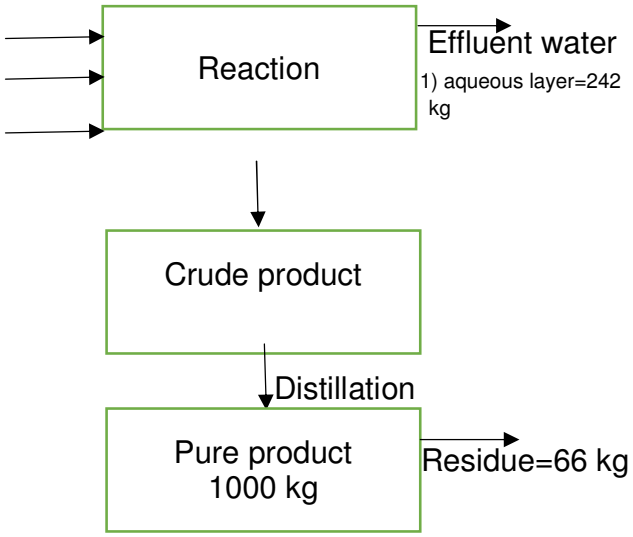
Stage - I: Chlorination

1) Propionic acid =718 kg
2) CAT X = 42 kg
3) Chlorine gas = 758 kg



Stage- II: Esterification

1)Stage-I =883 kg
2) Ethanol (95%) = 423 kg
3) H2SO4 (98%) = 2 kg



Material Balance:

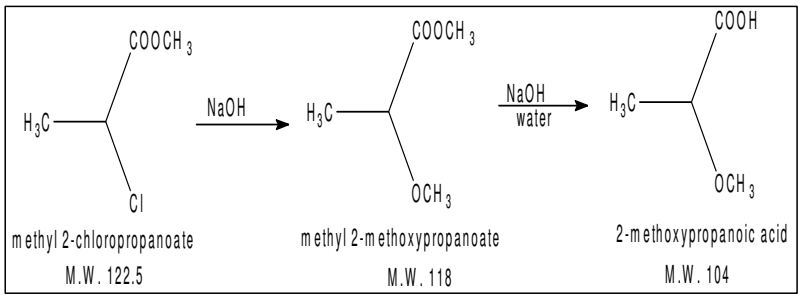
Material Balance of E2CP Batch Size: Kgs				
Name of the input	Quantity in Kg		Name of the out put	Quantity in Kg
Stage-I			Output	
Propionic acid	718		Stage I(2-chloro propionic acid)	1000
Chlorine gas	750		16% HCl solution	2398
Water for HCl gas scrubber	1930		COD (%)	3.41
Total	3398		Total	3398
Stage -II				
Stage I(2-chloro propionic acid)	883		Output	1000
Ethanol	423		Aqueous layer to ETP	242
Sulfuric acid (98%)	2		COD (%)	3.28
			PH(acidic)	1-2
			Residue to ETP	66
Total	1308			1308

???

32 **2- Methoxy Propionic caid**

Manufacturing process :-Synthesis of 2-Methoxy Propionic acid from in presence of Methyl 2-Chloropropanoate and sodium hydroxide, methanol and to form methyl 2-methoxypropaonate and then hydrolysis reaction then acidified with conc HCL then final HVD

CHEMICAL REACTION :-



methyl 2-chloropropanoate M.W. 122.5 | methyl 2-methoxypropanoate M.W. 118 | 2-methoxypropanoic acid M.W. 104

MASS BALANCE :-

IN PUT RAW MATERIAL	
M2CP	800kg
Methanol	2352kg
Sodium Hydroxide	784kg
Water for Reaction	1827
Conc.HCL	1540kg
MIBK	2560kg
Total	**9863 kg**

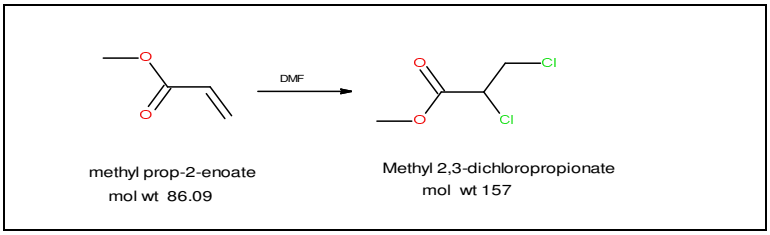
SSR
Estrification & Hydrolysisi Reaction
GLR
for Distillation

OUT PUT	
Product	475 kg
Re.Methanol	2036 kg
Re.MIBK	2432kg
Aqueous waste	4920 kgs
pH	01-Feb
TDS	39-40 %
COD	9-11%
Total	**9863kg**

33 **METHYL-2,3-DICHLOROPROPIONATE**

Manufacturing proc :-To synthesis Methyl 2,3 dichloropropionate using Methyl acrylate & chlorine gas,DMF

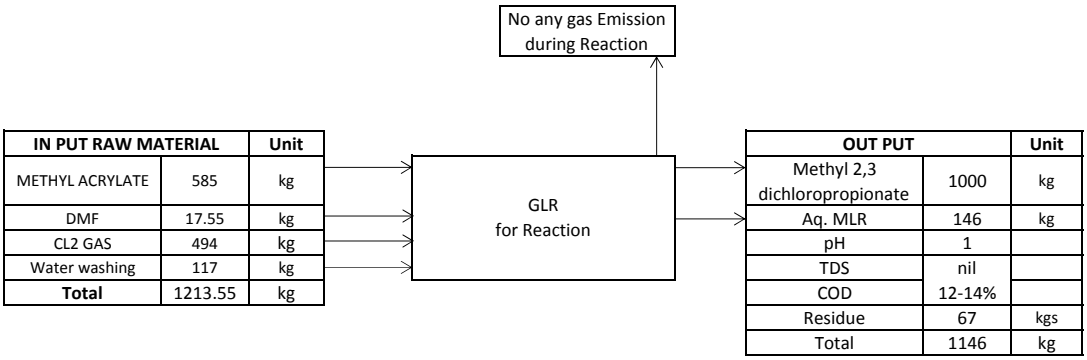
CHEMICAL REACTIO :-



methyl prop-2-enoate
mol wt 86.09

Methyl 2,3-dichloropropionate
mol wt 157

MASS BALANCE :-

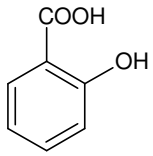


IN PUT RAW MATERIAL		Unit
METHYL ACRYLATE	585	kg
DMF	17.55	kg
CL2 GAS	494	kg
Water washing	117	kg
Total	1213.55	kg

OUT PUT		Unit
Methyl 2,3 dichloropropionate	1000	kg
Aq. MLR	146	kg
pH	1	
TDS	nil	
COD	12-14%	
Residue	67	kgs
Total	1146	kg

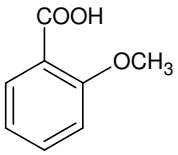
34. 2-methoxy benzoic acid:

Reaction Scheme:



+ 2NaOH + $(CH3)_2SO_4$

Salicylic acid,MW-138 Sodium hydroxide,MW=80 Dimethyl sulfate,MW=126



+ MeOH + NaCl + H_2O

2-methoxy benzoic acid,MW=152 Methanol,MW=32 Sodium chloride,MW=53.5 Water,MW=18

Brief Process:
Salicylic acid is reacted with dilute caustic solution and dimethyl sulfae to give sodium salt of product, which on neutralization with hydrochloric acid gives 2-methoxy benzoic acid as solid product.

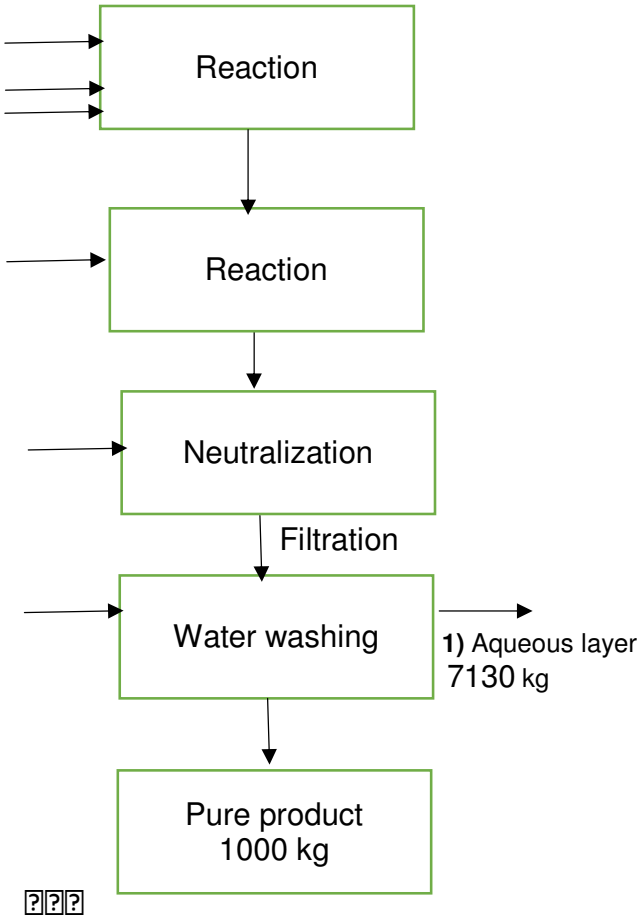
Flow Chart:

1) Water =2370 kg
2) NaOH=760 kg
3) Salicylic acid=1000 kg

4) Dimethyl sulfate =1000 kg

5) HCl (30%) =1000 kg

7) Water=2000 kg



???

Material Balance:

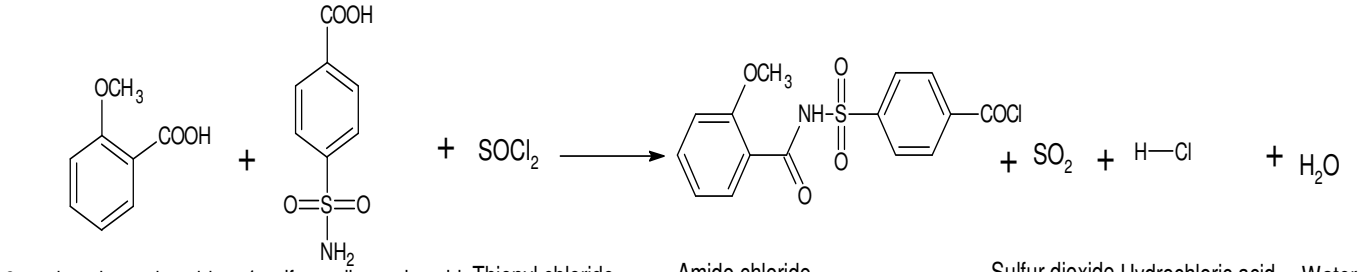
Material Balance of 2-methoxy benzoic acid

Batch Size: 1000 Kgs

Name of the input	Quantity in Kg		Name of the out put	Quantity in Kg
Salicylic acid	1000		2-methoxy benzoic acid	1000
NaOH	760		Effluent water(I+II) to ETP	7130
Dimethyl sulfate	1000		TDS (%)	5.31
HCl (30%)	1000		COD (%)	3.21
Water for reaction(I)	2370		PH(acidic)	1-2
Water for washing(II)	2000			
Total	8130		Total	8130

34. Amido chloride:

Reaction Scheme:



2-methoxybenzoic acid MW=152 | 4-sulfamoylbenzoic acid MW=201 | Thionyl chloride MW=119 | Amido chloride MW=353.8 | Sulfur dioxide MW=36.5 | Hydrochloric acid MW=36.5 | Water MW=18

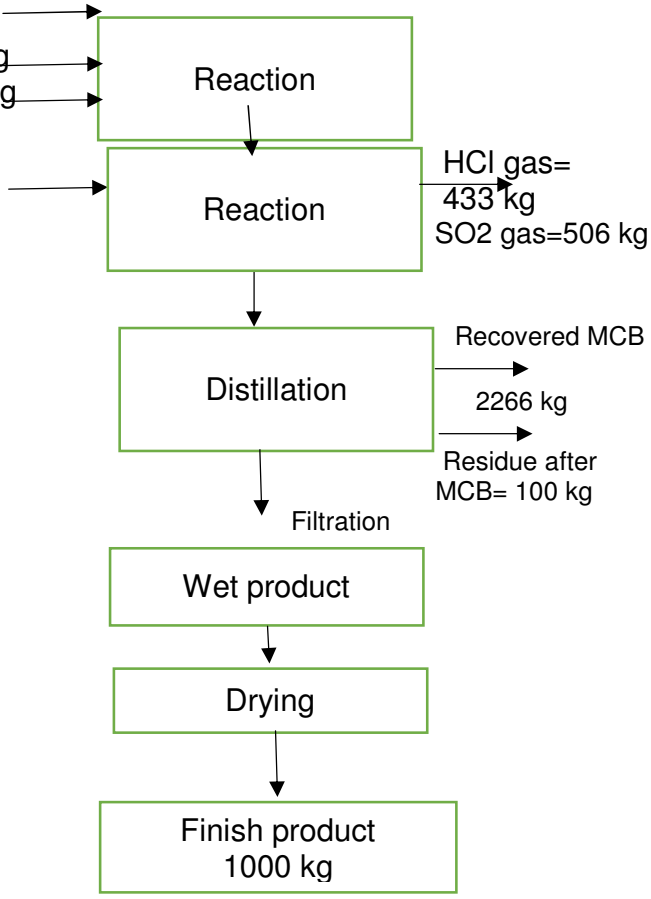
Brief Process:

2-methoxy benzoic acid is reacted with 4-sulfamoyl benzoic acid in presence of thionyl chloride as a chlorinating agent and MCB as a solvent. The product is precipitated after solvent distillation followed by cooling and isolated by filtration. The recovered solvent is re-distilled and re-used in next batch.

Flow Chart:

1) MCB = 2386 kg
2)2-methoxy benzoic acid = 480 kg
3)4-Sulfamoyl benzoic acid=623 Kg

4) Thionyl chloride =942 kg



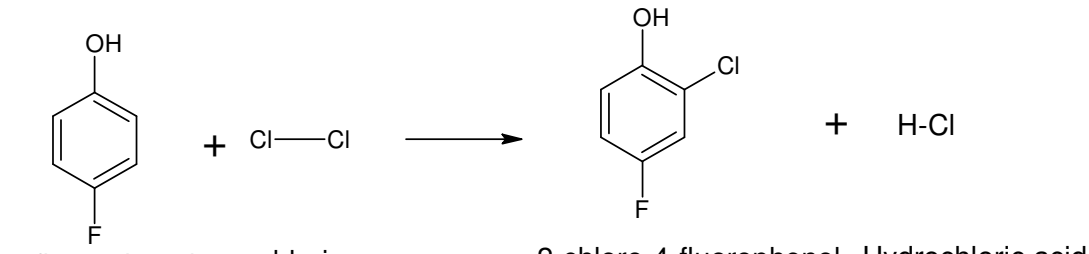
Material Balance:

Material Balance of Amido chloride Batch Size: Kgs				
Name of the input	Quantity in Kg		Name of the out put	Quantity in Kg
MCB	2386		Amido chloride	1000
2-methoxy benzoic acid	480		Residue for incinneration	100
4-Sulfamoyl benzoic acid	623		Recovered MCB for re-use	2266
Thionyl chloride	942			
Water for HCl scrubber	1010		30% HCl solution from scrubber	1443
20% Caustic solution for SO2 scrubber	2530		32% Sodium bisulfite solution	3162
Total	7971		Total	7971

35 (2-Chloro-4-Fluoro-5-nitro phenyl) ethyl carbonate

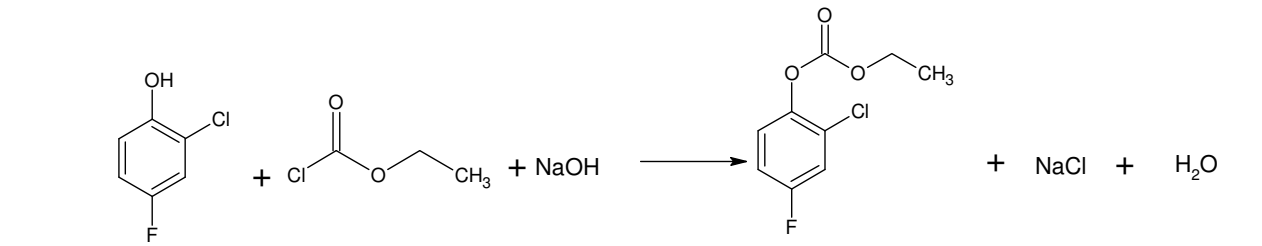
Reaction Scheme:

Stage I (chlorination):



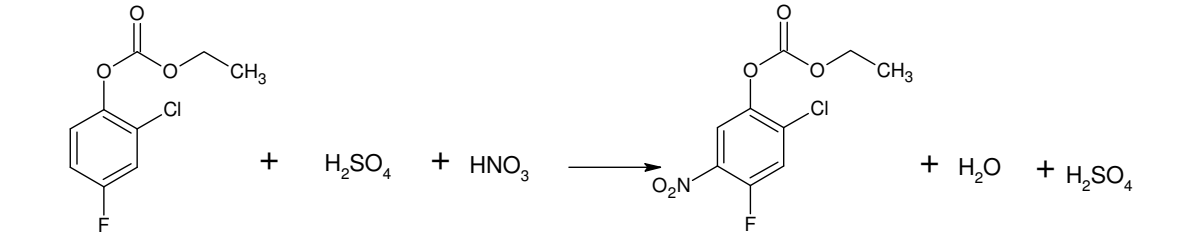
4-fluorophenol MW=112 | chlorine MW=71 | 2-chloro-4-fluorophenol MW=146.5 | Hydrochloric acid MW=36.5

Stage II (alkylation):



2-chloro-4-fluorophenol MW=146.5 | Ethyl chloroformate MW=108.5 | Sodium Hydroxide MW=40 | 2-chloro-4-fluorophenyl ethyl carbonate,MW=218.5 | Sodium chloride MW=58.5 | Water MW=18

Stage III (Nitration):



2-chloro-4-fluorophenyl ethyl carbonate,MW=218.5 | Sulfuric acid MW=98 | Nitric acid MW=63 | 2-chloro-4-fluoro-5-nitrophenyl ethyl carbonate,MW=263.5 | Water MW=18 | Sulfuric acid MW=98

???

Brief Process:

Stage-I (Chlorination): 4-fluoro phenol is chlorinated with chlorine gas and using EDC as a solvent. The liberated HCl gas is scrubbed in water. The product is not isolated and directly used for next stage.

Stage-II (Alkylation):

Stage I in EDC solution is treated with ethyl chloroformate and caustic solution at low temperature. The product is not isolated and taken for next stage in-situ.

Stage III (Nitration):

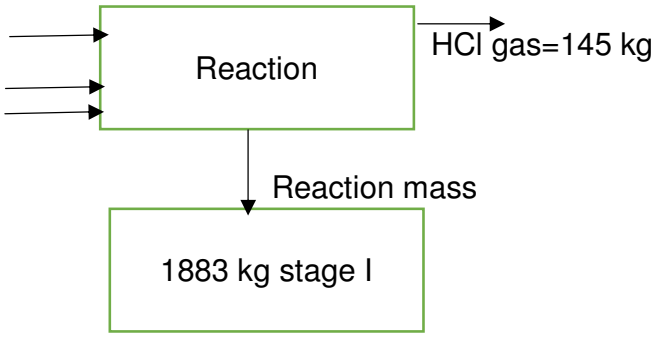
Stage II is nitrated with sulfuric acid and nitric acid mixture at low temperature. The product is quenched with water followed by alkali wash and water wash.

The EDC solvent is removed by distillation and product is diluted with toluene to make 48-50% solution.

Flow Chart:

Stage I: Chlorination

1) EDC= 1296 kg
2)4-fluoro phenol=450 kg
3) Chlorine gas = 282 kg



Stage- II: Alkylation

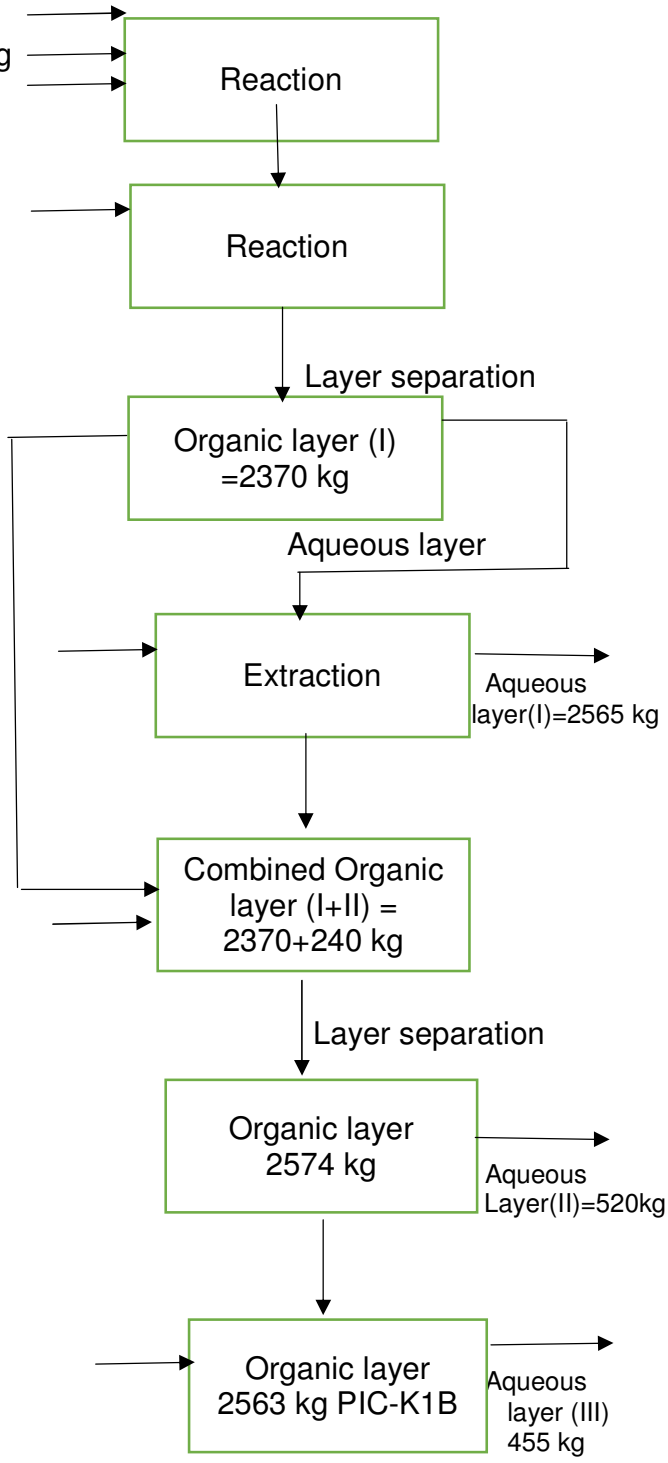
1) PIC-K1 (stage I) = 1883 kg
2) NaOH solution) (15%) =1259 kg
3) Ethyl chloroformate= 516 kg

4) Water=1008 kg

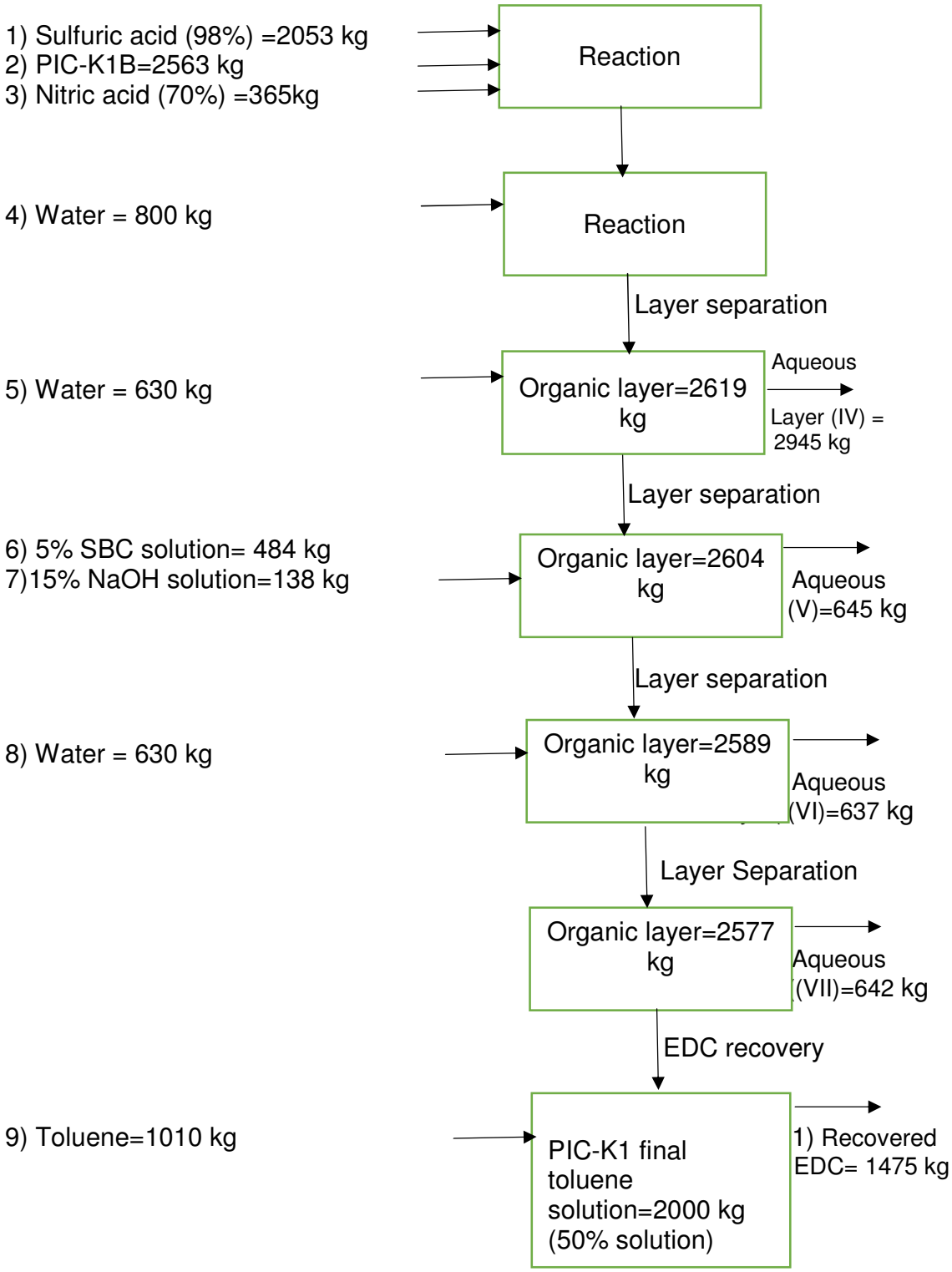
5) EDC=221 kg

6)4% SBC solution=484 kg

7) Water =444 kg



Stage- III: Nitration



Material Balance:

Material Balance of **(2-Chloro-4-Fluoro-5-nitro phenyl) ethyl carbonate**

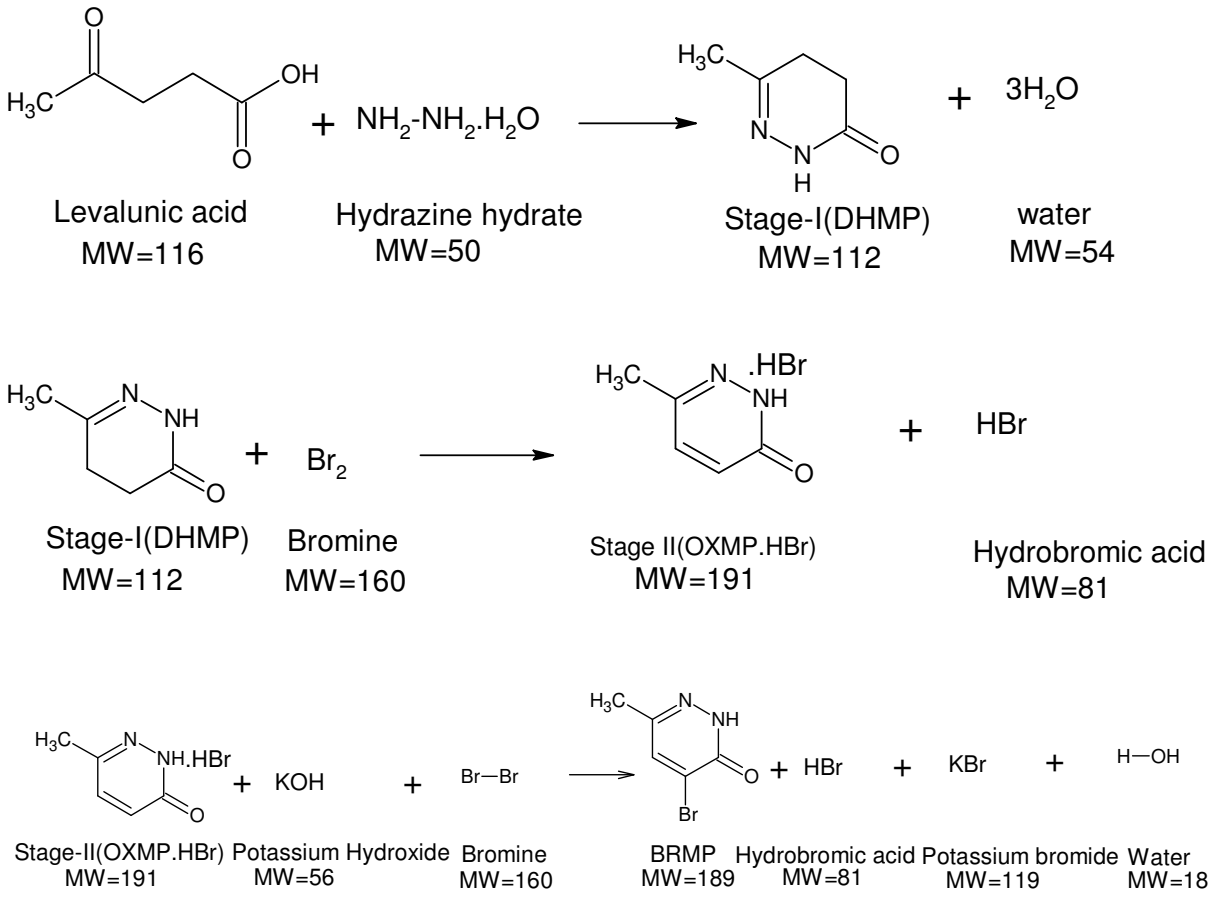
(48-50% solution in toluene)

Batch Size: 1000 Kgs

Name of the input	Quantity in Kg		Name of the out put	Quantity in Kg
4-fluoro phenol	450		**(2-Chloro-4-Fluoro-5-nitro phenyl) ethyl carbonate** (48-50% solution)	2000
EDC	1517		Recovered EDC for re-use	1475
Chorine gas	282			
Ethyl chloroformate	516		20% aqueous HCL solution	725
Sodium bicarbonate	48		Aqueous layer(I-VII)	8450
Sodium hydroxide	208		PH (basic)	7-8
Sulfuric acid (98%)	2053		COD(%)	0.48%
Nitric acid (70%)	365		TDS(%)	1%
Water	5621			
Toluene	1010			
Water for HCl gas scrubber	580			
Total	12650		Total	12650

36. BRMP

Reaction Scheme:



Brief Process:

Stage-I (DHMP):

Levulinic acid is reacted with hydrazine hydrate at 85-90℃ temperature in presence of toluene as a solvent. The product is precipitated on cooling which is isolated by filtration followed by vacuum drying.

The toluene mother liquor contains liberated water from reaction is collected by layer separation. The lower aqueous layer is sent to ETP

for further treatment and upper organic layer is directly taken for re-use in next batches.

Stage-I (OXMP.HBr):

Stage I (DHMP) is dissolved in glacial acetic acid reacted with bromine at reflux temperature. The liberated hydrobromic acid is scrubbed in dilute caustic solution. The product is precipitated on cooling which is isolated by filtration followed by vacuum drying.

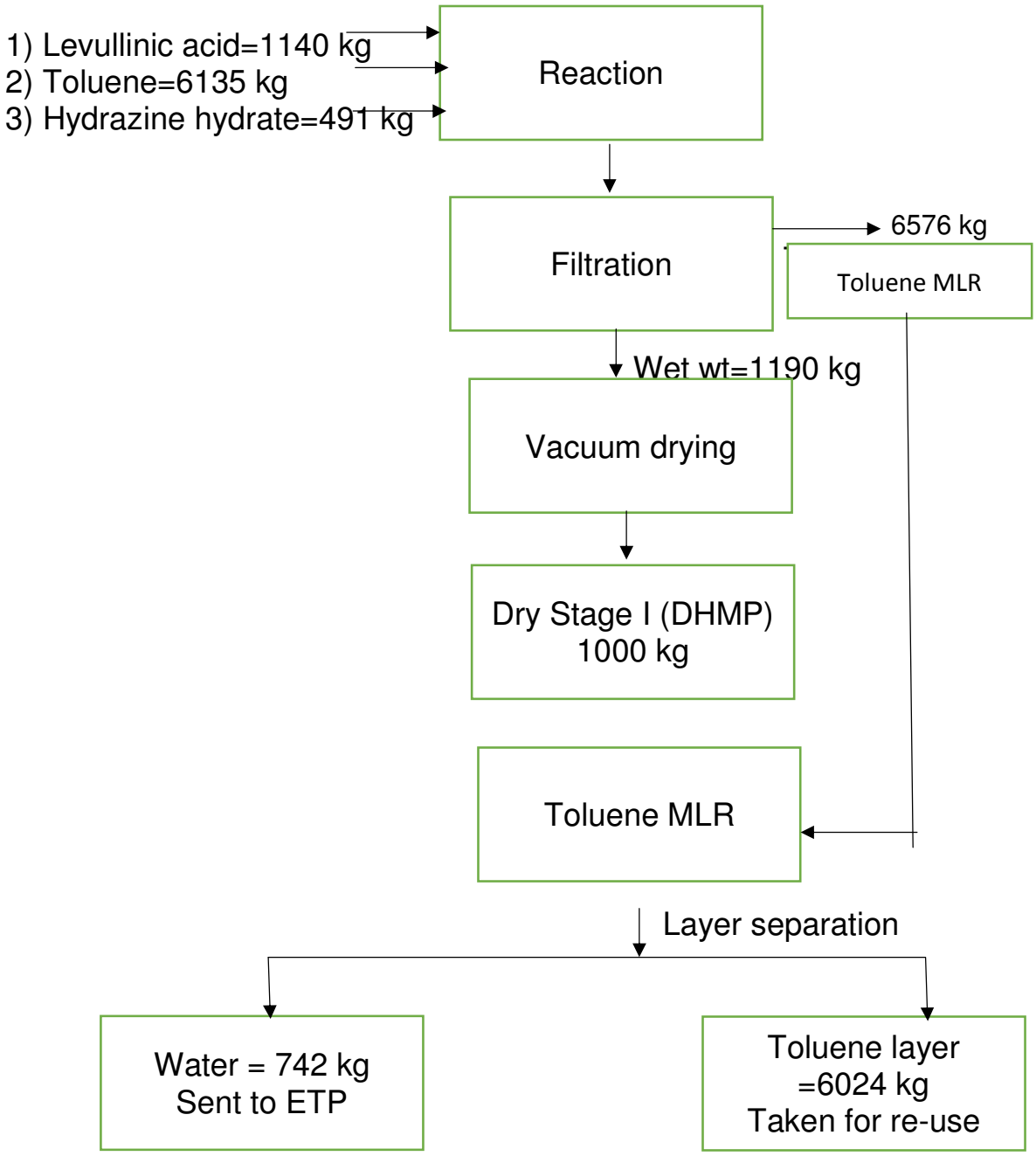
The mother liquor contains acetic acid taken for vacuum distillation and residue is sent for incineration.

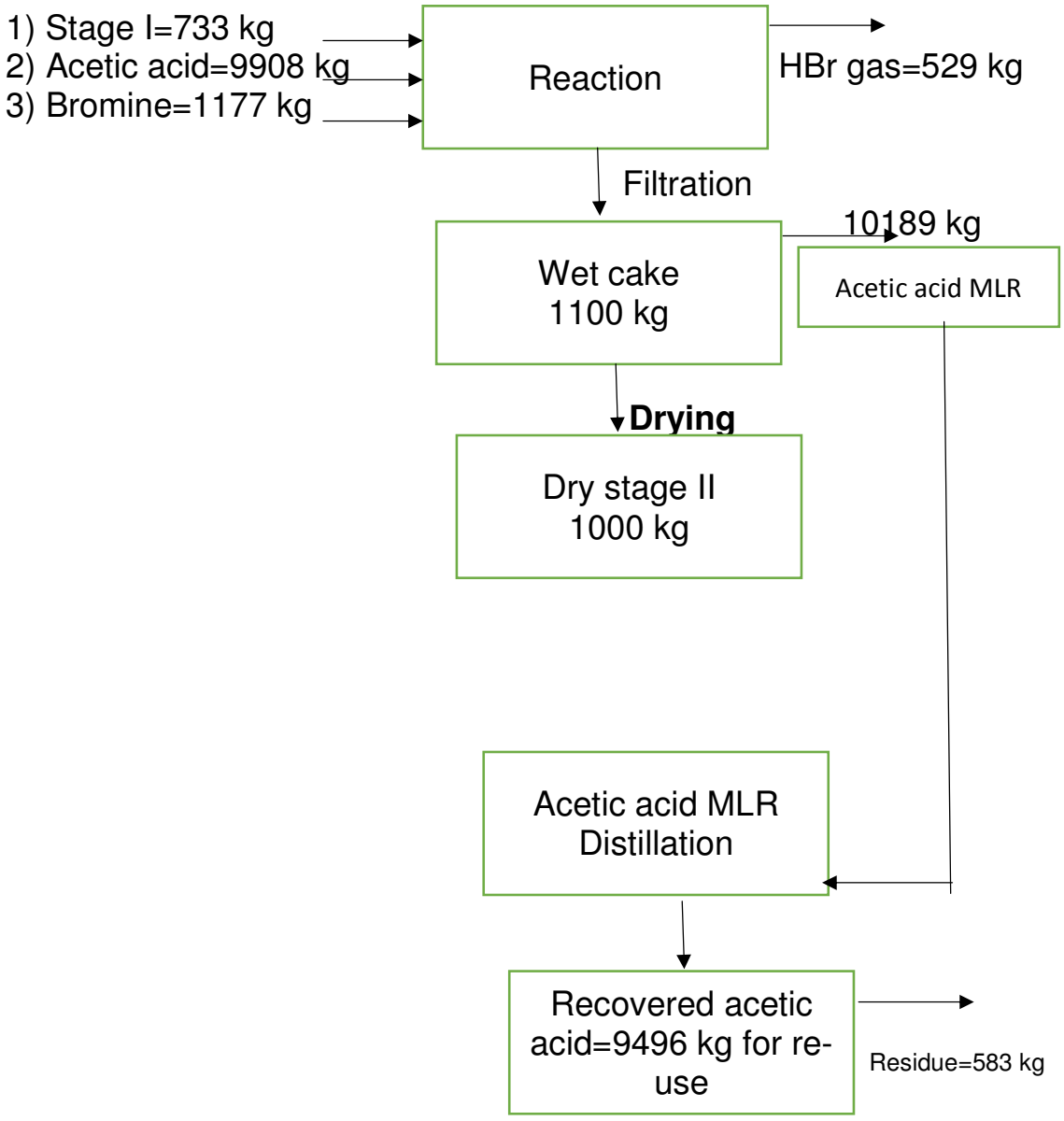
Stage-III (BRMP):

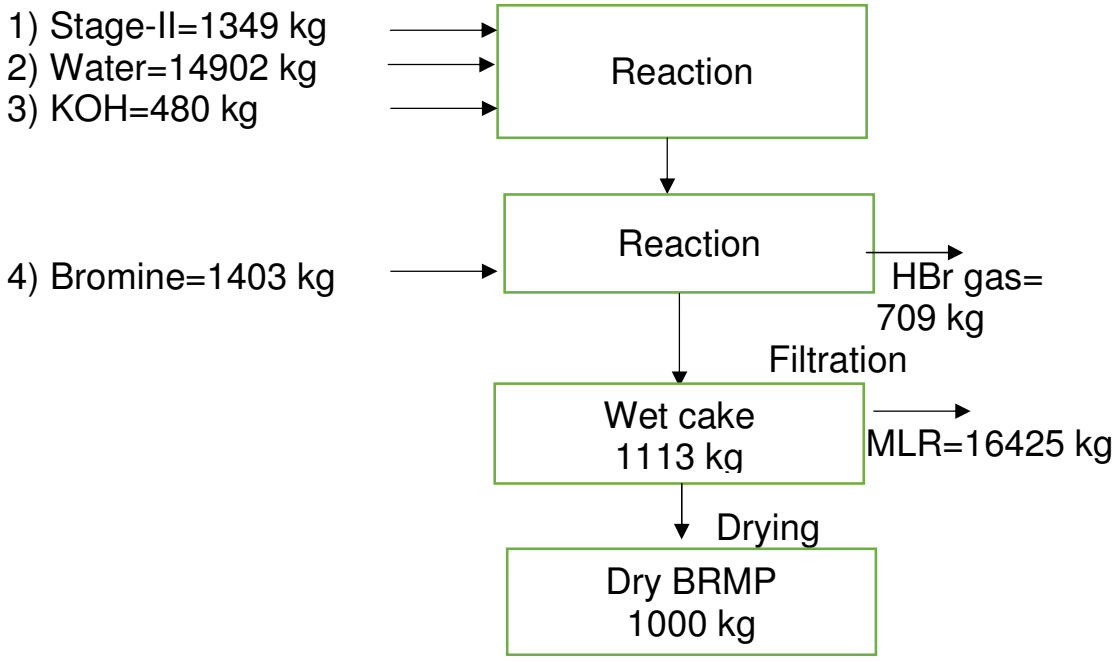
Stage II is neutralized with potassium hydroxide in water as a solvent and reacted with bromine at reflux temperature. The liberated hydrobromic acid is scrubbed in dilute caustic solution. The product is precipitated on cooling which is isolated by filtration followed by vacuum drying.

The mother liquor contains dissolved salt is sent to ETP for further treatment.

Flow Chart: Stage I (DHMP)




1) Stage I=733 kg
2) Acetic acid=9908 kg
3) Bromine=1177 kg
Reaction
HBr gas=529 kg
Filtration
10189 kg
Wet cake
1100 kg
Acetic acid MLR
Drying
Dry stage II
1000 kg
Acetic acid MLR
Distillation
Recovered acetic
acid=9496 kg for re-
use
Residue=583 kg



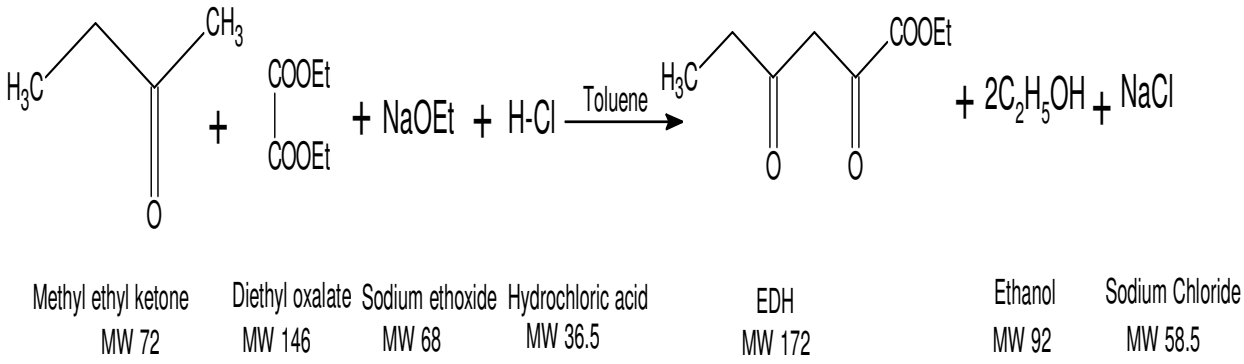
Material Balance of BRMP Batch Size: Kgs

Name of the input	Quantity in Kg		Name of the out put	Quantity in Kg
Levullinic acid	1140		Stage I	1000 kg
Toluene	6135		Toluene MLR	6024
Hydrazine Hydrate	491		Water to ETP	742
			PH (acidic)	3 to 4
			COD (%)	3.264
			TDS (%)	0.0972
Total	7766		Total	7766
Stage I	733		Stage II	1000
Bromine	1177		Recovered acetic acid	9496
Acetic acid	9908		16% HBr solution	3384
Water for HBr solution	2645		Residue for incineration	583
			COD (%)	6.2
Total	14463		Total	14463
Stage II	1349		Output(Stage III)	1000
Bromine	1403		16% HBr solution	4254
KOH	480		Aqueous MLR to ETP	16425
Water for reaction	14902		TDS (%)	5.11
Water for HBr solution	3545		PH (acidic)	2-3
Total	21679			21679

???

37. EDH:

Reaction Scheme:



Methyl ethyl ketone	Diethyl oxalate	Sodium ethoxide	Hydrochloric acid	EDH	Ethanol	Sodium Chloride
MW 72	MW 146	MW 68	MW 36.5	MW 172	MW 92	MW 58.5

Brief Process:

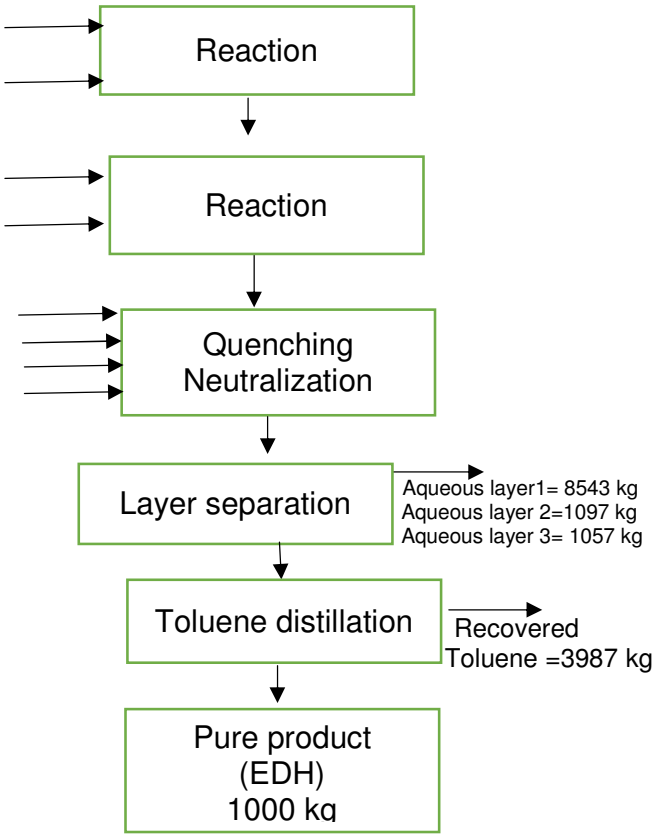
Methyl ethyl ketone reacted with diethyl oxalate as a reactant and sodium ethoxide as a base and toluene as a solvent. The product is isolated by neutralization with HCl, sodium bicarbonate washing, water washing followed by solvent distillation to get final product.

Flow Chart:

1) Toluene = 4197 kg
2) Sodium ethoxide =669 kg

3) Diethyl Oxalate= 1322 kg
4) Methyl ethyl ketone = 550 kg

5) Water = 5555 kg
6) Conc. HCl= 1170 kg
7)2% NaHCO3 Sol=1110 kg
8) Water= 1111 Kg



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Material Balance:

Material Balance of EDH Batch Size: Kgs				
Name of the input	Quantity		Name of the out put	Quantity
	in Kg			in Kg
Toluene	4197		EDH(Product)	1000
Methyl ethyl ketone	550		Aqueous effluent water	8543
Diethyl oxalate	1322		Aqueous effluent water	1097
			Aqueous effluent water	1057
Sodium ethoxide	669		PH(acidic)	2-3
Conc. HCl	1170		COD (%)	2.49
Water -1	5555		Recovered toluene	3987
Sodium bicarbonate	22			
Water-2	1088			
Water-3	1111			
Total	15684		Total	15684

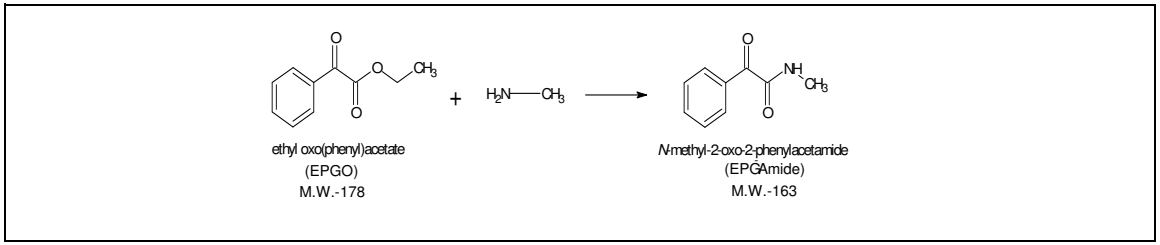
38. NMOPA

Manufacturing process :- **NMOPA (EPG-Amide) from EPGO & 40 % Aq. MMA solution 2.3 mole**

MMA Added dropwise at 0-5^{0}C. Toluene used 1 vol. of EPGO.

After MMA addition Heat RM @ 55-600C,till reaction complation and then acidified by conc.HCL and cool 5-10^{0}C and dry product Under vaccum at 60^{0}C

CHEMICAL REACTION :-



ethyl oxo(phenyl)acetate
(EPGO)
M.W.-178

N-methyl-2-oxo-2-phenylacetamide
(EPGAmide)
M.W.-163

No any gas Emission During Reaction

MASS BALANCE :-

IN PUT RAW MATERIAL		Unit
Ethyl Phenyl Glyoxylate	1670	kg
Aq. MMA 40% Solution	1960	kg
HCL (30%)	1960	kg
Water Lot-I (for Reaction)	555	kg
Water Lot-II (For washing)	3000	kg
Water Lot III(for Purification)	835	kg
Toluene (total)	1200	kg
Total	11180	kg

SSR
Estrification &
Hydrolysisi
Reaction
GLR
for Distillation

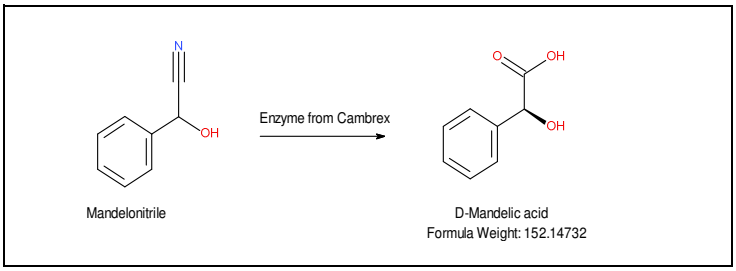
OUT PUT		Unit
N-methyl-2-oxo-2-phenylacetamide	1000	kg
Aq.MLR	9040	kg
TDS	11-12%	
pH	. 2	
Re.Toluene	1140	kg
COD	0.6-1%	
Total	11180	kg

???

39. Mandelic acid(Enzymes)

Manufacturing process :-TO Synthesis Synthesis of D-Mandelic acid by using mandelo nitrile and enzymes as a chairal catalyst , buffer sol adjust pH by KOH

CHEMICAL REACTION :-



MASS BALANCE :-
STAGE-I

No any gas Emission During Reaction

IN PUT RAW MATERIAL		Unit
MANDELONITRILE	1205	kg
WORKING BUFFER	5109	kg
ETHYL ACETATE	1446	kg
ENZYME(nitrilase Ni21)	73	kg
3N KOH for pH 8.0	381	kg
Conc.HCL for pH< 1	1145	kg
Acetone	2461	kg
MtBE	4820	kg
Toluene	1204	kg
Total	**17844**	**kg**

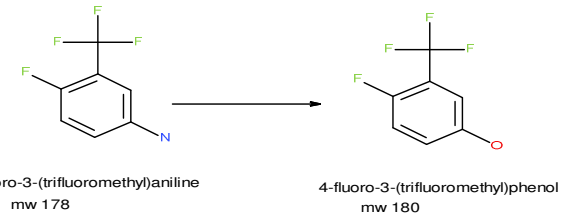
GLR for Reaction

OUT PUT		Unit
D-Mandelic Acid	1000	kg
Acetone+ Ethyl acetate (Recovered)	3712	kg
MTBE (Recovered)	4579	kg
Aq. MLR	7364	kg
pH	<1	
TDS	0.8-1%	
COD	6-8%	
Solid waste	45	kg
Re.Toluene	1144	kg
Total	**17844**	**kg**

40. 4-FTMP

Manufacturing p:-To synthesis of 4-fluoro-3-trifluoromethyl phenol by using 4-fluro-3-(trifluoromethyl aniline,)
NaNO2 45% sol.conc.H2SO4,NaNO2 Add @ 0-5^{0}C, Used 100% CuSO4 (penta hydrate)

CHEMICAL REACTION :-



4-fluoro-3-(trifluoromethyl)aniline
mw 178

4-fluoro-3-(trifluoromethyl)phenol
mw 180

MASS BALANCE :-

NaOH	115 kg
Water kgs	1035

NaOH scrubber

Scrubber effluent to MEE	1150 kg
TDS	10-11%

HNO2 gas
132gm

IN PUT RAW MATERIAL	
4-fluro-3-(trifluoromethyl) aniline	500kg
Conc.H2SO4	1470kg
Water for H2SO4	1610kg
Sodium Nitrite	250kg
Water for NaNO2	305kg
Total	**4135kg**

GLR
Diazotization Reaction

OUT PUT	
Estimated Diazo compound	**4135 kg**

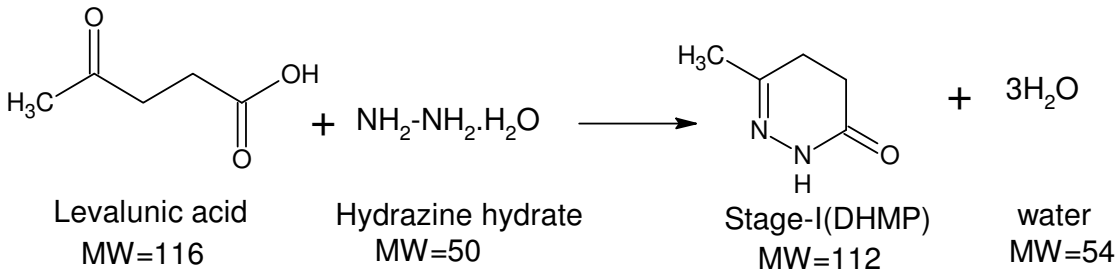
IN PUT RAW MATERIAL	
Estimated Diazo compound	4135 kg
Copper sulphate pentahydrate	700 kg
Water for Quenching	1610 kg
Sulphamic acid	70 kg
Toluene	2440 kg
Total	**8955 kg**

GLR
Quenching Diazo compound

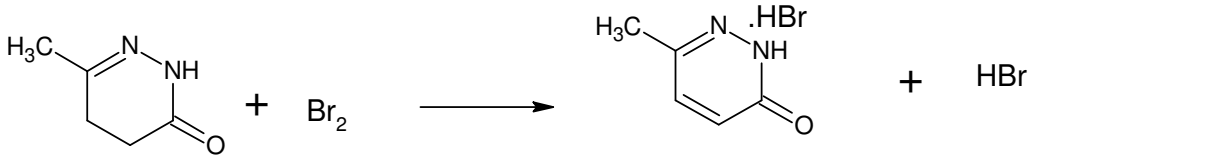
OUT PUT	
Organic content	3000 kg
Aq.layer	3637
pH	<1
TDS	20-21%
Toluene	2318
COD	3-5%
Total	**8955 kg**

41. 3-MP:

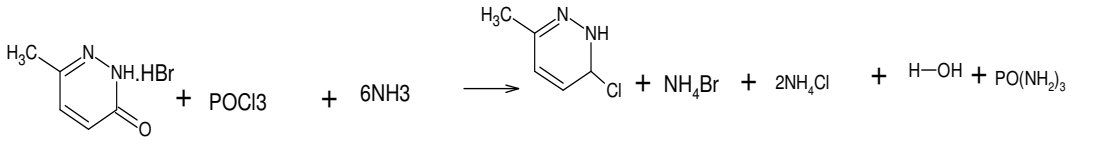
Reaction Scheme:



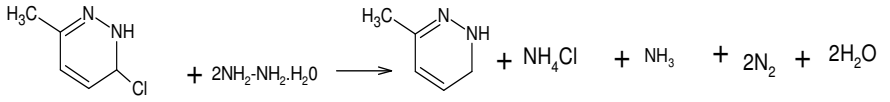
Levalunic acid MW=116 | Hydrazine hydrate MW=50 | Stage-I(DHMP) MW=112 | water MW=54



Stage-I(DHMP) MW=112 | Bromine MW=160 | Stage II(OXMP.HBr) MW=191 | Hydrobromic acid MW=81



Stage-II(OXMP.HBr) MW=191 | Phosphorous Oxychloride MW=153.5 | Ammonia MW=102 | 3-CMP MW=128.5 | Ammonium bromide MW=98 | Ammonium chloride MW=107 | Water MW=18 | Phosphoryl triamide MW=95



3-CMP	Hydrazine hydrate	3-MP	Ammonium chloride	Ammonia	Nitrogen	Water
MW=128.5	MW=100	MW=94	MW=53.5	MW=17	MW=28	MW=36

Brief Process:

Stage-I (DHMP):

Levulinic acid is reacted with hydrazine hydrate at 85-90℃ temperature in presence of toluene as a solvent. The product is precipitated on cooling which is isolated by filtration followed by vacuum drying.

The toluene mother liquor contains liberated water from reaction is collected by layer separation. The lower aqueous layer is sent to ETP for further treatment and upper organic layer is directly taken for re-use in next batches.

Stage-I (OXMP.HBr):

Stage I (DHMP) is dissolved in glacial acetic acid reacted with bromine at reflux temperature. The liberated hydrobromic acid is scrubbed in water. The product is precipitated on cooling which is isolated by filtration followed by vacuum drying.

The mother liquor contains acetic acid taken for vacuum distillation and residue is sent for incineration.

Stage-III (CMP):

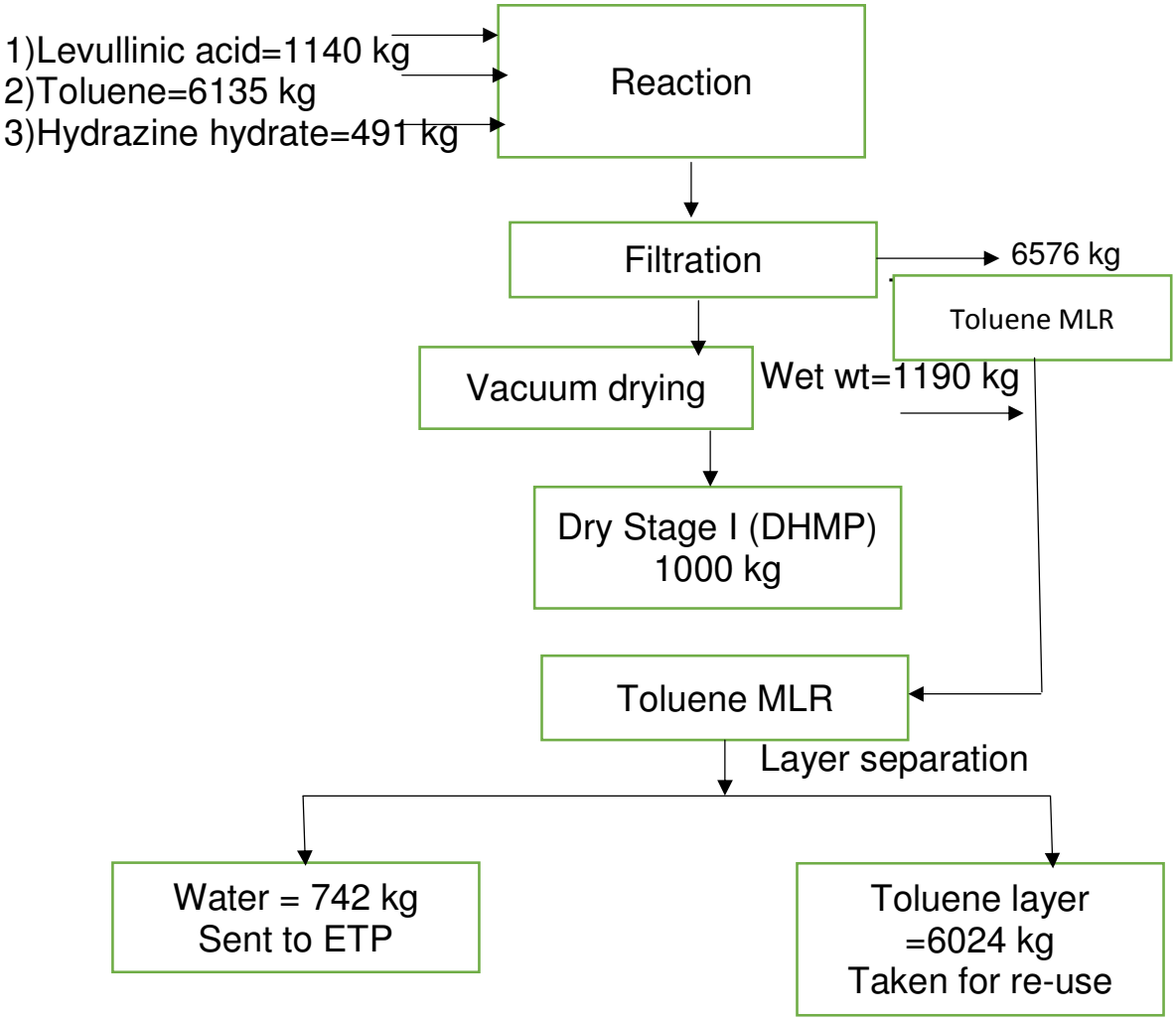
Stage II is chlorinated with POCl3.Work up is done by recovery of excess POCl3 followed by quenching in water.RM is basified with aqueous ammonia solution and product is extracted with MDC as a

solvent. The final product is isolated by MDC recovery followed by filtration to give 3-CMP.

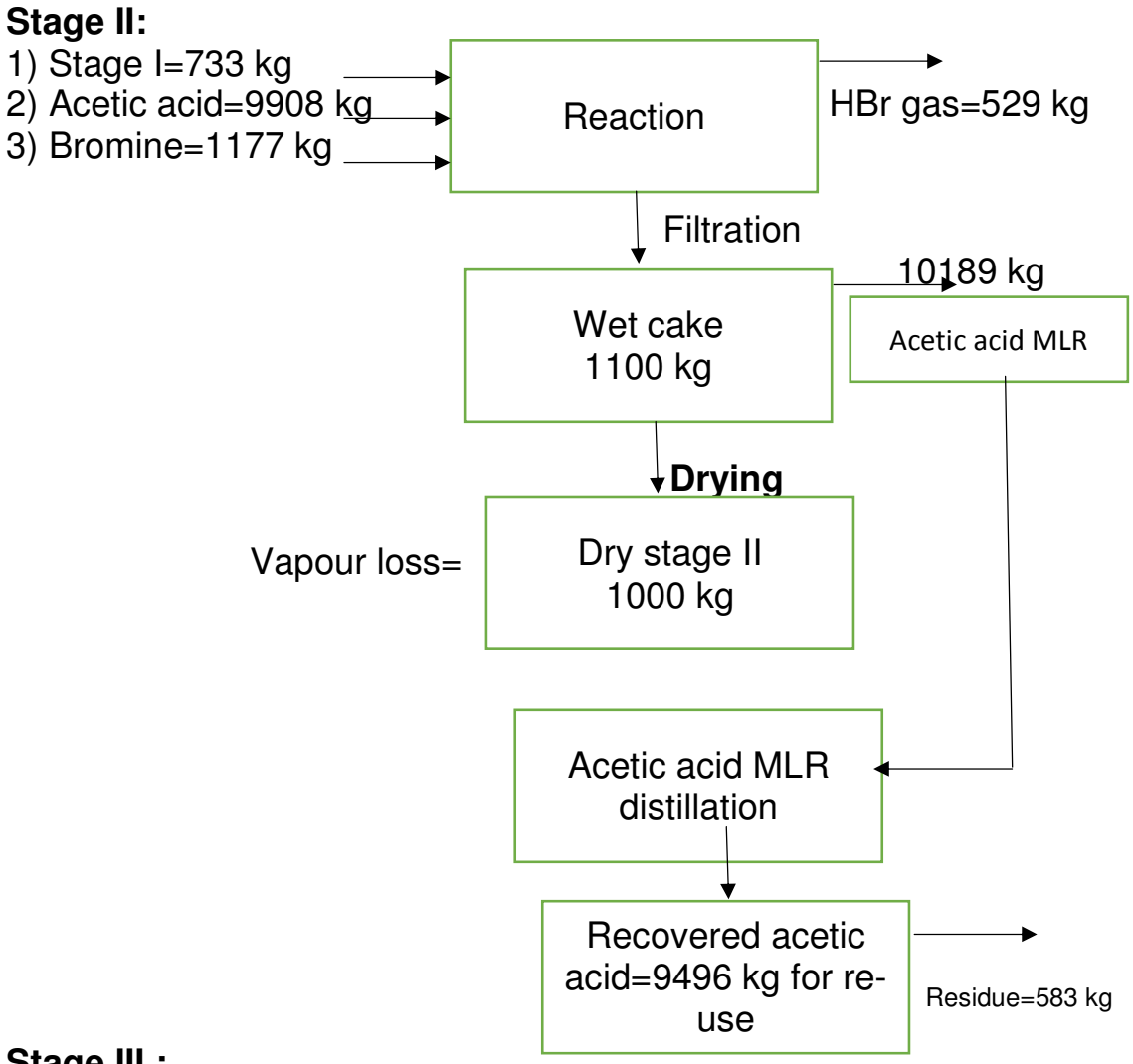
Stage-IV (3-MP):

Stage III is de-chlorinated with hydrazine hydrate in presence of methanol as a solvent and palladium carbon as a catalyst. Work up is done by filtration of catalyst and methanol concentration.RM is basified with aqueous ammonia solution and product is extracted with MDC as a solvent. The final product is isolated by MDC recovery gives 3-MP.

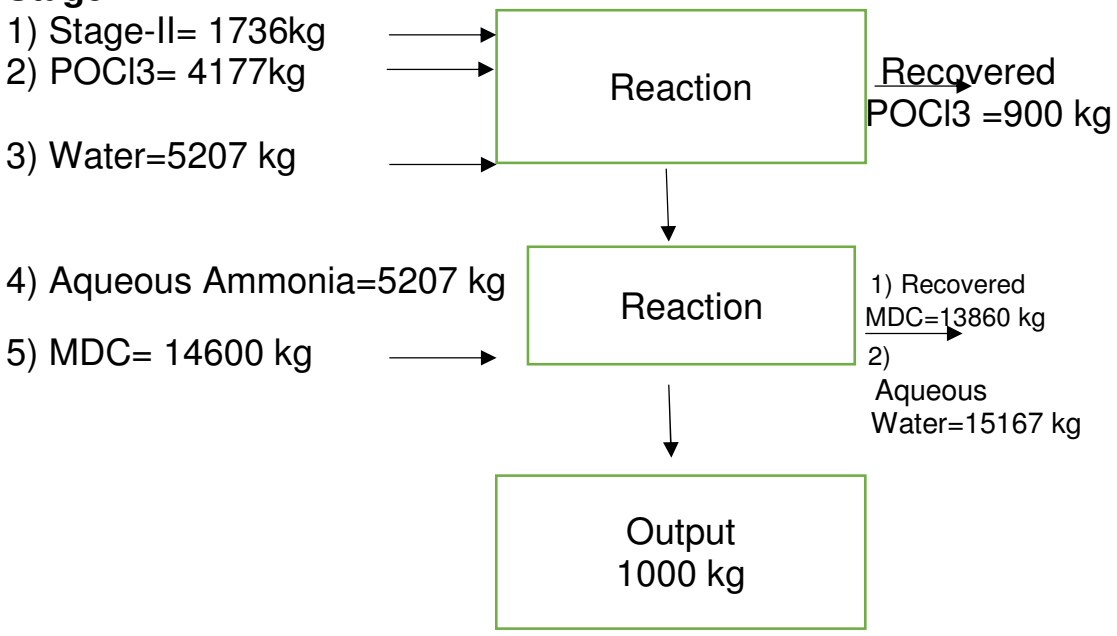
Flow Chart: Stage I (DHMP)



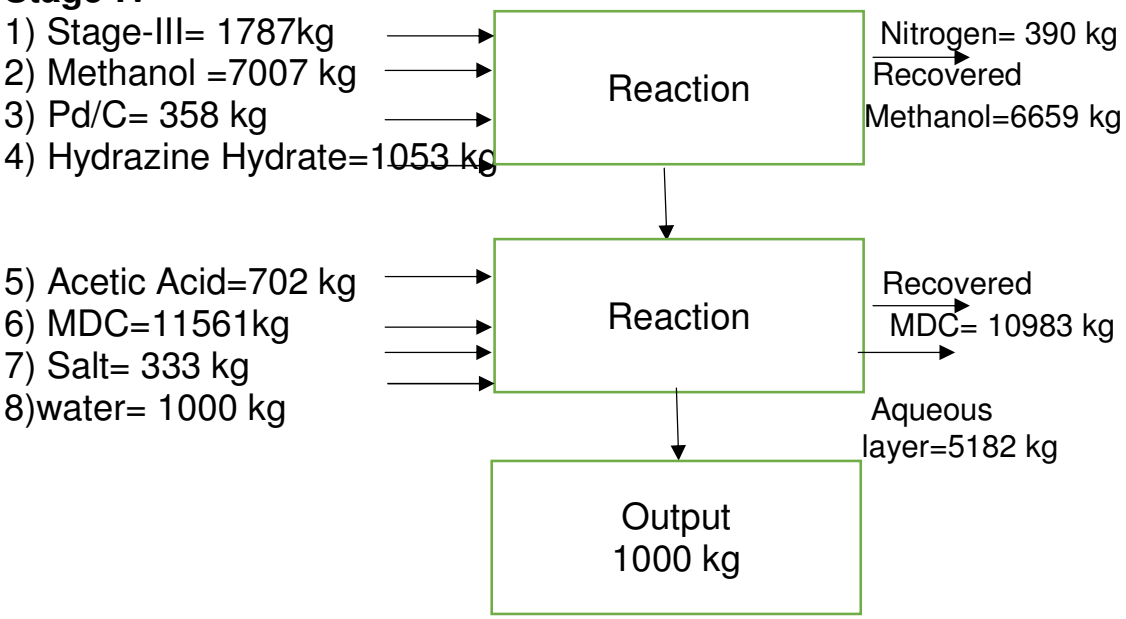
Stage II:



Stage III :



Stage-IV


1) Stage-III= 1787kg
2) Methanol =7007 kg
3) Pd/C= 358 kg
4) Hydrazine Hydrate=1053 kg
Reaction
Nitrogen= 390 kg
Recovered
Methanol=6659 kg
5) Acetic Acid=702 kg
6) MDC=11561kg
7) Salt= 333 kg
8)water= 1000 kg
Reaction
Recovered
MDC= 10983 kg
Aqueous
layer=5182 kg
Output
1000 kg

Material Balance of 3-Methyl Pyridazine

Batch Size: Kgs

Name of the input	Quantity in Kg		Name of the out put	Quantity in Kg
Levullinic acid	1140		Stage I	1000 kg
Toluene	6135		Toluene MLR	6024
Hydrazine Hydrate	491		Water	742
			PH (acidic)	3 to 4
			COD (%)	3.264
			TDS (%)	0.0972
Total	7766			7766
Stage I	733		Stage II	1000
Bromine	1177		Recovered acetic acid	9496
Acetic acid	9908		16% HBr solution	3384
Water for HBr solution	2645		Residue for incineration	583
			COD (%)	6.2
Total	14463		Total	14463
Stage II	1736		Stage III	1000
POCl3	4177		Recovered POCL3	900
Water	5207		Aqueous effluent	15167
Aqueous NH3	5207		Recovered MDC	13860
MDC	14600		COD (%)	2.87
			TDS (%)	2
			PH(basic)	8 to 9
Total	30927			30927
Stage-III	1787		Output(Stage IV-3MP)	1000
Methanol	7007		Spent catalyst for regeneration	393
Pd/C	358		Recovered Methanol	6659
Hydrazine Hydrate	1053		V.L.(in Methanol)	348
Acetic Acid	702		Recovered MDC	10983
MDC	11561		Aqueous water to ETP	4834
Salt	333		PH (basic)	8.5 to 9
Water	1000		Nitrogen Gas	390
Aqueous Ammonia	806		COD (%)	17.88
			TDS (%)	6.42
Total	24607		Total	24607

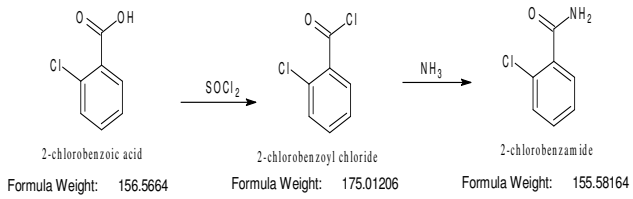
???

42. OCBA

Manufacturing process :- **Step -1** To synthesis of Preparation of 2-Chloro benzamide from 2-Chloro Benzoic acid using SOCl2 & NH3.

Step-2 2-Chlorobenzoyl chloride treated wit Liq.Ammonia get product 2-Chlorobenzamide

CHEMICAL REACTION :-

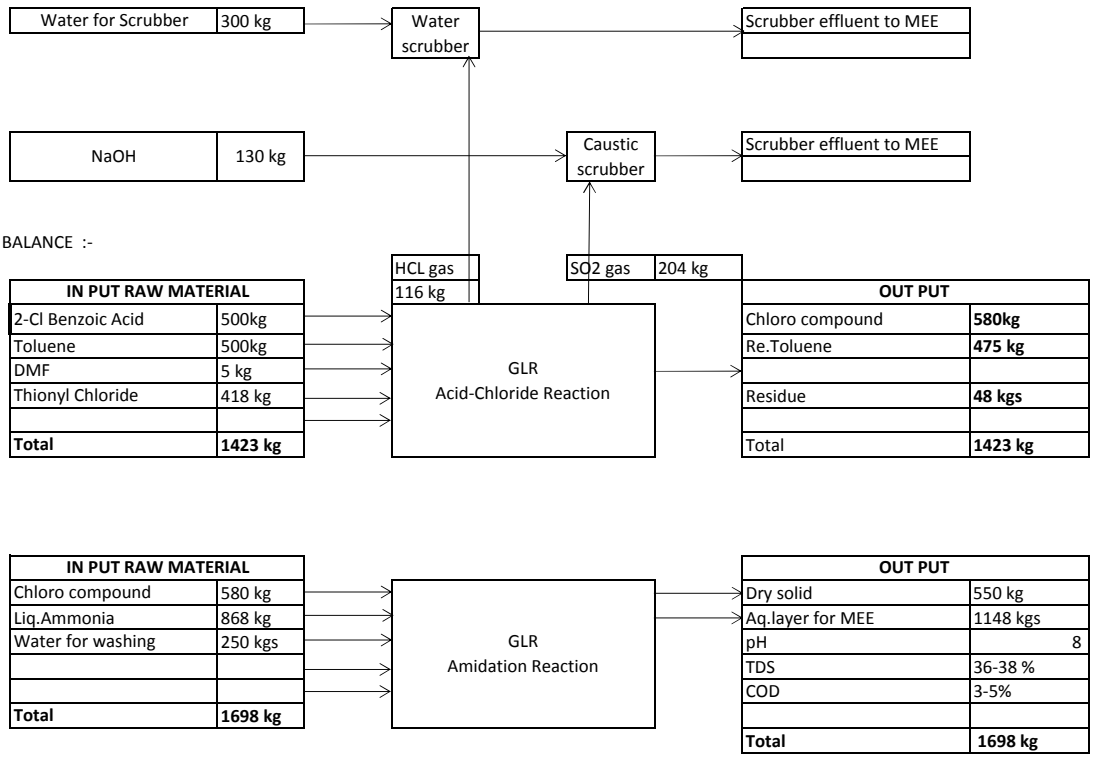


2-chlorobenzoic acid — Formula Weight: 156.5664

2-chlorobenzoyl chloride — Formula Weight: 175.01206

2-chlorobenzamide — Formula Weight: 155.58164

Mass Balance :- Mass balance of 2-Chlorobenzamide



MASS BALANCE :-

IN PUT RAW MATERIAL	
2-Cl Benzoic Acid	500kg
Toluene	500kg
DMF	5 kg
Thionyl Chloride	418 kg
Total	**1423 kg**

OUT PUT	
Chloro compound	**580kg**
Re.Toluene	**475 kg**
Residue	**48 kgs**
Total	**1423 kg**

IN PUT RAW MATERIAL	
Chloro compound	580 kg
Liq.Ammonia	868 kg
Water for washing	250 kgs
Total	**1698 kg**

OUT PUT	
Dry solid	550 kg
Aq.layer for MEE	1148 kgs
pH	8
TDS	36-38 %
COD	3-5%
Total	**1698 kg**

43. Chlorinated Paraffin Wax:

Reaction Scheme:

$$Cm\ Hn+2 + xCl2 \longrightarrow Cm\ H2n-x+\ Cl\ x + xHCl$$

Heavy normal paraffin wax — Chlorinated paraffin wax

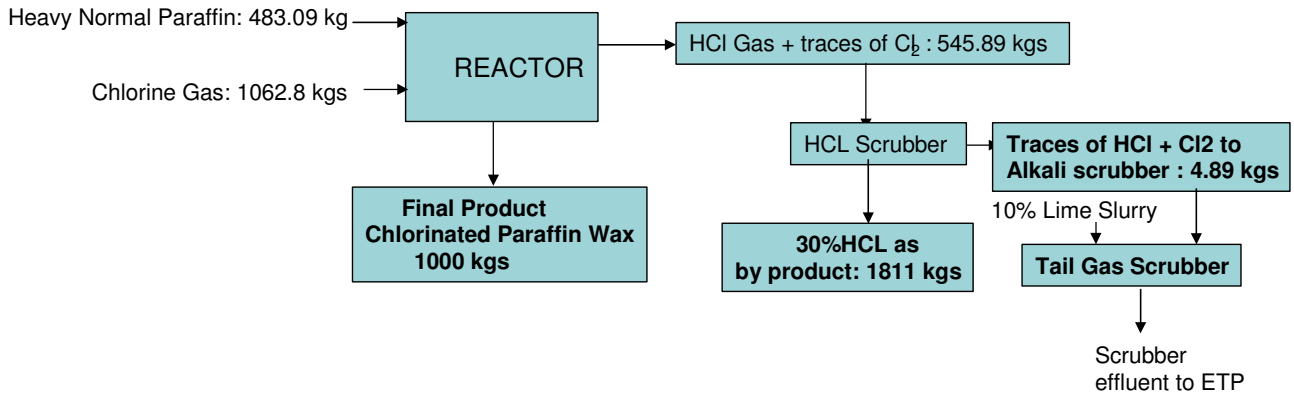
n=14 to 18

Brief Process:

Heavy normal paraffin wax or paraffin wax is chlorinated with chlorine gas. After completion of chlorination the final product is isolated after aeration and transferred to storage tank as finished product.

While the chlorination is in process, HCl gas & traces of unreacted chlorine is liberated, which is scrubbed in water to get HCl as 27- 30% will be used as raw material in other products & excess HCl & Cl2 gas further scrubbed in alkali scrubber.

MASS BALANCE OF CHLORINATED PARAFFIN WAX (1 Ton)



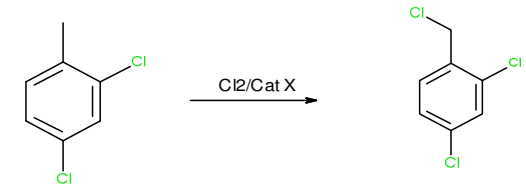
Sr. No.	Input Raw materials	Quantity in kgs	Out Put	Quantity in kgs
1	HNP	483.09	CPW	1000
2	Cl_2 gas	1062.8	30% HCl	1811
3	Water for HCl recovery Scrubber	1270	Traces of HCl/Cl2	4.89
4	**Total**	**2815.89**	**Total**	**2815.89**

44. 2,4-DCBC

Manufacturing process

:- **Step -1** Synthesised by chlorination of 2,4-Dichloro Toluene using chlorine gas in presence of a radical initiator

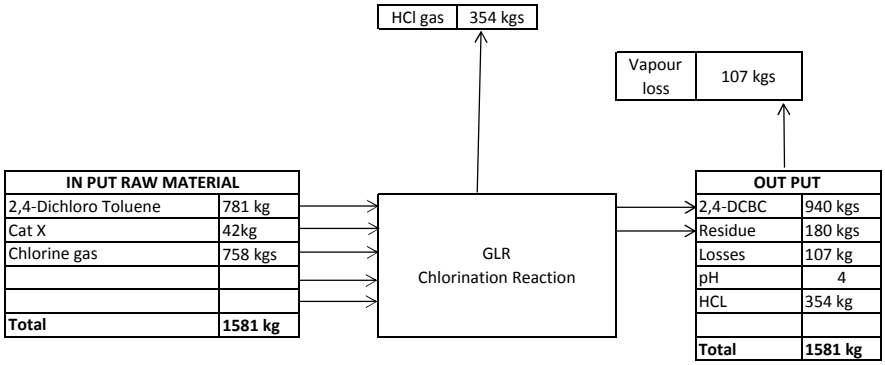
CHEMICAL REACTION :-



2,4-Dichloro Toluene
Formula Weight: 161.02854

2,4-Dichloro benzyl Chloride
Formula Weight: 195.4736

Mass Balance :- Mass balance of 2,4-Dichloro Benzyl chloride



IN PUT RAW MATERIAL	
2,4-Dichloro Toluene	781 kg
Cat X	42kg
Chlorine gas	758 kgs
Total	**1581 kg**

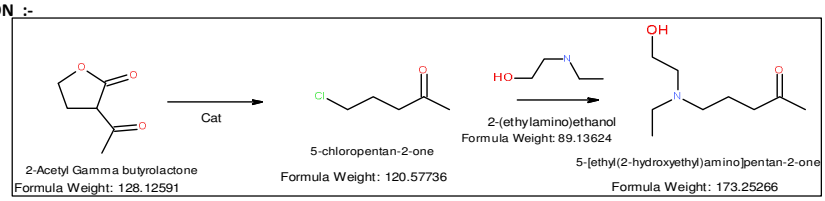
OUT PUT	
2,4-DCBC	940 kgs
Residue	180 kgs
Losses	107 kg
pH	4
HCL	354 kg
Total	**1581 kg**

BRIEF MANUFACTURING PROCESS: An intermediate for Hydroxy Chloroquine sulfate (Hydroxy Novaldiamine)

5-(Ethyl-(2-Hydroxyethyl)-Amino) Pentanone

Manufacturing process :- **Step -1** Synthesised by reaction of 2-Acetyl Gamma butyrolactone with conc HCl followed by condensation with N-Ethyl Ethanolamine to form **5-(Ethyl-(2-Hydroxyethyl)-Amino) Pentanone**

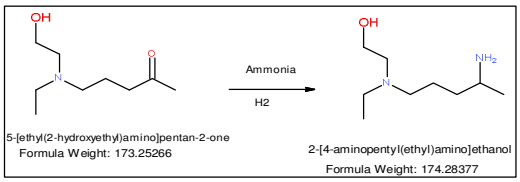
CHEMICAL REACTION :-



2-((4-Aminopentyl)(Ethyl)Amino)Ethan-1-ol

Manufacturing process :- **Step -2** Synthesised by reaction of 5-(Ethyl-(2-Hydroxyethyl)-Amino) Pentanone with ammonia gas followed by hydrogenation to form **2-((4-Aminopentyl)(Ethyl)Amino)Ethan-1-ol**

CHEMICAL REACTION :-



Mass Balance :- Mass balance for synthesis of 2-((4-Aminopentyl)(Ethyl)Amino)Ethan-1-ol

IN PUT RAW MATERIAL	
2-Acety Gamma butyrolactone	1138 kg
Conc HCl (d=1.16)	1547kg
Water	1555.85 kg
N-Ethyl Ethanol Amine	779.27kg
DIPEA	1232.24 kg
Methanolic Ammonia	2300 kg
Hydrogen gas	20.3 kg
Ni-Catalyst	35.11 kg
Total	**8607.77**

GLR

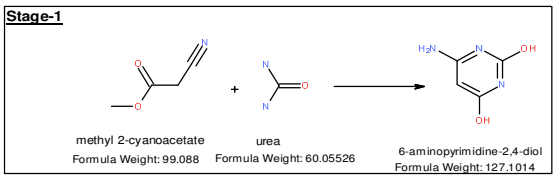
OUT PUT	
Final product	1000 kg
Aq.layer acidic	2636 kg
TDS	30-35% (n922 kg)
Re.Methanol	1861.77kg
DIPEA.HCL	1579 KG
Re.R-Ni catalyst	35 kg
Excess Ammonia	574 kg
Total	**8607.77 kg**

BRIEF MANUFACTURING PROCESS: Stagewise synthesis of FAVIPIRAVIR INTERMEDIATE

Manufacturing process :- Stage -I

Synthesis of 6-amino-2,4-dihydroxypyrimidine

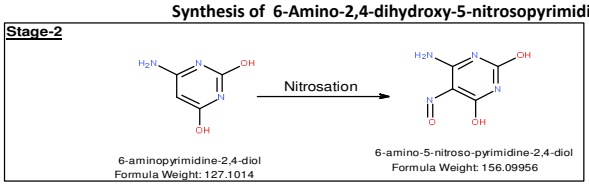
Stage-1



Stage-II

Synthesis of 6-Amino-2,4-dihydroxy-5-nitrosopyrimidine

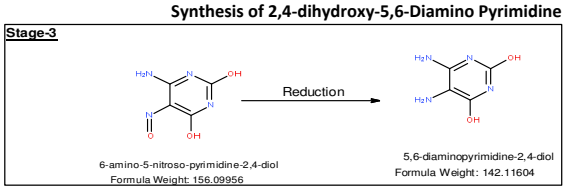
Stage-2



Stage-III

Synthesis of 2,4-dihydroxy-5,6-Diamino Pyrimidine

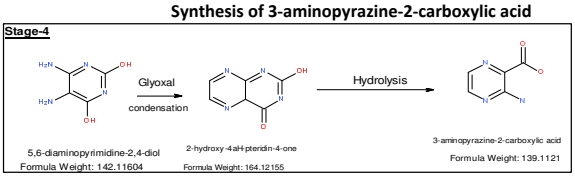
Stage-3



Stage-IV

Synthesis of 3-aminopyrazine-2-carboxylic acid

Stage-4



IN PUT RAW MATERIAL	
Methyl Cyano Acetate	2907kg
Urea	1550.4kg
Sodium Ethoxide	3514.24kg
Sodium Nitrite	1718.36kg
Acetic acid	2196.4kg
Hydros	1168kg
Water	15181kg
Conc H2SO4	2662.81 kg
Sodium bisulfite	4049 kg
Glyoxal (40% solution)	3527 kg
Ammonia Solution	1847.56 kg
Sodium hydroxide	2336 kg
Conc HCl solution (30%)	10657 kg
TOTAL	**53314.77 kg**

GLR /SSR for Reaction

OUT PUT	
Final product	1000 kg
Aq.layer acidic	34660.56 kg
TDS	30-35% (11288kg)
Re.Ethanol	2377.68 kg
Salt	3387.2 kg
Excess Ammonia	601.25 kg
TOTAL	**53314.77 kg**

???

ANNEXURE-III

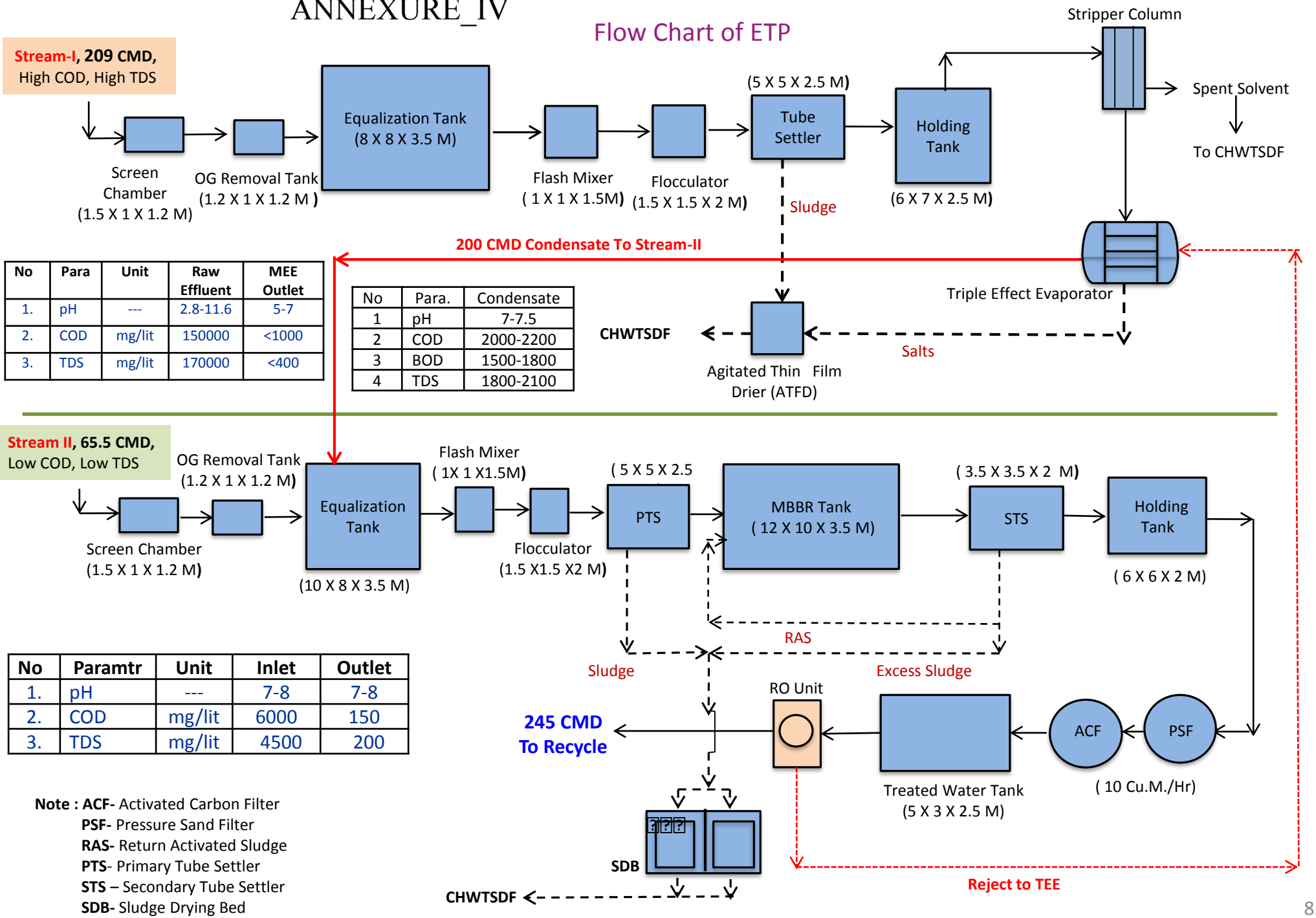
Table 1 Solid Waste Details for Existing and Expansion Activities

No	Description	Quantity (MT/M)		Disposal
		Existing	After Expansion	
1	Boiler Ash	83.5	457 .0	Sale to Brick Manufacture
2	Metal Scrap	--	10.0	Sale to authorized recyclers
3	Empty Containers & Drums	--	1000 Nos./M	
4	Packaging Material	15.0	30.0	
5	E-Waste	--	1	

???

ANNEXURE_IV

Flow Chart of ETP



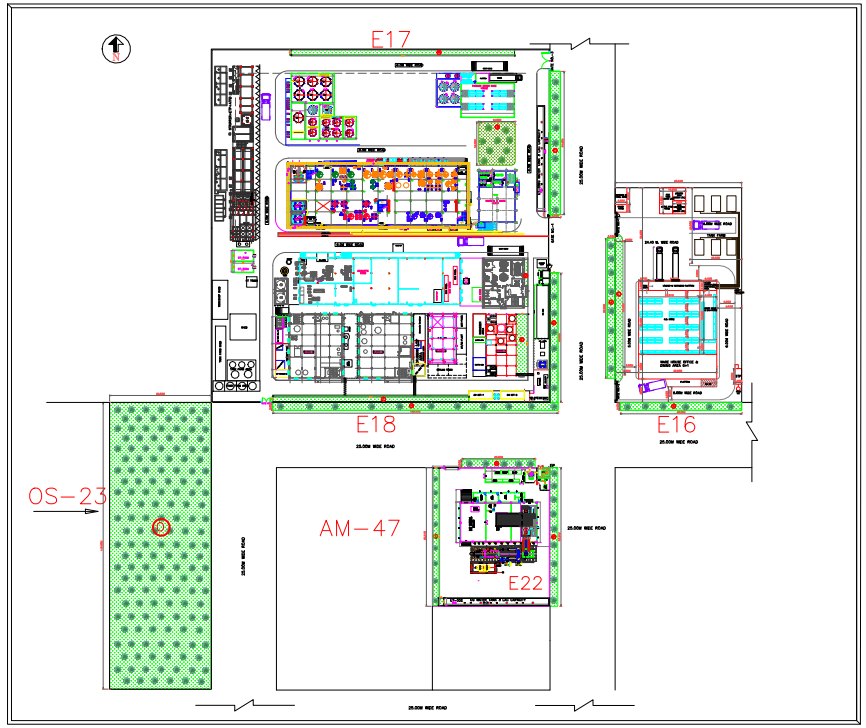
No	Para	Unit	Raw Effluent	MEE Outlet
1.	pH	---	2.8-11.6	5-7
2.	COD	mg/lit	150000	<1000
3.	TDS	mg/lit	170000	<400

No	Para.	Condensate
1	pH	7-7.5
2	COD	2000-2200
3	BOD	1500-1800
4	TDS	1800-2100

No	Paramtr	Unit	Inlet	Outlet
1.	pH	---	7-8	7-8
2.	COD	mg/lit	6000	150
3.	TDS	mg/lit	4500	200

Note : ACF- Activated Carbon Filter
PSF- Pressure Sand Filter
RAS- Return Activated Sludge
PTS- Primary Tube Settler
STS – Secondary Tube Settler
SDB- Sludge Drying Bed

Annexure-V



ANNEXURE-VI

Table 1 Water Consumption

No	Description	Water Consumption (M^3/Day)		
		Existing	**Expansion**	**After Expansion**
1	**Domestic**	5 ($^{\$}$4+$^{\#}$1)	15	20 ($^{\$}$13+$^{\#}$7)
2	**Industrial**			
a	Processing	$^{\#}$17	89	$^{\#}$106
b	Scrubber	*2	18	*20
c	R&D & Pilot Plant	--	5	$^{\#}$5
d	Lab, Floor Washing	*3	2	*5
e	Cooling Tower Makeup	*8	392	*400 ($^{\#}$268+*132)
f	Boiler Makeup	*8	142	150 ($^{\#}$62 + *88)
	Industrial Total	**38 ($^{\#}$17+*21)**	**648**	**686 ($^{\#}$441+*245)**
3	**Gardening**	***2**	**38**	**$^{\#}$40**
	Grand Total	**45 ($^{\#}$18+*23+$^{\$}$4)**	**701**	**746 ($^{\$}$13+$^{\#}$488+ *245)**
Note: $^{\#}$ - Fresh water from MIDC water supply, *- ETP treated water, $^{\$}$-STP treated Water. 9 products will be manufactured at a time and water calculations done for worst 9 products.				

Table 2 Details of Effluent Generation

No	Description	Effluent Generation (M^3/Day)			
		Existing	**Expansion**	**Total After Expansion**	**Disposal**
1	**Domestic**	4.5	11.5	16.0	Domestic effluent treated in proposed STP & 13 CMD will be recycle & reuse
2	**Industrial**				
A	Processing	20.0	187.0	207.0	Effluent treated in proposed ETP to achieve ZLD & 245 CMD will be recycle & reuse
B	Scrubber	0.0	2.0	2.0	
C	R&D & Pilot Plant	--	4.0	4.0	
D	Lab, Floor Washing	2.5	2.0	4.5	
E	Cooling Tower blowdown	1.0	30.0	31.0	
F	Boiler blowdown	1.0	25.0	26.0	
	Industrial Total	**24.5**	**250.00**	**274.5**	

ANNEXURE-VII

Table 1 Hazardous Waste Generation and its Disposal Details

No	Description	Cat	Quantity (MT/M)		Disposal Facility
			Existing	Total After Expansion	
1	Process Residue	28.1	11.14	20	5 MT/M would be reused or sold to outside parties and rest would be forwarded to CHWTSDF
2	Distillation Residue	20.3	21.20	65.20	CHWTSDF
3	ETP sludge	35.3	9.00	571.50	
4	MEE Salt	35.3	30.00	360.00	
5	Spent Carbon	28.3	-	1.70	
6	Spent Catalyst	28.2	-	3.50	
7	Discarded containers / barrels / liners	33.1	-	90.00 Nos.	Sale to authorized Recycler / Re-processor.
8	Filter Medium	36.2	-	60.00 Nos.	CHWTSDF
9	Date-expired products	28.5	- -	5.00	
10	Spent Solvent	28.6	-	90.00	
11	Spent / Used Oil	35.4	-	50.00 Lit	
12	Sodium Sulphate Solution 25%	35.3	180.30	150.00	
13	HCl 30%	35.3	75.60	120.00	
14	Sodium Nitrite Solution 30%	35.30	30.30	--	
15	Distillation residue of P-Xylene	35.30	3.60	--	
16	Ammonium Chloride	35.3	36.00	--	

???

ANNEXURE-VIII

Environment Protection Cost

No	Description	Capital (Rs. Lakhs)	O & M/A (Rs. Lakhs)
I	**Existing**		
1	APC : Bag Filters, Stacks	75.00	5.00
2	WPC : ETPs (Separate for Stream I & II); MEE	100.00	10.00
3	Noise Pollution Control	5.00	1.00
4	Environmental Monitoring and Management	--	5.00
5	Occupational Health and Safety	10.00	2.00
6	Green Belt Development & RWH System	10.00	2.00
	Total I	**200.00**	**25.00**
II	**Expansion**		
1	Installation of STP	10.00	2.00
2	Installation of ETP (RO, MEE, Guard tank for standby storage of effluent)	1000.50	100.00
3	Bag Filter & Stack Installation	75.00	8.00
4	Installations of Scrubbers	35.00	4.00
5	Occupational Health and Safety(Additional set up of OHC)	50.00	10.00
6	Green Belt Development & Rain Water Harvesting	50.00	5.00
	Total II	**1220.50**	**129.00**
	Gross Total (I + II)	**1420.50**	**154.00**

ANNEXURE-IX
List of Equipment

Type	MOC	QTY
Reactor	MSGL	17
	SS-316 (10 React. + 2 Autoclace)	15
	SS-316(Agitated vessel)	8
Vessel Tanks	MSGL	13
	SS-316	22
Distillate Receivers	MSGL	15
	SS-316	13
Vacuum Receivers	MS-Halar	9
	SS-316	8
ML Tanks	MSGL	5
	SS-316	4
Product Storage Tanks	MSGL	3
	SS-316	5
ANFD	MSGL	4
	SS-316	2
ANF	MSGL	1
Centrifuge	SS-316	2
Scrubbing System		5
Sparkle Filter	SS-316	1
Storage Tanks	MS	6
	SS-316	3
	SS-304L	1
	PPFRP	8
	HDPE	1
	MSGL	9

???

ADDITIONAL ATTACHMENT
ENCLOSURE-I_

F. No. J-11011/92/2015-IA-II (I)
Government of India
Ministry of Environment, Forest & Climate Change
(Impact Assessment Division)

Indira Paryavaran Bhawan
Aliganj, Jor Bagh Road,
New Delhi -110 003

Telefax: 011-24695365
E-mail: yogendra78@nic.in

Dated: 31st January, 2017

To

The Director
(Mr. Vikas Shah)
M/s OC Specialties Pvt. Ltd.
Plot No. E-18, M.I.D.C. Chincholi, Tal.: Mohol,
Dist.: Solapur, Maharashtra

Sub: Setting up of Fine Chemical Intermediates Manufacturing Unit at Plot No. E-18, Taluka Mohol, Chincholi MIDC Area, District Solapur, Maharashtra by M/s OC Specialties Pvt. Ltd. - Environmental Clearance – reg.

Ref: Online Proposal No. IA/MH/IND2/27411/2015 dated 05th April, 2016.

Sir,

This has reference to your online proposal no. IA/MH/IND2/27411/2015 dated 05th April, 2016 along with project documents including Form I, Terms of References, Pre-feasibility Report, EIA/EMP Report along with Public Hearing Report regarding the above mentioned project.

2. The Ministry of Environment, Forest and Climate Change has examined the application. It is noted that the proposal is for Setting up of Fine Chemical Intermediates Manufacturing Unit at Plot No. E-18, Taluka Mohol, Chincholi MIDC Area, District Solapur, Maharashtra by M/s OC Specialties Pvt. Ltd. As informed and as per the documents submitted by the project proponent (PP), the total plot area is 8450 m^2, out of which, greenbelt will be developed in 2166.85 m^2. The cost of the project is ₹ 5.14 Crore. Total of 80 persons will be employed in the project. The project is located at a distance of 1.83 Km from Great Indian Bustard Sanctuary, Nannaj, Solapur. It is reported that, the PP has submitted online application on 09.02.2016 for considering the project for recommendation of Standing Committee of National Board for Wildlife (SC NBWL). River Sina is at a distance of 3 Km from the project site. The project is located in the Chincholi, Solapur Notified Industrial Area of Maharashtra

Industrial Development Corporation (MIDC). The company proposed to manufacture the following products in the unit:

S. No.	Name of the Product	Quantity (MT/Day)	Quantity (MT/Month)
1.	Sodium Bromide Soln. OR Sodium Bromide Powder	13.0 7.73	390 232
	Zinc Hydroxy OR	3.53	106
	Zinc Oxide	2.46	74
2.	Di Isopropyl Ethyl Amine (DIPEA)	0.61	18.18
3.	Methyl - 2 - Chloro Phenyl Acetate	0.34	10.3
4.	4 Methoxy Phenyl Acetone	0.33	10
5.	2,3 Dichloro Pyridine	0.33	10
6.	2 – Amino – 2 - Phenyl Butyric Acid	0.21	6.5
7.	Ortho Hydroxy Phenyl Acetic Acid	0.50	15
8.	2 Coumaranone	0.41	12.4
9.	3-Isochromanone	0.40	12
10.	2,6 Dichloro Benzoyl Chloride	0.74	22.1
11.	Methyl – 2 - Dimethylamino-2-Phenyl Butyrate	0.33	10
12.	2-Dimethylamino-2-Phenyl Butanol	0.10	3.01
13.	P-Bromonisole / 4-Bromo Anisole	0.55	16.5
14.	Para Bromo Phenetole /4-Bromophenetole	0.48	14.5
15.	2, 4 – Dichloro Phenyl Acetyl	1.32	39.75
16.	2,5 – Dimethyl Phenyl Acetyl Chloride	1.08	32.5
17.	Indoline	1.21	36.25
18.	Ethyl Phenyl Glyoxalate (EPG)	0.95	28.42
19.	Ethyl - 1 – Hydroxy Cyclohexane Carboxylate	1.10	33.00
20.	Ethyl – 1 – Hydroxy Cyclopentane Carboxylate	1.21	35.25
21.	3 – Chloro – 2 – Hydrazinyl Pyridine	1.20	36.00
	Total	**40.12**	**1203.66**
	By-products		
1.	Sodium Sulphate Solution 25%	6.01	182.07
2.	HCl 30%	2.52	75.59
3.	Sodium Nitrite Soln.30%	1.01	30.42
4.	Distillation residue of P-xylene	0.12	3.6
5.	Ammonium Chloride	1.20	36.0

3. All Synthetic Organic Chemicals Industry located in a notified industrial area/estate are listed at S.N. 5(f) of Schedule of Environmental Impact Assessment (EIA) Notification under Category 'B'. However, considering the

applicability of general condition due to the project location within 5 km from the boundary of Protected Area notified under Wild Life (Protection) Act, 1972, the proposal is treated as Category 'A', and is appraised at Central Level by Expert Appraisal Committee (EAC).

4. The project was considered by the Expert Appraisal Committee (Industry-2) in its 40th meeting held during 18th-19th May, 2015; 8th meeting held during 26th - 27th May, 2016 and 14th meeting held during 26th – 27th October, 2016. The project proponent and the accredited consultant M/s Equinox Environments (India) Private Limited, Kolhapur gave a detailed presentation on the salient features of the project and proposed environmental protection measures to be undertaken as per Terms of References (TORs) awarded during the 40th meeting of the EAC (Industry -2) held during 18th-19th May, 2015 for preparation of EIA-EMP report. The TOR letter was issued vide Ministry's letter of even no. dated 13th July, 2015.

5. Public hearing was exempted as per para 7(i) III Stage (3)(i)(b) of EIA Notification, 2006 for preparation of EIA/EMP Report, being site is located in the Notified industrial area. It is reported that the industry has been granted 'Consent to Establish' by the Maharashtra Pollution Control Board dated 15.05.2014 or manufacturing activities which is valid up to 26.04.2017.

6. The PP has informed the EAC that the ambient air quality (AAQ) monitoring was carried out at 6 locations during October 2015 to December 2015. The baseline data indicates that the ranges of concentrations as: - PM_{10} (36.9 $\mu g/m^3$ to 84.5 $\mu g/m^3$), $PM_{2.5}$ (7.1 $\mu g/m^3$ to 54.7 $\mu g/m^3$), SO_2 (9.0 $\mu g/m^3$ to 27.9 $\mu g/m^3$) and NOx (6.7 $\mu g/m^3$ to 24.9 $\mu g/m^3$). AAQ modeling study for point source emissions indicates that the maximum incremental ground level concentrations (GLCs) after the proposed project would be 0.50 $\mu g/m^3$, 0.10$\mu g/m^3$, 1.0 $\mu g/m^3$ and 0.61 $\mu g/m^3$, with respect to PM_{10}, $PM_{2.5}$ and SO_2. The resultant concentrations are within the National Ambient Air Quality Standards (NAAQS).

7. It is reported that Multi-cyclone followed by bag-filter will be provided to coal/ biomass fired boiler (3 TPH) and Thermic fluid heater. Scrubbers will be provided to control process emission viz. SO_2, HNO_2, NH_3 and HCl. Total water requirement will be 45 m^3/day. Out of which, water requirement (18 m^3/day) will be met from MIDC water supply and 27 m^3/day will be met from rain water harvesting and treated effluent. Industrial effluent generation will be 24.5 m3 /day and segregated into High TDS/COD and Low TDS/COD effluent streams. High TDS/COD effluent stream will be treated through steam stripper followed by multiple effect evaporator (MEE) and agitated thin film drier (ATFD). Low TDS effluent stream will be treated in ETP followed by RO. No effluent will be discharged outside the plant premises. The evaporation salts and ETP sludge will be sent to TSDF. Organic residue, spent carbon and Distillation residue will be sent to cement plant. Waste oil and used batteries from the DG sets are

sent to authorize recyclers. Fly ash will be sent to brick manufacturers. ETP sludge, MEE salt and Distillation residue will be sent to CHWTSDF. Process residue will be sent to the persons/CHWTSDF.

8. It is informed by the PP that the major impact on Great Indian Bustard sanctuary due to the proposed unit would from be emission of fly ash due to the burning of coal. In view of the same, the PP has committed to use briquette instead of coal.

9. The EAC, in its 14th meeting held during 26th-27th October, 2016, has found that the final EIA/EMP report submitted by the PP is adequate. The EAC after detailed deliberations, on the basis of the information and presentation made by the PP, has recommended the project for environmental clearance with certain conditions.

10. Based on the proposal and information submitted by the Project Proponent, and based on the recommendation by the Expert Appraisal Committee (Industry-2), the Ministry of Environment, Forest and Climate Change hereby accords Environmental Clearance to the above project under the provisions of EIA Notification dated 14th September 2006, subject to the compliance of the following Specific and General Conditions:

i) The environmental clearance (EC) is subject to the recommendation of Standing Committee of National Board for Wildlife.

ii) National Emission Standards for Organic Chemicals Manufacturing Industry issued by the Ministry vide G.S.R. 608(E) dated 21st July, 2010 and amended time to time shall be followed by the unit.

iii) Multi-cyclone followed by bag-filter shall be provided to coal/ biomass fired boiler and Thermic fluid heater.

iv) Scrubbers shall be provided to control process emission viz. SO_2, HNO_2, NH_3 and HCl. The scrubbing media shall be sent to effluent treatment plant (ETP) for treatment. Efficiency of scrubber shall be monitored regularly and maintained properly. At no time, the emission levels shall go beyond the prescribed standards.

v) Solvent management shall be carried out as follows :

(a). Reactor shall be connected to chilled brine condenser system

(b). Reactor and solvent handling pump shall have mechanical seals to prevent leakages.

(c). The condensers shall be provided with sufficient HTA and residence time so as to achieve more than 95% recovery.

(d). Solvents shall be stored in a separate space specified with all safety measures.

(e). Proper earthing shall be provided in all the electrical equipment wherever solvent handling is done.

(f). Entire plant shall be flame proof. The solvent storage tanks shall be provided with breather valve to prevent losses.

(g). All the solvent storage tanks shall be connected with vent condensers with chilled brine circulation.

vi) Total fresh water requirement from MIDC shall not exceed 18m^3/day.

vii) Effluent generation shall not exceed 24.5m^3/day. Industrial wastewater will be segregated into High TDS/COD and Low TDS/COD effluent streams. High TDS/COD effluent stream will be treated through steam stripper followed by multiple effect evaporators (MEE) and agitated thin film drier (ATFD). Low TDS effluent stream will be treated in ETP followed by RO. No effluent will be discharged outside the plant premises.

viii) Process effluent/any wastewater shall not be allowed to mix with storm water. Storm water drain shall be passed through guard pond.

ix) Hazardous chemicals shall be stored in tanks, tank farms, drums, carboys etc. Flame arresters shall be provided on tank farm. Solvent transfer shall be by pumps.

x) Evaporation salts and ETP sludge will be sent to TSDF. Organic residue, spent carbon and Distillation residue will be sent to cement plant. Waste oil and used batteries from the DG sets are sent to authorize recyclers. Fly ash will be sent to brick manufacturers. ETP sludge, MEE salt and Distillation residue will be sent to CHWTSDF. Process residue will be sent to the persons/CHWTSDF.

xi) The company shall obtain Authorization for collection, storage and disposal of hazardous waste under the Hazardous Waste (Management, Handling and Trans-Boundary Movement) Rules, 2008 and amended as on date for management of Hazardous wastes and prior permission from SPCB shall be obtained for disposal of solid / hazardous waste in the TSDF. Measures shall be taken for fire fighting facilities in case of emergency.

xii) The Company shall strictly comply with the rules and guidelines under Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) Rules, 1989 as amended time to time. All Transportation of Hazardous Chemicals shall be as per the Motor Vehicle Act (MVA), 1989.

xiii) At least 2.5 % of the total cost of the project shall be earmarked towards the Enterprise Social Commitment based on need of local people and item-wise details along with time bound action plan shall be prepared and submitted to the Ministry's Regional Office at Nagpur.

xiv) Zero Liquid Discharge (ZLD) shall be ensured.

xv) Continuous online (24x7) monitoring to be installed for flow measurement and measurement of pollutants within the treatment unit. Data to be uploaded on company's website and provided to the respective RO of MEF&CC, CPCB and SPCB.

B. General Conditions:

i. The project authorities must strictly adhere to the stipulations made by the Maharashtra Pollution Control Board, State Government and any other statutory authority.

ii. No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forest and Climate Change. In case of deviations or alterations in the project proposal from those submitted to this Ministry for clearance, a fresh reference shall be made to the Ministry to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any.

iii. The locations of ambient air quality monitoring stations shall be decided in consultation with the State Pollution Control Board (SPCB) and it shall be ensured that at least one stations is installed in the upwind and downwind direction as well as where maximum ground level concentrations are anticipated.

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

v. The overall noise levels in and around the plant area shall be kept well within the standards by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels shall conform to the standards prescribed under Environment (Protection) Act, 1986 Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time).

vi. The Company shall harvest rainwater from the roof tops of the buildings and storm water drains to recharge the ground water and use the same water for the process activities of the project to conserve fresh water.

vii. Training shall be imparted to all employees on safety and health aspects of chemicals handling. Pre-employment and routine periodical medical examinations for all employees shall be undertaken on regular basis. Training to all employees on handling of chemicals shall be imparted.

viii. The company shall also comply with all the environmental protection measures and safeguards proposed in the documents submitted to the Ministry. All the recommendations made in the EIA/EMP in respect of

environmental management, risk mitigation measures and public hearing relating to the project shall be implemented.

ix. The company shall undertake all relevant measures for improving the socio-economic conditions of the surrounding area. CSR activities shall be undertaken by involving local villages and administration.

x. The company shall undertake eco-developmental measures including community welfare measures in the project area for the overall improvement of the environment.

xi. A separate Environmental Management Cell equipped with full fledged laboratory facilities shall be set up to carry out the Environmental Management and Monitoring functions.

xii. The company shall earmark sufficient funds towards capital cost and recurring cost per annum to implement the conditions stipulated by the Ministry of Environment, Forest and Climate Change as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds so earmarked for environment management/ pollution control measures shall not be diverted for any other purpose.

xiii. A copy of the clearance letter shall be sent by the project proponent to concerned Panchayat, Zilla Parishad/Municipal Corporation, Urban local Body and the local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal.

xiv. The project proponent shall also submit six monthly reports on the status of compliance of the stipulated Environmental Clearance conditions including results of monitored data (both in hard copies as well as by e-mail) to the respective Regional Office of MoEF&CC, the respective Zonal Office of CPCB and SPCB. A copy of Environmental Clearance and six monthly compliance status report shall be posted on the website of the company.

xv. The environmental statement for each financial year ending 31st March in Form-V as is mandated shall be submitted to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental clearance conditions and shall also be sent to the respective Regional Offices of MoEF&CC by e-mail.

xvi. The project proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB/Committee and may also be seen at Website of the Ministry at http://moef.nic.in. This shall be advertised within seven days from the date of issue of the clearance

letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same shall be forwarded to the concerned Regional Office of the Ministry.

xvii. The project authorities shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of start of the project.

11. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.

12. The Ministry reserves the right to stipulate additional conditions, if found necessary. The company in a time bound manner will implement these conditions.

13. The above conditions will be enforced, *inter alia* under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, Air (Prevention &. Control of Water Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous Waste (Management, Handling and Trans-boundary Movement) Rules, 2008 and the Public Liability Insurance Act, 1991 along with their amendments and rules.

31.1.2017

(Yogendra Pal Singh)
Scientist 'D'

Copy to:-

1. The Secretary, Environment Department, Government of Maharashtra, 15th Floor, New Administrative Building, Mantralaya, Mumbai- 400 032.
2. The Additional Principal Chief Conservator of Forests (C), Ministry of Environment, Forest and Climate Change, Regional Office(WCZ), Ground Floor, East Wing, New Secretariat Building, Civil Line, Nagpur-440001.
3. The Chairman, Central Pollution Control Board, Parivesh Bhawan, CBD-cum-Office Complex East Arjun Nagar, Delhi - 110 032.
4. The Chairman, Maharashtra Pollution Control Board, Kalpataru Point, 3rd and 4th floor, Opp. Cine Planet, Sion Circle, Mumbai-400 022.
5. Monitoring Cell, Ministry of Environment, Forest and Climate Change, Indira Paryavaran Bhavan, Jor Bagh, New Delhi- 110 003.
6. Guard File/Monitoring File/Website/Record File.

31.1.2017

(Yogendra Pal Singh)
Scientist 'D'

MAHARASHTRA POLLUTION CONTROL BOARD

Tel: 24010706/24010437
Fax: 24023516
Website: http://mpcb.gov.in
Email: ast@mpcb.gov.in

Kalpataru Point, 2nd and 4th floor, Opp. Cine Planet Cinema, Near Sion Circle, Sion (E), Mumbai-400022

RED/L.S.I (R22)
No:- Format1.0/AS(T)/UAN No.0000100260/CO-2104001444 **Date:** 28/04/2021

To,
M/s. OC Specialities Pvt. Ltd.
Plot No. E-18, Chincholi MIDC Area
Tal- Mohol, Dist-Solapur-413255

Your Service is Our Duty

Sub: **Grant of Amendment in Consent to Operate for change in product under Product Mix in Red/LSI category**

Ref:
1. Consent to Operate granted vide No. Format 1.0/CC/UAN No. 0000004673 /2008000021A dated 24/8/2020
2. Environmental Clearance granted vide No. J-11011/92/2015-IA-II (I) dated 31/01/2017
3. Decision of Technical Committee meeting under product mix held on 31/10/2020
4. Decision of 13th Consent Committee meeting held on 12.02.2021(2nd sitting) & 25.02.2021 (3rd sitting)

Your application No.MPCB-CONSENT-0000100260 Dated 16.10.2020

For: grant of Consent to Operate under Section 26 of the Water (Prevention & Control of Pollution) Act, 1974 & under Section 21 of the Air (Prevention & Control of Pollution) Act, 1981 and Authorization under Rule 6 of the Hazardous & Other Wastes (Management & Transboundary Movement) Rules 2016 is considered and the consent is hereby granted subject to the following terms and conditions and as detailed in the schedule I, II, III & IV annexed to this order:

1. **The consent to operate is granted for a period up to 30/06/2024**
2. **The capital investment of the project is Rs.30.07 Crs. (As per C.A Certificate submitted by industry Existing CI is-Rs. 30.07 Crs)**
3. **Consent is valid for the manufacture of:**

Sr No	Product	Maximum Quantity	UOM
Products			
1	Sodium Bromide Solution OR	13	MT/Day
	Sodium Bromide Powder	7.73	
	Zinc Hydroxide OR	3.53	
	Zinc Oxide	2.46	
2	Di Isopropyl Ethyl Amine (DIPEA)	1.21	MT/Day
3	Methyl – 2 – Chloro Phenyl Acetate	0.34	MT/Day
4	4 – Methoxy Phenyl Acetone	0.33	MT/Day

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Sr No	Product	Maximum Quantity	UOM
5	2,3 Dichloro Pyridine	0.55	MT/Day
6	2 Coumaranone	0.41	MT/Day
7	3 - Isochromanone	0.35	MT/Day
8	2,6 Dichloro Benzoyl Chloride	0.74	MT/Day
9	P- Bromoanisole / 4 – Bromo Anisole	0.55	MT/Day
10	Para BromoPhenetole / 4- Bromophenetole	0.48	MT/Day
11	2,4 – Dichloro Phenyl Acetyl Chloride	0.45	MT/Day
12	2,5 – Dimethyl Phenyl Acetyl Chloride	0.44	MT/Day
13	Indoline	1.21	MT/Day
14	Ethyl – 1 – Hydroxy Cyclohexane Carboxylate	1.1	MT/Day
15	Ethyl – 1 – HydroxyCyclopentane Carboxylate	1.21	MT/Day
16	3 – Chloro – 2 –Hydrazinyl Pyridine	0.95	MT/Day
17	2,4,6 Trimethyl Phenyl Acetyl Chloride	0.16	MT/Day
18	2,6 Dimethoxy Benzoic acid	0.06	MT/Day
19	Methyl-2-Chloropropionate	0.4	MT/Day
20	2-Methoxy Benzoic Acid	0.41	MT/Day
21	Amido Chloride	0.32	MT/Day
22	N-Methyl-2-Oxo-2-Phenyl Acetamide	0.03	MT/Day
23	FluoroTrifluoromethyl Phenol	0.28	MT/Day
Total Production Quantity- 38.7 MT/Day			

4. **Conditions under Water (P&CP), 1974 Act for discharge of effluent:**

Sr No	Description	Permitted (in CMD)	Standards to	Disposal Path
1.	Trade effluent	24.5	As per Schedule-I	Recycle 100% to achieve ZLD
2.	Domestic effluent	4.50	As per Schedule-I	Recycle 100% to achieve ZLD

5. **Conditions under Air (P& CP) Act, 1981 for air emissions:**

Sr No.	Stack No.	Description of stack / source	Number of Stack	Standards to be achieved
1	S-1	Boiler (03 TPH) & Thermic Fluid Heater (6Lac KCal/Kg)	1	As per Schedule -II
2	S-2	DG set (200 KVA)	1	As per Schedule -II
3	S-3	Process Rector-1 (NH3)	1	As per Schedule -II
4	S-4	Process Rector-2 (HCl)	1	As per Schedule -II
5	S-5	Process Rector-3 (SO2)	1	As per Schedule -II
6	S-6	Process Rector-4 (HNO2)	1	As per Schedule -II

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Sr No.	Stack No.	Description of stack / source	Number of Stack	Standards to be achieved
7	S-7	Process Rector-5 (CO2)	1	As per Schedule -II

6. **Non-Hazardous Wastes:**

Sr No	Type of Waste	Quantity	UoM	Treatment	Disposal
1	Boiler Ash	83.5	MT/Day	---	Sale to Brick Manufacturer
2	Packaging material	15	MT/M	---	Sale

7. **Conditions under Hazardous & Other Wastes (M & T M) Rules 2016 for treatment and disposal of hazardous waste:**

Sr No	Category No./ Type	Quantity	UoM	Treatment	Disposal
1	20.3 Distillation residues	14.3	MT/M	Incineration	CHWTSDF
2	28.1 Process Residue and wastes	12.97	MT/M	Incineration	CHWTSDF
3	35.3 Chemical sludge from waste water treatment	15	MT/M	Landfill	CHWTSDF
4	37.3 Concentration or evaporation residues	30	MT/M	Incineration	CHWTSDF
5	28.1 Process Residue and wastes (Sodium Sulphate Solution 25%)	153	MT/M	Reprocess/ Incineration	Sale to Authorized Party */CHWTSDF
6	28.1 Process Residue and wastes (HCl30%)	56.16	MT/M	Reprocess/ Incineration	Sale to Authorized Party */CHWTSDF
7	28.1 Process Residue and wastes (Sodium Nitrite solution 30%)	24.99	MT/M	Reprocess/ Incineration	Sale to Authorized Party */CHWTSDF
8	28.1 Process Residue and wastes (Distillation Residue of PXylene)	3.6	MT/M	Reprocess/ Incineration	Sale to Authorized Party */CHWTSDF
9	28.1 Process Residue and wastes(Ammonium Chloride)	36	MT/M	Reprocess/ Landfill	Sale to Authorized Party */CHWTSDF

*** Sale to Authorized Party having permission under Rule 9 of H&OW Rule 2016**

8 The Board reserves the right to review, amend, suspend, revoke this consent and the same shall be binding on the industry.

9 This consent should not be construed as exemption from obtaining necessary NOC/ permission from any other Government authorities.

10 The industry shall obtain necessary permission from the Directorate of Industrial Safety and Health (DISH).

11 The applicant shall comply with the conditions of the Environmental Clearance granted vide letter No F.No.J-11011/92/2005-IA-II (I) dated 31/1/2017

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12 Industry shall not carry out excess production or produce new product without Consent to Operate of the Board and without Environmental Clearance wherever if requires

13 This consent is issued as per the undertaking submitted by the industry in compliance of minutes of the meeting of Technical Committee dtd. 31.10.2020, towards "no plant and machinery will be installed and production activity will be carried out in existing plant and machinery only"

14 The applicant shall make an application for renewal of consent 60 days prior to date of expiry of the consent.

15 This consent is issued as per the decision of Technical Committee meeting under product mix held on 31/10/2020 and decision of 13th Consent Committee meeting held on 12.02.2021(2nd sitting) & 25.02.2021 (3rd sitting).

16 This consent is issued as per the delegation to HOD vide Office Order No. 12/2020 dated 23/12/2020

For and on behalf of the
Maharashtra Pollution Control Board.

28/4/21

(P.K.Mirashe)
Assistant Secretary (Tech.)

Received Consent fee of -

Sr.No	Amount(Rs.)	Transaction/DR.No.	Date	Transaction Type
1	500.00	TXN2010001482	16/10/2020	Online Payment

Copy to:

1. Regional Officer, MPCB, Pune and Sub-Regional Officer, MPCB, Solapur
- They are directed to ensure the compliance of the consent conditions.
- As per approved office note dtd. 27.04.2021, you are hereby directed to file the case against the industry and submit the compliance report.
2. Chief Accounts Officer, MPCB,Sion, Mumbai

SCHEDULE-I

Terms & conditions for compliance of Water Pollution Control:

1. A] As per your application, you have segregated trade effluent into weak stream & strong stream and provided Effluent Treatment Plant (ETP) comprising of:

   i) Strong COD/TDS stream of 20 CMD - Treatment system comprising of Primary (Collection tank, Equalization tank, Primary Clarifier/Primary Settling Tank) , Stripper followed by Multi effect evaporator.

   ii) Weak COD/TDS stream of 4.5 CMD - Treatment system comprising of Primary (Collection tank, Neutralization tank, Equalization tank, Flash mixer, Primary Clarifier/Primary Settling Tank), Secondary (Activated sludge process, MBBR), Tertiary (Pressure sand filter, Activated carbon filter), Advance treatment (Reverse osmosis) with design capacity of 10 CMD.

   B] The Applicant shall operate the effluent treatment plant (ETP) to treat the trade effluent and recycle the entire treated effluent into the process for various purposes such as for cooling, process & Scrubbing with metering system so as to achieve Zero Liquid Discharge. There shall be no discharge on land or outside factory premises.

   C] The Industry shall ensure connectivity online monitoring system to the MPCB server including separate energy meter for pollution control system.

2. A] As per your application, primary treated sewage connected to Effluent Treatment Plant for further treatment & disposal.

   B] Industry shall comply prescribed standards & disposal path as prescribed at Sr. No. 1B of schedule I.

3. The Board reserves its rights to review plans, specifications or other data relating to plant setup for the treatment of waterworks for the purification there of & the system for the disposal of sewage or trade effluent or in connection with the grant of any consent conditions. The Applicant shall obtain prior consent of the Board to take steps to establish the unit or establish any treatment and disposal system or an extension or addition thereto.

4. The industry shall ensure replacement of pollution control system or its parts after expiry of its expected life as defined by manufacturer so as to ensure the compliance of standards and safety of the operation thereof.

5. The Applicant shall comply with the provisions of the Water (Prevention & Control of Pollution) Act, 1974 and as amended, by installing water meters and other provisions as contained in the said act:

Sr. No.	Purpose for water consumed	Water consumption quantity (CMD)
1.	Industrial Cooling, spraying in mine pits or boiler feed	16.00
2.	Domestic purpose	5.00
3.	Processing whereby water gets polluted & pollutants are easily biodegradable	16.00
4.	Processing whereby water gets polluted & pollutants are not easily biodegradable and are toxic	0.00

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Sr. No.	Purpose for water consumed	Water consumption quantity (CMD)
5.	Gardening	1.5

6. The Applicant shall provide Specific Water Pollution control system as per the conditions of EP Act, 1986 and rule made there under from time to time/ Environmental Clearance/ CREP guidelines.

SCHEDULE-II

Terms & conditions for compliance of Air Pollution Control:

1. As per your application, you have provided the Air pollution control (APC) system and erected following stack (s) to observe the following fuel pattern:

Stack No.	Stack Attached To	APC System	Height in Mtrs.	Type of Fuel	Quantity & UoM	S%	SO_2 (kg/day)
S-1	Boiler (3 TPH)	Multicyclone dust collector followed by bag filter	30	Briquette	1500Kg/Hr	0.00	0.00
	Thermic Fluid Heater (6 Lac Kcal/Kg)	Multi cyclone dust collector followed by bag filter					
S-2	DG set (200 KVA)	Acoustic Enclosure	3.5*	HSD	30 Ltr/Hr	1.00	14.40
S-3	Process Rector-1 (NH3)	Wet Scrubber	6	--	--	--	--
S-4	Process Rector-2(HCl)	Alkaline Scrubber	6	--	--	--	--
S-5	Process Rector-3(SO2)	Wet Scrubber	6	--	--	--	--
S-6	Process Rector-4 (HNO2)	Wet Scrubber	6	--	--	--	--
S-7	Process Reactor-5 (Co2)	Wet Scrubber	6	--	--	--	--

(*- Above roof level)

2. The Applicant shall provide Specific Air Pollution control equipments as per the conditions of EP Act, 1986 and rule made there under from time to time/ Environmental Clearance / CREP guidelines.

3. The applicant shall operate and maintain above mentioned air pollution control system, so as to achieve the level of pollutants to the following standards:

Parameters	Standards	
Total Particulate Matter	Not to exceed	150 mg/ Nm3
Acid Mist	Not to exceed	35 mg/ Nm3
SO2	Not to exceed	50 ppm
NH3	Not to exceed	50 mg/ Nm3

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4. The Applicant shall obtain necessary prior permission for providing additional control equipment with necessary specifications and operation thereof or alteration or replacement/alteration well before its life come to an end or erection of new pollution control equipment.
5. The Board reserves its rights to vary all or any of the condition in the consent, if due to any technological improvement or otherwise such variation (including the change of any control equipment, other in whole or in part is necessary).

SCHEDULE-III
Details of Bank Guarantees:

Sr. No.	Consent (C2E/ C2O /C2R)	Amt of BG Imposed	Submission Period	Purpose of BG	Compliance Period	Validity Date
1	C to R	5.0 Lakh	Existing	Towards O&M of Pollution Control System and compliance of Consent Conditions	30/6/2024	31/10/2024

BG Forfeiture History

Srno.	Consent (C2E/C2O/C2R)	Amount of BG imposed	Submission Period	Purpose of BG	Amount of BG Forfeiture	Reason of BG Forfeiture
NA						

BG Return details

Srno.	Consent (C2E/C2O/C2R)	BG imposed	Purpose of BG	Amount of BG Returned
NA				

SCHEDULE-IV
General Conditions:

1. The Energy source for lighting purpose shall preferably be LED based
2. The PP shall harvest rainwater from roof tops of the buildings and storm water drains to recharge the ground water and utilize the same for different industrial applications within the plant
3. Conditions for D.G. Set
   a) Noise from the D.G. Set should be controlled by providing an acoustic enclosure or by treating the room acoustically.
   b) Industry should provide acoustic enclosure for control of noise. The acoustic enclosure/ acoustic treatment of the room should be designed for minimum 25 dB (A) insertion loss or for meeting the ambient noise standards, whichever is on higher side. A suitable exhaust muffler with insertion loss of 25 dB (A) shall also be provided. The measurement of insertion loss will be done at different points at 0.5 meters from acoustic enclosure/room and then average.
   c) Industry should make efforts to bring down noise level due to DG set, outside industrial premises, within ambient noise requirements by proper sitting and control measures.
   d) Installation of DG Set must be strictly in compliance with recommendations of DG Set manufacturer.
   e) A proper routine and preventive maintenance procedure for DG set should be set and followed in consultation with the DG manufacturer which would help to prevent noise levels of DG set from deteriorating with use

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f) D.G. Set shall be operated only in case of power failure.

g) The applicant should not cause any nuisance in the surrounding area due to operation of D.G. Set.

h) The applicant shall comply with the notification of MoEFCC, India on Environment (Protection) second Amendment Rules vide GSR 371(E) dated 17.05.2002 and its amendments regarding noise limit for generator sets run with diesel.

4. The applicant shall maintain good housekeeping.
5. The non-hazardous solid waste arising in the factory premises, sweepings, etc. be disposed of scientifically so as not to cause any nuisance / pollution. The applicant shall take necessary permissions from civic authorities for disposal of solid waste.
6. The applicant shall not change or alter the quantity, quality, the rate of discharge, temperature or the mode of the effluent/emissions or hazardous wastes or control equipments provided for without previous written permission of the Board. The industry will not carry out any activity, for which this consent has not been granted/without prior consent of the Board.
7. The industry shall ensure that fugitive emissions from the activity are controlled so as to maintain clean and safe environment in and around the factory premises.
8. The industry shall submit quarterly statement in respect of industries obligation towards consent and pollution control compliance's duly supported with documentary evidences (format can downloaded from MPCB official site).
9. The industry shall submit official e-mail address and any change will be duly informed to the MPCB.
10. The industry shall achieve the National Ambient Air Quality standards prescribed vide Government of India, Notification No. B-29016/20/90/PCI-L dated. 18.11.2009 as amended.
11. The Board reserves its rights to review plans, specifications or other data relating to plant setup for the treatment of waterworks for the purification thereof & the system for the disposal of sewage or trade effluent or in connection with the grant of any consent conditions. The Applicant shall obtain prior consent of the Board to take steps to establish the unit or establish any treatment and disposal system or an extension or addition thereto.
12. The industry shall ensure replacement of pollution control system or its parts after expiry of its expected life as defined by manufacturer so as to ensure the compliance of standards and safety of the operation thereof.
13. The PP shall provide personal protection equipment as per norms of Factory Act
14. Industry should monitor effluent quality, stack emissions and ambient air quality monthly/quarterly.
15. Whenever due to any accident or other unforeseen act or even, such emissions occur or is apprehended to occur in excess of standards laid down, such information shall be forthwith Reported to Board, concerned Police Station, office of Directorate of Health Services, Department of Explosives, Inspectorate of Factories and Local Body. In case of failure of pollution control equipments, the production process connected to it shall be stopped.
16. The applicant shall provide an alternate electric power source sufficient to operate all pollution control facilities installed to maintain compliance with the terms and conditions of the consent. In the absence, the applicant shall stop, reduce or otherwise, control production to abide by terms and conditions of this consent.
17. The industry shall recycle/reprocess/reuse/recover Hazardous Waste as per the provision contain in the Hazardous and Other Wastes (M & TM) Rules 2016, which can be recycled /processed /reused /recovered and only waste which has to be incinerated shall go to incineration and waste which can be used for land filling and cannot be recycled/reprocessed etc. should go for that purpose, in order to reduce load on incineration and landfill site/environment.
18. An inspection book shall be opened and made available to the Board's officers during their visit to the applicant.

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19. Industry shall strictly comply with the Water (P&CP) Act, 1974, Air (P&CP) Act, 1981 and Environmental Protection Act, 1986 and industry specific standard under EP Rules 1986 which are available on MPCB website (www.mpcb.gov.in).
20. Separate drainage system shall be provided for collection of trade and sewage effluents. Terminal manholes shall be provided at the end of the collection system with arrangement for measuring the flow. No effluent shall be admitted in the pipes/sewers downstream of the terminal manholes. No effluent shall find its way other than in designed and provided collection system.
21. Neither storm water nor discharge from other premises shall be allowed to mix with the effluents from the factory.
22. The industry should not cause any nuisance in surrounding area.
23. The industry shall take adequate measures for control of noise levels from its own sources within the premises so as to maintain ambient air quality standard in respect of noise to less than 75 dB (A) during day time and 70 dB (A) during night time. Day time is reckoned in between 6 a.m. and 10 p.m. and night time is reckoned between 10 p.m. and 6 a.m.
24. The industry shall create the Environmental Cell by appointing an Environmental Engineer, Chemist and Agriculture expert for looking after day to day activities related to Environment and irrigation field where treated effluent is used for irrigation.
25. The applicant shall provide ports in the chimney/(s) and facilities such as ladder, platform etc. for monitoring the air emissions and the same shall be open for inspection to/and for use of the Board's Staff. The chimney(s) vents attached to various sources of emission shall be designated by numbers such as S-1, S-2, etc. and these shall be painted/ displayed to facilitate identification.
26. The industry should comply with the Hazardous and Other Wastes (M & TM) Rules, 2016 and submit the Annual Returns as per Rule 6(5) & 20(2) of Hazardous and Other Wastes (M & TM) Rules, 2016 for the preceding year April to March in Form-IV by 30th June of every year.
27. The applicant shall install a separate meter showing the consumption of energy for operation of domestic and industrial effluent treatment plants and air pollution control system. A register showing consumption of chemicals used for treatment shall be maintained.
28. The applicant shall bring minimum 33% of the available open land under green coverage/ plantation. The applicant shall submit a yearly statement by 30th September every year on available open plot area, number of trees surviving as on 31st March of the year and number of trees planted by September end.
29. The Board reserves its rights to review plans, specifications or other data relating to plant setup for the treatment of waterworks for the purification thereof & the system for the disposal of sewage or trade effluent or in connection with the grant of any consent conditions.
30. The firm shall submit to this office, the 30th day of September every year, the Environment Statement Report for the financial year ending 31st March in the prescribed FORM-V as per the provisions of Rule 14 of the Environment (Protection) (second Amendment) Rules, 1992.
31. The Applicant shall obtain necessary prior permission for providing additional control equipment with necessary specifications and operation thereof or alteration or replacement/alteration well before its life come to an end or erection of new pollution control equipment.

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32. The Board reserves its rights to vary all or any of the condition in the consent, if due to any technological improvement or otherwise such variation (including the change of any control equipment, other in whole or in part is necessary).

33. The applicant shall provide facility for collection of environmental samples and samples of trade and sewage effluents, air emissions and hazardous waste to the Board staff at the terminal or designated points and shall pay to the Board for the services rendered in this behalf.

For and on behalf of the
Maharashtra Pollution Control Board.

28/4/21

(P.K.Mirashe)
Assistant Secretary (Tech.)

MAHARASHTRA POLLUTION CONTROL BOARD

Phone : 4010437/4020781 /4037124/4035273
Fax : 24044532/4024068 /4023516
Email : enquiry@mpcb.gov.in
Visit At : http://mpcb.gov.in

Kalpataru Point, 3rd & 4th floor, Sion- Matunga Scheme Road No. 8, Opp. Cine Planet Cinema, Near Sion Circle, Sion (E), Mumbai - 400 022

Red/LSI

Date: 04/7/2019

Consent No: Format 1.0/BO/AST/UAN No. 00000 22128/0(ce-1907000179

To,
M/s. OC Specialties Pvt. Ltd.,
Plot No. E-18, MIDC Chincholi,
Tal: - Mohol, Dist. Solapur- 413 255.

Sub : First Consent to Operate in Red Category.

Ref.:
1. **Consent to operate granted vide no. BO/AS (T)/R/EIC No. PN-12279-11/CC-4629 dtd. 17.05.2014 which was valid up to 31.12.2015.**
2. **Environmental Clearance granted by MoEF & CC dtd. 31.01.2017.**
3. **Your Application: - MPCB-CONSENT-0000022128 dtd. 01.05.2017.**
4. **NOC obtained from National Wild Life Board dtd. 08.04.2019.**
5. **Minutes of the 2nd Consent Committee Meeting dtd. 11.06.2019.**

For Consent to Operate under Section 26 of the Water (Prevention & Control of Pollution) Act, 1974 & under Section 21 of the Air (Prevention & Control of Pollution) Act, 1981 and Authorization under Rule 6 of the Hazardous & Other Wastes (M & T M) Rules 2016 is considered and the consent is hereby granted subject to the following terms and conditions and as detailed in the schedule I, II, III & IV annexed to this order:

1. **The consent is granted for a period up to 31.06.2024.**

2. **The capital investment of the industry is 30.07 Cr. as per C.A. certificate submitted by the Industry.**

3. **The Consent is valid for the manufacture of –**

Sr. No.	Product / By-Product Name	Maximum Quantity	UOM
1.	Sodium Bromide Solution Or Sodium Bromide Powder	13.0 7.73	MT/D MT/D
	Zinc Hydroxide	3.53	MT/D
	Zinc Oxide	2.46	MT/D
2.	Di Isopropyl Ethyl Amine(DIPEA)	0.61	MT/D
3.	Methyl-2-Chloro Phenyl Acetate	0.34	MT/D
4.	4 Methoxy Phenyl Acetone	0.33	MT/D
5.	2,3 Dichloro Pyridine	0.33	MT/D
6.	2-Amino-2-Phenyl Butyric Acid	0.21	MT/D
7.	Ortho Hydroxy Phenyl Acetic Acid	0.50	MT/D
8.	2 Coumaranone	0.41	MT/D
9.	3-Isochromanone	0.40	MT/D
10.	2,6 Dichloro Benzoyl Chloride	0.74	MT/D
11.	Methyl-2-Dimethylamino-2-Phenyl Butyrate	0.33	MT/D
12.	2-Dimethylamino-2-Phenyl Butanol	0.10	MT/D
13.	P-Bromoanisole / 4-Bromo Anisole	0.55	MT/D
14.	Para Bromo Phenetole / 4-Bromophenetole	0.48	MT/D
15.	2, 4-Dimethyl Phenyl Acetyl Chloride	1.32	MT/D
16.	2, 5-Dimethyl Phenyl Acetyl Chloride	1.08	MT/D
17.	Indoline	1.21	MT/D

18.	Ethyl Phenyl Glyoxylate (EPG)	0.95	MT/D
19.	Ethyl-1-Hydroxy Cyclohexane Carboxylate	1.10	MT/D
20.	Ethyl-1-Hydroxy Cyclopentene Carboxylate	1.21	MT/D
21.	3-Chloro-2-Hydrazinyl Pyridine	1.20	MT/D
	Total	40.12	MT/Day

4. Conditions under Water (P&CP), 1974 Act for discharge of effluent:

Sr. No.	*Description*	*Permitted quantity of discharge (CMD)*	*Standards to be achieved*	*Disposal*
1.	Trade effluent	100.00	As per Schedule I	Zero Liquid Discharge "ZLD"
2.	Domestic effluent	4.50	As per Schedule I	On land gardening

5. Conditions under Air (P& CP) Act, 1981 for air emissions:

Sr. No.	Description of stack / source	Number of Stack	Standards to be achieved
1.	Boiler (3 TPH)	1	As per Schedule – II
2.	Thermic Fluid Heater (6 Lack Kcal/Kg)	1	As per Schedule – II
3.	D.G. Set (200 KVA)	1	As per Schedule – II
4.	Reactor-1 (NH_3)	1	As per Schedule – II
5.	Reactor-2 (HCl)	1	As per Schedule – II
6.	Reactor-3 (SO_2)	1	As per Schedule – II
7.	Reactor-4 (HNO_2)	1	As per Schedule – II
8.	Reactor-5 (CO_2)	1	As per Schedule – II

6. Conditions under Non Hazardous Solid Wastes for treatment and disposal of hazardous waste:

Sr. no.	Type of Waste	Quantity	UOM	Disposal
1.	Boiler Ash	83.5	MT/M	Sale to Brick Mfrs.
2.	Packaging material	15.0	MT/M	Sale to authorized party

7. Conditions under Hazardous and other Waste (M & T M) Rules, 2016 for treatment and disposal of hazardous waste:

Sr. no.	Type of Waste	Category	Quantity	UOM	Treatment	Disposal
1.	Distillation residue	20.3	21.2	MT/M	---	CHWTSDF/ Sale to Authorized recycler
2.	Process Residue	28.1	13.14	MT/M	---	
3.	Sludge from treatment of waste water, DE Salt	34.3	0.30	MT/D	---	CHWTSDF
4.	MEE Salt	34.2	30	MT/M	---	CHWTSDF/ Sale to authorized party*

5.	Sodium Sulphate Solution 25%	--	6.01	MT/D	---	Reuse / Recycle/ Sale to authorized party* / CHWTSDF
6.	HCl 30%	--	2.52	MT/D	---	
7.	Sodium Nitrite Solution 30%	--	1.01	MT/D	---	
8.	Distillation Residue of P-Xylene	--	0.12	MT/D	---	
9.	Ammonium Chloride	--	1.20	MT/D	---	

**** Industry shall ensure disposal to the Actual user having permissions under Rule 9 of Hazardous and other Waste (M & TM) Rules, 2016***

8. The Board reserves the right to review, amend, suspend, revoke etc. this consent and the same shall be binding on the industry.
9. This consent should not be construed as exemption from obtaining necessary NOC/permission from any other Government authorities.
10. The applicant shall not manufacture additional products or carry out extra production without obtaining prior permission of the Board.
11. **The applicant shall comply with the conditions of the Environmental Clearance granted by MoEF&CC vide letter No. J-11011/92/2015-IA-II (I) dtd. 31.01.2017.**
12. The applicant shall provide full-fledged Effluent treatment plant consisting of primary, secondary & tertiary treatment plant followed by RO & MEE for the treatment of industrial effluent and recycle / reuse 100% treated effluent into process and cooling tower so as to achieve Zero Liquid Discharge (ZLD).
13. This consent is issued with pursuant to the decision of 2nd Consent Committee meeting held on 11.06.2019.

For and on behalf of the
Maharashtra Pollution Control Board

(E. Ravendiran, IAS)
Member Secretary

Received Consent fee of –

Sr. No.	Amount (Rs.)	DD. No.	Date	Drawn On
1.	Rs. 3,00,000.00/-	5451533	2019-05-17	Standard Chartered Bank
2.	Rs. 75,000.00/-	TXN1703000428	04.03.2017	Online Transfer
3.	Rs. 50000.00/-	TXN1905001426	16.05.2019	Online Transfer

Copy to:

1. **Regional Officer –MPCB, Pune and Sub-Regional Officer – Solapur,**
   - They are directed to ensure the compliance of the consent conditions
2. **Chief Accounts Officer, MPCB, Mumbai.**

Schedule-I

Terms & conditions for compliance of Water Pollution Control:

1) A] As per your application, you have provided full-fledge Effluent Treatment Plant (ETP) consisting of primary, secondary & tertiary level treatment followed by RO-Double Effect Evaporator to achieve the **Zero Liquid Discharge "(ZLD)"** for which installed equalization tank, Neutralization tank, tube settler, RO-pretreatment, Flocculator, MBBR reactor, Aeration tank, sludge dewatering unit and double effect evaporator.

B] The effluent generated from your activity shall be treated in comprehensive Effluent Treatment Plant (ETP) consisting of primary and tertiary treatment and the treated effluent shall be reuse in boiler/cooling tower to achieve the **"Zero liquid discharge" (ZLD).**

C] Industry shall operate online monitoring system as per CETP protocol and its connectivity to MPCB server.

2) A] As per your consent application, you have provided the septic tank followed by soak pit for the treatment sewage. Overflow, if any shall be applied on land for gardening purpose within premise.

B] The Applicant shall operate the sewage treatment system to treat the sewage so as to achieve the following standards/ prescribed under EP Act, 1986 and Rules made there under from time to time, whichever is stringent.

(1) Suspended Solids. Not to exceed 100 mg/l.

(2) BOD 3 days 27oC. Not to exceed 30 mg/l.

C] The treated domestic effluent shall be used for gardening/plantation purpose within premises. There shall not be any discharge outside the factory premises.

3) The Board reserves its rights to review plans, specifications or other data relating to plant setup for the treatment of waterworks for the purification thereof & the system for the disposal of sewage or trade effluent or in connection with the grant of any consent conditions. The Applicant shall obtain prior consent of the Board to take steps to establish the unit or establish any treatment and disposal system and or extension or addition thereto.

4) The industry shall ensure replacement of pollution control system or its parts after expiry of its expected life as defined by manufacturer so as to ensure the compliance of standards and safety of the operation thereof.

5) The Applicant shall comply with the provisions of the Water (Prevention & Control of Pollution) Act, 1974 and as amended, by installing water meters and other provisions as contained in the said act:

Sr. no.	Purpose for water consumed	Water consumption quantity (CMD)
1.	Industrial Cooling, spraying in mine pits or boiler feed	100.00
2.	Domestic purpose	10.0
3.	Processing whereby water gets polluted & pollutants are easily biodegradable	00.0
4.	Processing whereby water gets polluted & pollutants are not easily biodegradable and are toxic	20.0
5.	Others: i) Gardening	5.0

6) The Applicant shall provide Specific Water Pollution control system as per the conditions of EP Act, 1986 and rule made there under from time to time.

Schedule-II

Terms & conditions for compliance of Air Pollution Control:

1. **As per your application, you have provided the Air pollution control (APC)system and also erected following stack (s) and to observe the following fuel pattern-**

Sr. No.	Stack Attached To	APC System	Height in Mtrs.	Type of Fuel	Quantity & UoM	SO_2 Kg/Day
1.	Boiler (3 TPH)	Multi Cyclone Dust Collector followed by Bag Filter	30	Biomass	1500 Kg./Hr.	360
2.	Thermic Fluid Heater (6 Lack Kcal/Kg)					
3.	D.G. Set (200 KVA)	Acoustic enclosure	3.5*	HSD	30 Ltr/Hr.	14.4
4.	Reactor-1 (NH_3)	Scrubber	6*	--	--	--
5.	Reactor-2 (HCl)	Scrubber	6*	--	--	--
6.	Reactor-3 (SO_2)	Scrubber	6*	--	--	--
7.	Reactor-4 (HNO_2)	Scrubber	6*	--	--	--
8.	Reactor-5 (CO_2)	Scrubber	6*	--	--	--

(*- above roof level)

2. **The applicant shall operate and maintain above mentioned air pollution control system, so as to achieve the level of pollutants to the following standards:**

SPM/TPM	Not to exceed	150 mg/Nm3.
Acid Mist	Not to exceed	35.0 mg/Nm^3
SO_2 (Process)	Not to exceed	50.0 ppm
NH_3 (Process)	Not to exceed	50.0 mg/Nm^3

3. The applicant shall provide specific Air Pollution control equipment's as per the conditions of EP Act, 1986 and rule made there under from time to time/Environmental Clearance/CREP guidelines.

4. The Applicant shall obtain necessary prior permission for providing additional control equipment with necessary specifications and operation thereof or alteration or replacement well before its life come to an end or erection of new pollution control equipment.

5. The Board reserves its rights to vary all or any of the condition in the consent, if due to any technological improvement or otherwise such variation (including the change of any control equipment, other in whole or in part is necessary).

Schedule-III
Details of Bank Guarantees

Sr. No.	Bank Guarantee (C to E/O/R)	Amt. of BG imposed (existing)	Submission period	Purpose of BG	Compliance period	Validity period
1.	C to R	5 Lakh	Existing	Towards compliance of the Consent conditions	Upto 31.06.2024	Upto 31.10.2024

Schedule-IV
General Conditions:

1) The applicant shall provide facility for collection of environmental samples and samples of trade and sewage effluents, air emissions and hazardous waste to the Board staff at the terminal or designated points and shall pay to the Board for the services rendered in this behalf.
2) The applicant shall provide ports in the chimney/(s) and facilities such as ladder, platform etc. for monitoring the air emissions and the same shall be open for inspection to/and for use of the Board's Staff. The chimney(s) vents attached to various sources of emission shall be designated by numbers such as S-1, S-2, etc. and these shall be painted/ displayed to facilitate identification.
3) Whenever due to any accident or other unforeseen act or even, such emissions occur or is apprehended to occur in excess of standards laid down, such information shall be forthwith Reported to Board, concerned Police Station, office of Directorate of Health Services, Department of Explosives, Inspectorate of Factories and Local Body. In case of failure of pollution control equipment's, the production process connected to it shall be stopped.
4) The applicant shall provide an alternate electric power source sufficient to operate all pollution control facilities installed to maintain compliance with the terms and conditions of the consent. In the absence, the applicant shall stop, reduce or otherwise, control production to abide by terms and conditions of this consent.
5) The firm shall submit to this office, the **30th day of September every year, the Environmental Statement Report** for the financial year ending 31st March in the prescribed Form-V as per the provisions of rule 14 of the Environment (Protection) (Second Amendment) Rules, 1992.
6) The industry shall recycle/reprocess/reuse/recover Hazardous Waste as per the provision contain in the HW & other waste (M & TM) Rules 2016, which can be recycled /processed/reused/ recovered and only waste which has to be incinerated shall go to incineration and waste which can be used for land filling and cannot be recycled/reprocessed etc. should go for that purpose, in order to reduce load on incineration and landfill site/environment.
7) The industry should comply with the Hazardous and other Waste (M & T M) Rules, 2016 and submit the Annual Returns as per Rule 5(6) & 22(2) of Hazardous and other Waste (M & T M) Rules, 2016 for the preceding year April to March in Form-IV by 30th June of every year.
8) An inspection book shall be opened and made available to the Board's officers during their visit to the applicant.
9) **The applicant shall made an application for renewal of consent to operate well before 60 days before expiry of existing consent.**
10) Industry shall strictly comply with the Water (P & C P) Act, 1974, Air (P & C P) Act,1981 and Environmental Protection Act,1986 and industry specific standard under EP Rules 1986 which are available on MPCB website(www.mpcb.gov.in).
11) The industry shall constitute an Environmental cell with qualified staff/personnel/agency to see the day to day compliance of consent condition towards Environment Protection.
12) Separate drainage system shall be provided for collection of trade and sewage effluents. Terminal manholes shall be provided at the end of the collection system with arrangement for measuring the flow. No effluent shall be admitted in the pipes/sewers downstream of the terminal manholes. No effluent shall find its way other than in designed and provided collection system.
13) Neither storm water nor discharge from other premises shall be allowed to mix with the effluents from the factory.
14) The applicant shall install a separate meter showing the consumption of energy for operation of domestic and industrial effluent treatment plants and air pollution control system. A register showing consumption of chemicals used for treatment shall be maintained.
15) The applicant shall comply with the notification of MoEF dated 17.05.2002 regarding noise limit for generator sets run with diesel
16) **Conditions for D.G. Set :-**
    a) Noise from the D.G. Set should be controlled by providing an acoustic enclosure or by treating the room acoustically.
    b) Industry should provide acoustic enclosure for control of noise. The acoustic enclosure/ acoustic treatment of the room should be designed for minimum 25 dB (A) insertion loss or for meeting the ambient noise standards, whichever is on higher side. A suitable exhaust muffler with insertion loss of 25 dB (A) shall also be provided. The measurement of insertion loss will be done at different points at 0.5 meters from acoustic enclosure/room and then average.

c) Industry should make efforts to bring down noise level due to DG set, outside industrial premises, within ambient noise requirements by proper sitting and control measures.

d) Installation of DG Set must be strictly in compliance with recommendations of DG Set manufacturer.

e) A proper routine and preventive maintenance procedure for DG set should be set and followed in consultation with the DG manufacturer which would help to prevent noise levels of DG set from deteriorating with use.

f) D.G. Set shall be operated only in case of power failure.

g) The applicant should not cause any nuisance in the surrounding area due to operation of D.G. Set.

h) The applicant shall comply with the notification of MoEF dated 17.05.2002 regarding noise limit for generator sets run with diesel.

17) The industry should not cause any nuisance in surrounding area.

18) The industry shall take adequate measures for control of noise levels from its own sources within the premises so as to maintain ambient air quality standard in respect of noise to less than 75 dB (A) during day time and 70 dB (A) during night time. Day time is reckoned in between 6 a.m. and 10 p.m. and night time is reckoned between 10 p.m. and 6 a.m.

19) The applicant shall maintain good housekeeping.

20) The applicant shall bring minimum 33% of the available open land under green coverage/ plantation. The applicant shall submit a statement on available open plot area, number of trees surviving as on 31st March of the year and number of trees planted by September end, with the Environment Statement.

21) The non-hazardous solid waste arising in the factory premises, sweepings, etc. be disposed of scientifically so as not to cause any nuisance / pollution. The applicant shall take necessary permissions from civic authorities for disposal of solid waste.

22) The applicant shall not change or alter the quantity, quality, the rate of discharge, temperature or the mode of the effluent/emissions or hazardous wastes or control equipment's provided for without previous written permission of the Board. The industry will not carry out any activity, for which this consent has not been granted/without prior consent of the Board.

23) The industry shall ensure that fugitive emissions from the activity are controlled so as to maintain clean and safe environment in and around the factory premises.

24) The industry shall submit quarterly statement in respect of industries' obligation towards consent and pollution control compliance's duly supported with documentary evidences (format can be downloaded from MPCB official site).

25) The industry shall submit official e-mail address and any change will be duly informed to the MPCB.

26) The industry shall achieve the National Ambient Air Quality standards prescribed vide Government of India, Notification dt. 16.11.2009 as amended.

27) The industry shall recycle/reprocess/reuse/recover hazardous waste as per the provision contained in the Hazardous and Other Waste (M & T M) Rules 2016, which can be recycled/ processed/ reused/ recovered and only waste which has to be incinerated shall go to incineration and waste which cannot be used for land filling and cannot be recycled/ reprocessed etc. should go for that purpose in order to reduce load on incineration and landfill site/ environment.

ENCLOSURE-III Wildlife Clearance Letter

Principal Chief Conservator of Forests (Head of Forest Force) Maharashtra State
"Van Bhavan", Ramgiri Road, Near Police Gym Khana, Civil Lines, Nagpur – 440 001.
Third Floor, D-Wing, Phone No. 0712-2560953, Fax No. – 0712-2553018 ,E-mail ID- pccfwlngp@mahaforest.gov.in
I.S.O. 9001 : 2015 Certified

Desk-23(2)/WL/Survey/C.R.No.97/73/2019-20, Date **08/04/2019**

To,
M/s. OC Specialities Pvt. Ltd,
MIDC, Chincholi, Tah. Mohol, Dist. Solapur.

Subject :- Proposal for Wildlife Clearance for the setup of new industries for production of 21 products. by M/s. OC Specialties Pvt. Ltd. on Plot No. E-18 (Gat no. 1 & 4) MIDC Chincholi, Ta. Mohol, Distt. Solapur.

Ref. :- Government of India, Ministry of Environment, Forest & Climate Change (Wildlife Division) letter No. F.No. 6-30/2019/WL, Dated 25/03/2019 (Minutes of 53rd meeting of Standing Committee of National Board for Wildlife, held on Dated 25/02/2019)

A Proposal for Wildlife Clearance for the industry has been incorporated with main object to manufacture Proposed Fine Chemical Intermediates Manufacturing Plant which have a good export potential. Manufacturing set-up shall be for production of 21 products by M/s. OC Specialties Pvt. Ltd. on Plot No. E-18 (Gat no. 1 & 4) MIDC Chincholi, Ta. Mohol, Distt. Solapur.

The area required for the project is within deemed ESZ of Great Indian Bustard Sanctuary and located at 2.40 km. away from the draft ESZ of the boundary of Great Indian Bustard Sanctuary.

The area required for the project is outside the Great Indian Bustard Sanctuary but falls within the deemed Eco Sensitive Zone area.

- Environment Clearance was obtained vide GoI Ministry of Environment & Forest (IA Division) Letter F.No. J-11011/92/2015-IA-II(I) Dated 31.01.2017.

The proposal was processed by the Principal Chief Conservator of Forests (Wildlife) M.S. and put before the 14th meeting of State Board for Wildlife held on dated 05/12/2018. The State Board for Wildlife considering it to be only approval for the setup of new project of the company in the land of MIDC at. Chincholi Dist. Solapur recommended to Standing Committee of National Board for Wildlife.

Standing Committee of National Board for Wildlife in above referred meeting decided to recommend the proposal for the setup of new project with the conditions that :

1. Use of heavy noise making machines should be minimal around sanctuary area.
2. As decided in the 8th meeting of State Board for Wildlife held on 20th February 2014, the project proponent shall deposit 2 % cost(i.e.Rs.5.14 crores) of the proposed project which passes though the deemed ESZ with the Conservator of Forests (WL) Pune for the Habitat Improvement of the Great Indian Bustard Wildlife Sanctuary and adjoining forests.

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3. The State Chief Wildlife Warden shall prepare human- Wildlife conflict mitigation plan and plan for Wildlife conservation for the PA and amount deposited by the user agency as per the condition stipulated by the State Chief Wildlife Warden should be used for implementation of these plans.
4. The annual compliance certificate on the stipulated conditions should be submitted by the project proponent to the State Chief Wildlife Warden and an annual compliance certificate shall be submitted by the State Chief Wildlife Warden to GoI.

The above recommendations are subject to the existing directives Hon'ble Supreme Court & provisions of Wildlife (Protection) Act, 1972, Indian Forest Act, 1927, and provisions of Forests (Conservation) Act, 1980.

Principal Chief Conservator of Forests(Wildlife),
Maharashtra State.

Copy to :-

1) The Principal Secretary (Forest) Revenue & Forest Department, Mantralaya, Mumbai 32 for information.
2) The Additional Principal Chief Conservator of Forests (Wildlife) West, Mumbai for information and necessary action.
3) The Chief Conservator of Forests (T), Pune for Information and necessary action.
4) The Conservator of Forests (Wildlife), Pune for Information and necessary action
5) The Deputy Conservator of Forest (T), Solapur Division, Solapur for information and necessary action.

Sd/-

Principal Chief Conservator of Forests(Wildlife),
Maharashtra State.

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ENCLOSURE-IV

Certified RO; MoEFCC Report

भारत सरकार
GOVERNMENT OF INDIA
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय
MINISTRY OF ENVIRONMENT, FORESTS & CLIMATE CHANGE

Integrated Regional Office
Ground Floor, East Wing
New Secretariat Building
Civil Lines, Nagpur - 440001
E-mail: apccfcentral-ngp-mef@gov.in

F.No:EC-1232/RON/2020-NGP/ 7870

Date: 02.03.2021

To,

The Additional Director &
Member Secretary (Industry-III), IA Division
Ministry of Environment, Forest & Climate Change
Indira Paryavaran Bhawan
Jorbagh Road, Aliganj
New Delhi-110003

Sub: Environment clearance granted for setting up of Fine Chemical Intermediates Manufacturing Unit of M/s. OC Specialties Pvt. Ltd. located at Chincholi MIDC area, Mohol Taluka, Solapur District of Maharashtra

Ref:

1. MoEF&CC letter no. J-11011/92/2015-IA-II(I) dated 31.01.2017

Sir,

I am directed to invite your kind attention on the above subject and letter under reference. Site inspection of Fine Chemical Intermediates Manufacturing Unit of M/s. OC Specialties Pvt. Ltd. located at Chincholi MIDC area, Mohol Taluka, Solapur District of Maharashtra has been carried out on 10.11.2020. Inspection report is enclosed herewith. Following observations were made during the site inspection:

Ministry vide letter dated 31.01.2017 granted environmental clearance for setting up of Fine Chemical Intermediates Manufacturing Unit. The construction of the project has been completed and operations have commenced. The project was not in operation during site inspection due to closure directions issued by MPCB. MPCB revoked the closure directions vide order dated 25.11.2020.

The effluent generated is being segregated based on COD level and treated separately. Zero discharge is being implemented. Dust collector followed by bag filter has been provided for bio-briquette fired boiler and thermic fluid heater. Scrubbers have been provided for the process reactors. Onsite emergency management plan is available.

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Safety audit was carried out in November 2020. Public Liability Insurance is available. Housekeeping during site inspection found to be satisfactory.

Following non compliances were observed:

Specific Condition no.xiii:

PP did not submit the time bound action plan for the activities to be carried out under Enterprise Social Commitment (ESC). PP shall carry out the need based assessment study in the local area. Major part of the funds under ESC shall be spent on activities to be carried out in nearby villages.

General Condition no.xiv:

PP did not submit the six monthly compliance report to project website. Also copy of the same was not uploaded to company website.

Following partial compliances were observed:

General Condition no.xv:

PP submitted the environment statement for the FY 2019-20 to MPCB on 07.11.2020. It was observed that the submission was made after 30.09.2020. PP during the site inspection submitted that this delay was due to the pandemic situation. Henceforth the submission will be made before 30th September. Copy of Environmental Statement is also submitted to RO MoEF&CC through six monthly reports.

This issues with the approval of the Regional Officer, Integrated Regional Office, Nagpur.

A. Suresh 07/02/2021

Suresh Kumar Adapa
Scientist 'D'

Encl: as above

Copy to:

1. The Additional Director (Monitoring Cell), Ministry of Environment, Forest & Climate Change, Indira Paryavaran Bhawan, Aliganj, Jorbagh Road, New Delhi-110003
2. M/s. OC Specialties Pvt.Ltd., Plot no. E-18, MIDC Chincholi, Taluka Mohol, Solapur, Maharashtra (PP shall submit time bound action plan for the compliance of non/partial compliances raised in the monitoring report)

A. Suresh 07/02/2021

Suresh Kumar Adapa
Scientist 'D'

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Compliance status of conditions stipulated in environment clearance granted for setting up of Fine Chemical Intermediates Manufacturing Unit of M/s. OC Specialties Pvt. Ltd. located at Chincholi MIDC area, Mohol Taluka, Solapur District of Maharashtra granted by MoEF&CC vide letter no. J-11011/92/2015-IA-II(I) dated 31.01.2017

Specific Conditions:

S.No	Condition	Compliance Status
i.	The environmental clearance (EC) is subject to the recommendation of standing committee of National Board for Wildlife.	The standing committee of NBWL recommended the project. As per the final ESZ notification dated 11.02.2020 published by MoEF&CC, the MIDC area is out of the ESZ of Great Indian Bustard Sanctuary.
ii.	National Emission Standards for Organic Chemicals Manufacturing Industry issued by the Ministry vide G.S.R. 608(E) dated 21stJuly 2010 and amended time to time shall be followed by the unit.	**Complying with.** There is no incinerator installed in the project. Multi Cyclone Dust Collector followed by bag filter has been provided for the bio-briquette fired boiler and thermic fluid heater. Stack of 30 meters has been provided. The emissions are being monitored regularly. As per the monitoring data, the emission levels found to be confirming to prescribed standards.
iii.	Multi-cyclone followed by bag-filter shall be provided to coal/ biomass fired boiler and Thermic fluid heater.	
iv.	Scrubbers shall be provided to control process emission viz. SO_2, HNO_2, NH_3 and HCL. The scrubbing media shall be sent to effluent treatment plant (ETP) for treatment. Efficiency of scrubber shall be monitored regularly and maintained properly. At no time, the emission levels shall go beyond the prescribed standards.	**Complying with.** Scrubbers have been provided for the reactors. Scrubbed media is being treated in the ETP. As per the information provided, the scrubbers are being maintained regularly as part of preventive maintenance (once in Month). The emissions are being monitored through external laboratory once in every quarter. As per the monitoring data, the emission levels found to be confirming to prescribed standards.
v.	Solvent management shall be carried out as follows: (a) Reactor shall be connected to chilled brine condenser system. (b) Reactor and solvent handling pump shall have mechanical seals to prevent leakages. (c) The condensers shall be provided with sufficient HTA and residence time so as to achieve more than 95% recovery. (d) Solvent shall be stored in a separate space specified with all safety measures. (e) Proper earthing shall be provided in all the electrical equipment wherever solvent handling is done. (f) Entire plant shall be flame proof. The	**Complying with.** As per the information provided, following measures have been implemented: 1. Reactors are connected to chilled /brine water solution. Photographs of same are enclosed at **Annexure-1.** 2. Reactor and solvent handling pump are provided with medical seals to prevent leakages. Photographs of same are enclosed at **Annexure-2.** 3. Solvents are not being stored in bulk quantity. But, solvent are being stored in barrels. Photographs of warehouse wherein solvents are kept is enclosed at **Annexure-3** 4. Earthing has been provided to electrical equipment.

S.No	Condition	Compliance Status
	solvent storage tanks shall be provided with breather valve to prevent losses. (g) All the solvent storage tanks shall be connected with vent condenser valve to prevent losses.	
vi.	Total fresh water requirement from MIDC shall not exceed 18M^3/day.	**Complying with**. As per the water balance provided, only 18 m^3/day fresh water is being drawn from the MIDC water supply. Condensate recovered from Double Effect Evaporator is being reused. Zero discharge is being implemented.
vii.	Effluent generation shall not exceed 24.5m3/day. Industrial wastewater will be segregated into High TDS/COD and Low TDS/COD effluent streams. High TDS/COD effluent stream will be treated through steam stripper followed by multiple effect evaporators (MEE) and agitated thin film drier (ATFD).Low TDS effluent stream will be treated in ETP followed by RO. No effluent will be discharged outside the plant premises.	**Complying with**. As per the water balance provided, 24.5 m^3/day of process effluent is being generated. Effluent is being segregated based on COD. **High COD Effluent**: Process effluent of high COD & TDS is sent to Evaporator and ATFD. Condensate from the Evaporator is mixed with the low COD effluent **Low COD Effluent**: Low COD effluent is being treated in the ETP consisting of Primary, Secondary and Tertiary treatment systems. The treated effluent is routed through RO. The product is recycled for cooling, scrubbing. RO reject is being sent to Evaporator. Zero discharge is being implemented.
viii.	Process effluent/any wastewater shall not be allowed to mix with storm, water. Storm water drain shall be passed through guard pond.	Separate drains have been provided for the storm water. Effluent generated is being treated in the ETPs installed.
ix.	Hazardous chemicals shall be stored in tank farms, drums, carboys etc. Flame arresters shall be provided on tank farm. Solvent transfer shall be by pumps.	**Complying with**. Hazardous chemicals are being stored in drums. Further, these drums are stored in warehouse provided with safety measures. Solvents are stored in drums and same are being transferred through barrel pumps.
x.	Evaporation salts and ETP sludge will be sent TSDF. Organic residue, spent carbon and Distillation residue will be sent to cement plant. waste oil and used batteries from the DG sets are sent to authorize recyclers. Fly ash will be sent to brick manufacturers. ETP sludge, MEE salt and Distillation residue will be sent to CHWTSDF. Process residue will be sent to the persons/ CHWTSDF.	**Complying with**. MPCB have granted authorization for handling of hazardous waste vide letter no. Format 1.0/BO/AST/UAN No.0000022128/O/CC-1907000179 dated 04.07.2019 with validity upto 31.06.2024. As per the authorization PP shall send the non-recyclable hazardous waste to Common Hazardous Waste Treatment Storage and Disposal Facility. PP has obtained membership of Maharashtra Enviro Power Limited a CHWTSDF located at Ranjangaon, Pune District. Copies of membership and hazardous waste
xi.	The Company shall obtain Authorization for collection, storage and disposal of	

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S.No	Condition	Compliance Status
	hazardous waste under the Hazardous Waste (Management, Handling and Trans-Boundary Movement) Rules, 2008 and amended as on date for management of Hazardous wastes and prior permissions from SPCB shall be obtained for disposal of solid/ hazardous waste in the TSDF. Measures shall be taken for firefighting facilities in case of emergency.	returns for the FY 2019-20 are enclosed as **Annexure-4**. Fire hydrant line has been provided in the plant.
xii.	The company shall strictly comply with the rules and guidelines under Manufacture, storage and import of Hazardous Chemicals (MSIHC) Rules, 1989 as amended time to time. All Transportation of Hazardous Chemicals shall be as per the Motor Vehicle Act (MVA), 1989.	**PP agreed to comply with.** On-site emergency management plan is available. PP submitted that mock drill is carried out once in six months. The last mock drill was carried out on 20.11.2020. Copy of Public Liability Insurance is enclosed as **Annexure -5**. As per the information provided, safety audit is carried out once in two years. Last safety audit was carried out in November 2020. Copy of the conclusions and recommendations of the safety audit report is enclosed as **Annexure-6.**
xiii.	At least 2.5% of the total cost of the project shall be earmarked towards the Enterprise Social Commitment based on need of local people and item-wise details along with time bound action plan shall be prepared and submitted to the Ministry's Regional Office at Nagpur.	**Not complied.** PP did not submit the time bound action plan for the activities to be carried out under Enterprise Social Commitment (ESC). PP shall carry out the need based assessment study in the local area. Major part of the funds under ESC shall be spent on activities to be carried out in nearby villages.
xiv.	Zero Liquid Discharge (ZLD) shall be ensured.	**Complying with.** Zero liquid discharge is being implemented. Treated effluent is being reused in cooling tower, scrubbing, etc.
xv.	Continuous online (24x7) monitoring to be installed for flow measurement and measurement of pollutants within the treatment unit. Data to be uploaded on company's website and provided to the respective RO MoEF&CC, CPCB, and SPCB.	As the unit implemented zero discharge, PTZ camera along with Flow meter have been provided.

General Conditions:

S.No.	Condition	Compliance Status
i.	The Project authorities must strictly adhere to the stipulations made by the Maharashtra Pollution Board, State Government and any other statutory authority.	**PP agreed to comply with.**
ii.	No further expansion or modification in the plant shall be carried out without prior approval of the Ministry of Environment, Forest and Climate Change. In case of deviations or alterations in the project proposal from those submitted to this Ministry for clearance, a fresh reference shall be made to add additional environmental protection measures required, if any.	**PP agreed to comply with.**
iii.	The locations of ambient air quality monitoring stations shall be decided in consultation with the State Pollution Control Board (SPCB) and it shall be ensured that at least on stations is installed in the upwind and downwind direction as well as where maximum ground level concentration are anticipated.	**Complying with.** Ambient Air quality is being monitored at Two locations for parameters such as PM10, PM 2.5, SO2 & NOx through external laboratory. As per the monitoring data, the air quality found to be confirming to National Ambient Air Quality Standards dated 16.11.2009.
iv.	The National Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R. No. 826 (E) dated 16th November, 2009 shall be followed.	
v.	The overall noise level in and around the plant area shall be kept will within the standards by providing noise level shall conform to the standards prescribed under Environmental (Protection) Act, 1986 Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night-time).	**Complying with.** Acoustic enclosures have been provided for the noise generating sources. Personal Protective Equipment such as earplugs have been provided for the personnel working in the noisy areas. Noise levels are being monitoring at 5 locations each for ambient and work zone. As per the monitoring data, the noise levels found to be confirming to prescribed standards.
vi.	The Company shall be harvest rainwater from the roof tops of the buildings and storm water drains to recharge the ground water and use the same water for the process activities of the project to conserve fresh water.	Rain water from the rooftops of the office building is being collected in a tank. Collected water is being used for non process purposes.
vii.	Training shall be imparted to all employees on safety and health aspects of chemicals handling. Pre- employment and	**Complying with.** As per the information provided, training is being provided to the employees on health and safety

	routine periodical medical examinations for all employees on handling of chemicals shall be imparted.	aspects of chemical handling. Medical examination of the employees is being carried out once in year. The records are being maintained in Form-07 as per Factories Act.
viii.	The company shall also comply with all the environmental protection measures and safeguards proposed in the documents submitted to the Ministry. All the recommendations made in the EIA/EMP in respect of environment management, risk mitigation measures and public hearing relating to the project shall be implemented.	**Complying with.** Following measures have already been implemented: • Dust collector followed by bag filter has been provided for bio-briquette fired boiler and thermic fluid heater • Scrubbers have been provided for the process reactors • ETP has been provided with primary, secondary, tertiary treatment systems • Zero discharge is being implemented. • Environment quality is being monitored through external laboratory • Online stack emission monitoring system has been provided for the stack of the boiler • PTZ camera along with flow meter have been provided under continuous effluent monitoring system and these equipment are connected to CPCB/MPCB servers •
ix.	The Company shall undertake all relevant measures for improving the socio-economic conditions of the surrounding area. CSR activities shall be undertaken by involving local village and administration.	Compliance status already provided under Specific Condition no. xiii.
x.	The Company shall undertake eco-developmental measures including community welfare measures in the project area for the overall improvement of the environment.	
xi.	A Separate Environmental Management Cell equipped with full-fledged laboratory facilities shall be set up to carry out the Environmental Management and Monitoring functions.	Environment management cell has been established. PP is taking guidance from the NABET accredited consultancy for compliance of EC conditions. Environment quality is being monitored regularly through external laboratory.
xii.	The company shall earmark sufficient funds towards capital cost and recurring cost per annum to implement the conditions stipulated by the Ministry of Environmental, Forest and Climate Change as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds so earmarked for environment	**PP agreed to comply with.** As per the information provided, an expenditure of Rs.500 Lakhs has been made on capital works pertaining to environment protection measures. Also an amount of Rs. 300.99 Lakhs has been spent towards operation & maintenance of environment infrastructure and other works since 2019-20.

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	management/ pollution control measures shall not be diverted for any other purpose.	
xiii.	A copy of the clearance letter shall be sent by the project proponent to concerned Panchayat, Zilla Parishad/ Municipal Corporation, Urban local Body and the local NGO, if any, from whom suggestion/ representations, if any, were received while processing the proposal.	As per the information provided, copy of the EC has been submitted to MIDC and local Gram Panchayat Chincholi. Copy of the EC has been uploaded to company website.
xiv.	The project proponent shall also submit six monthly report on the status of compliance of the stipulated Environment Clearance conditions including results of monitored data (both in hard copies as well as by e-mail) to the respective Regional Office of MoEF&CC, the respective Zonal office of CPCB and SPCB. A copy of Environmental Clearance and six monthly compliance status report shall be posted on the website of the company.	**Not complied**. PP did not submit the six monthly compliance report to project website. Also copy of the same was not uploaded to company website.
xv.	The environmental statement for each financial year ending 31st March in Form-V as is mandated shall be submitted to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental clearance condition and shall also be sent to the respective Regional office of MoEF&CC by e-mail.	**Partly complied**. PP submitted the environment statement for the FY 2019-20 to MPCB on 07.11.2020. It was observed that the submission was made after 30.09.2020. PP during the site inspection submitted that this delay was due to the pandemic situation. Henceforth the submission will be made before 30th September. Copy of Environmental Statement is also submitted to RO MoEF&CC through six monthly reports.
xvi.	The Project proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB/ committed and may also be advertised within seven days from the date of issue of the clearance letter, at least in two local newspaper that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the sameshall be forwarded to the concerned Regional Office of the Ministry.	**Complying with**. Advertisement has been made as per the stipulation.
xvii.	The project authorities shall inform the Regional office as well as the Ministry the date of financial closure and final approval of the project by the concerned authorities	PP did not provide the details pertaining to financial closure to Regional Office of the Ministry.

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	and the date of start of the project.	
11.	The ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.	**PP agreed to comply with.**
12.	The Ministry reserve the right to stipulate additional conditions, if found necessary. The company in a time bound manner shall implement these conditions.	**PP agreed to comply with.**
13.	The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous Wastes (Management & Handling) Rules 2008 and the Pubic Liability Insurance Act, 1991 along with their amendments and rules.	**PP agreed to comply with.**

Scientist'D'

पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय
Ministry of Environment, Forest & Climate Change
क्षेत्रीय कार्यालय (पश्चिम मध्य क्षेत्र)
Regional Office (WCZ)
नागपुर/Nagpur-440001

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Summary Note

1. **Implementation of Conditions**:

Site inspection of the project has been carried out on 10.11.2020. Ministry vide letter dated 31.01.2017 granted environmental clearance for setting up of Fine Chemical Intermediates Manufacturing Unit. The construction of the project has been completed and operations have commenced. The project was not in operation during site inspection due to closure directions issued by MPCB. MPCB revoked the closure directions vide order dated 25.11.2020.

The effluent generated is being segregated based on COD level and treated separately. Zero discharge is being implemented. Dust collector followed by bag filter has been provided for bio-briquette fired boiler and thermic fluid heater. Scrubbers have been provided for the process reactors. Onsite emergency management plan is available. Safety audit was carried out in November 2020. Public Liability Insurance is available. Housekeeping during site inspection found to be satisfactory.

Following non compliances were observed:

Specific Condition no.xiii:

PP did not submit the time bound action plan for the activities to be carried out under Enterprise Social Commitment (ESC). PP shall carry out the need based assessment study in the local area. Major part of the funds under ESC shall be spent on activities to be carried out in nearby villages.

General Condition no.xiv:

PP did not submit the six monthly compliance report to project website. Also copy of the same was not uploaded to company website.

Following partial compliances were observed:

General Condition no.xv:

PP submitted the environment statement for the FY 2019-20 to MPCB on 07.11.2020. It was observed that the submission was made after 30.09.2020. PP during the site inspection submitted that this delay was due to the pandemic situation. Henceforth the submission will be made before 30th September. Copy of Environmental Statement is also submitted to RO MoEF&CC through six monthly reports.

2. **Review w.r.t to MOEFs letter dated 30.5.2012:**

The monitoring report has been prepared based on the site inspection carried out on 10.11.2020 for the amendment/expansion of environmental clearance granted for expansion of Fine

Chemical Intermediates Manufacturing Unit. Compliance status is based on the observations made during site inspection.

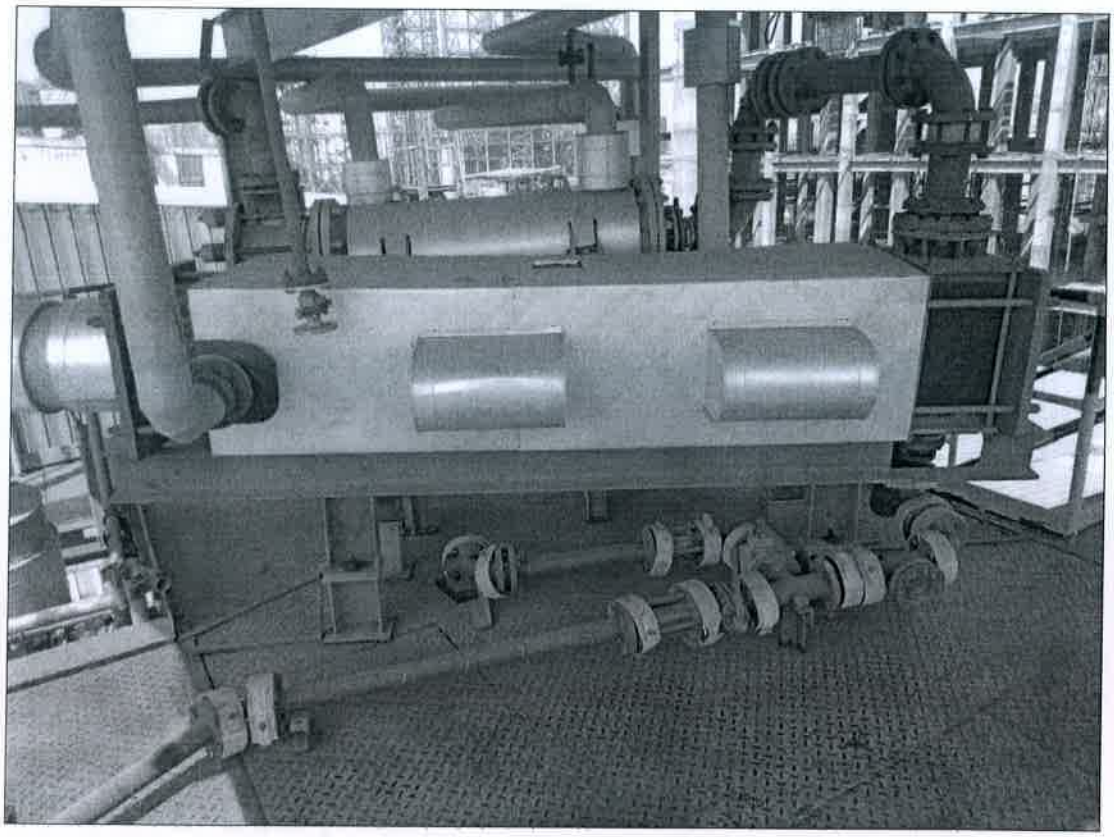
3. **Court Cases and show cause/closure notices:**
No information provided regarding Court Cases.
MPCB issued closure directions vide letter dated 07.10.2020. The conditional restart directions were issued to the project vide letter dated 25.11.2020. Copy of the restart directions is enclosed as **Annexure-7**. Technical Committee, MPCB recommended the amendment in existing consent to operate under change in product-mix category.

MPCB granted consent to operate vide letter no. Format 1.0/BO/AST/UAN No.0000022128/O/CC-1907000179 dated 04.07.2019 with validity upto 31.06.2024.

Scientist'D'
SCIENTIST 'D'
Ministry of Environment, Forest & Climate Change
Regional Office (WCZ)

ANNEXURE-1

REACTORS CONNECTED TO CHILLED / BRINE WATER SOLUTION



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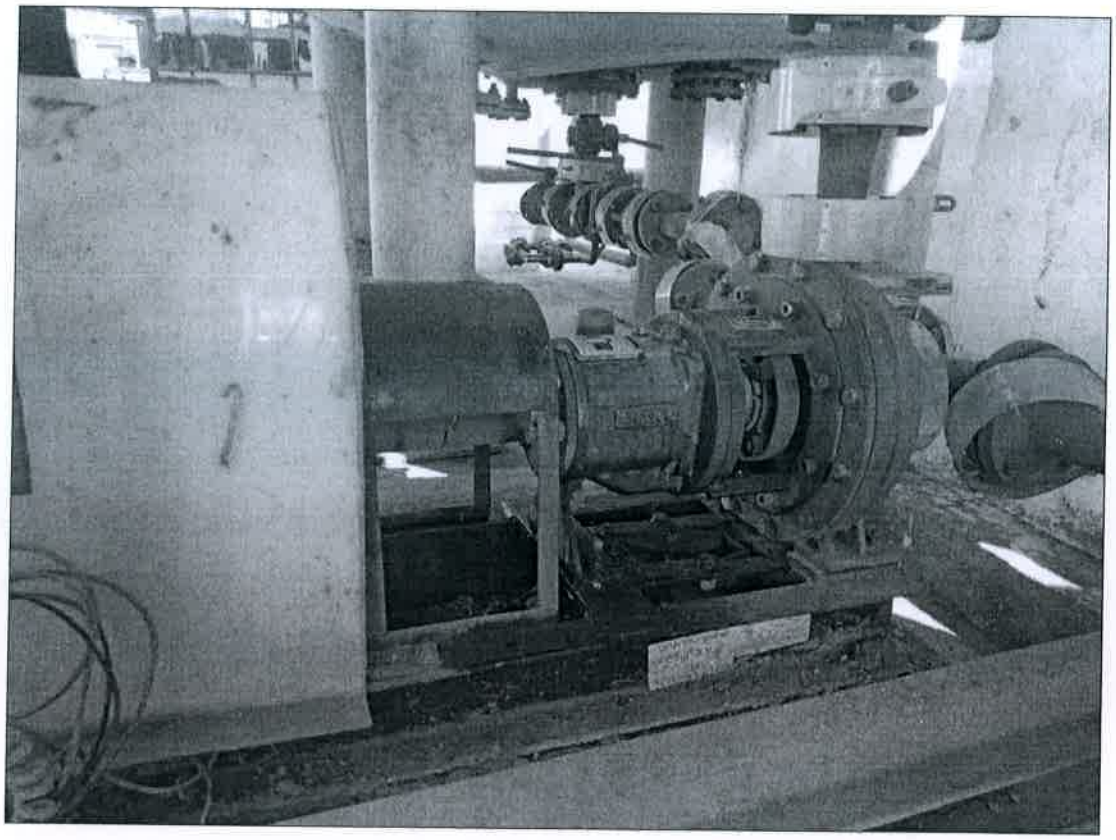
ANNEXURE-L

REACTORS & SOLVENT HANDLING PUMPS WITH MEDICAL SEALS



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ANNEXURE-3

PHOTOGRAPHS OF WAREHOUSE

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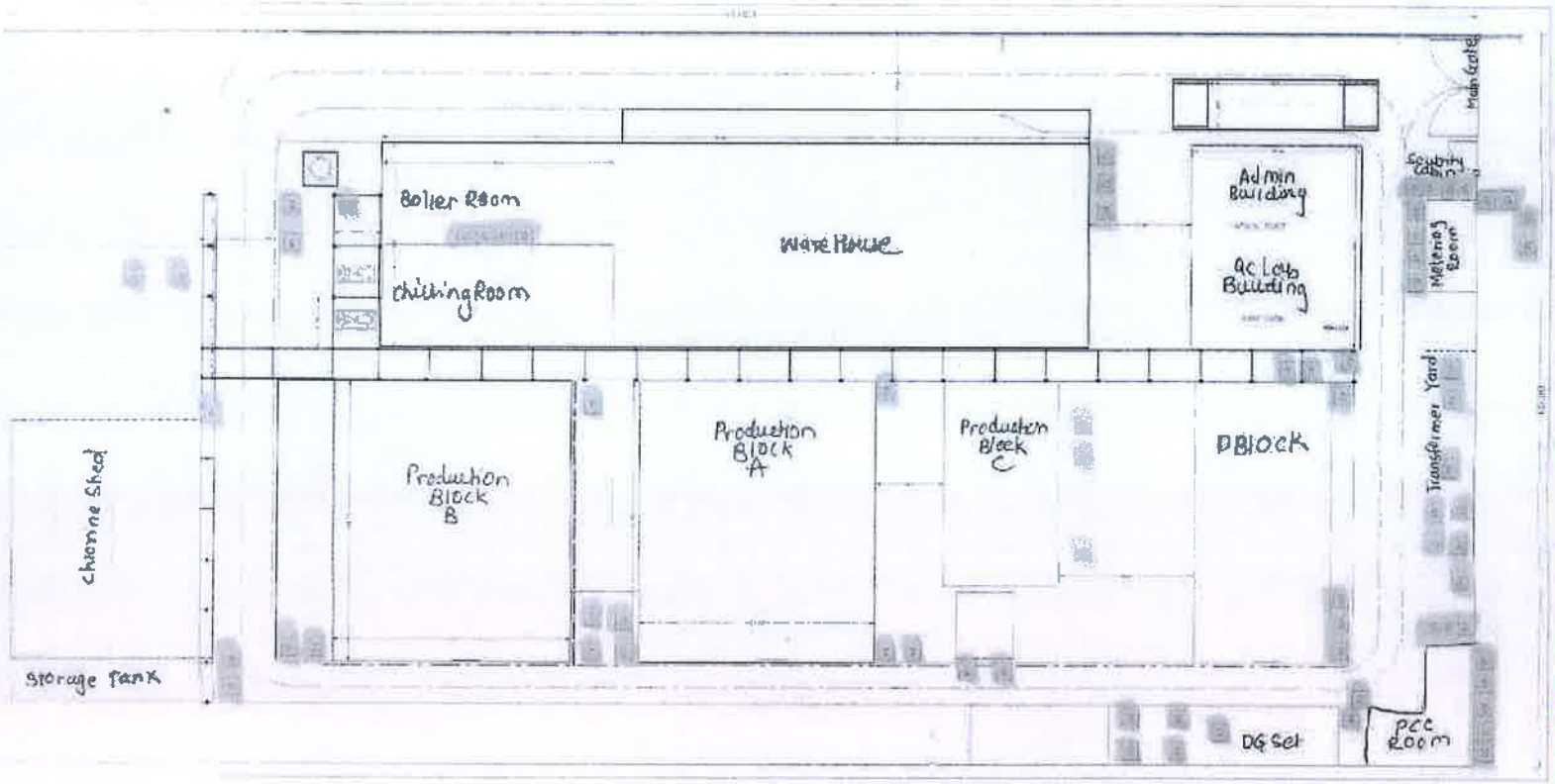
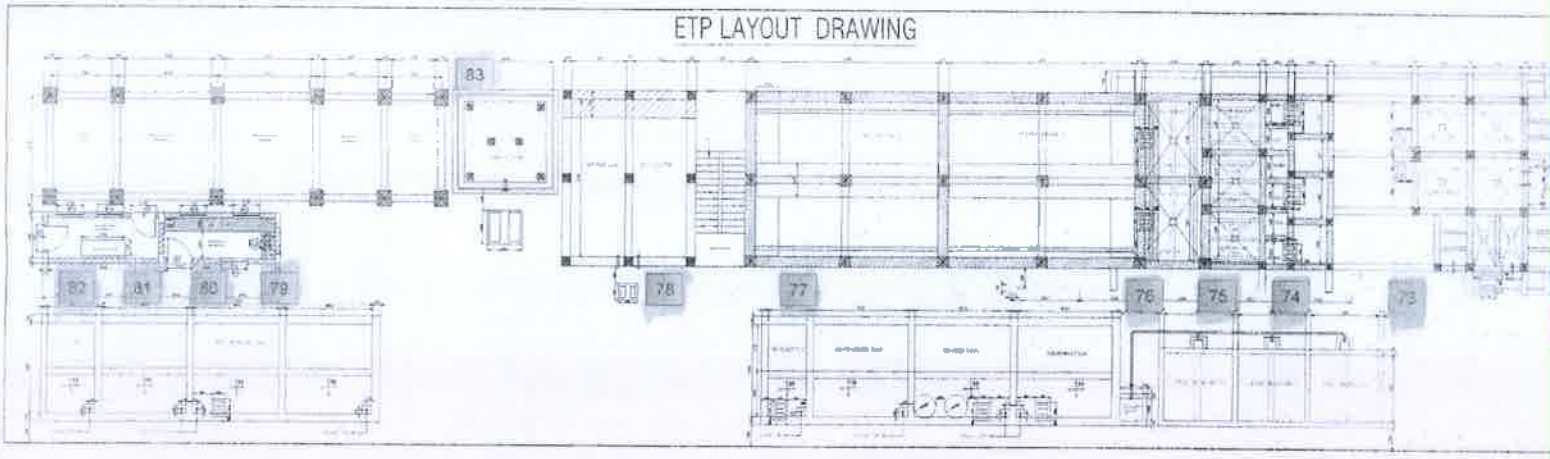

Boiler Room
Ware House
Chilling Room
Admin Building
QC Lab Building
Melting Room
Transformer Yard
Production Block B
Production Block A
Production Block C
DBLOCK
Chlorine Shed
Storage Tank
DG Set
PCC Room

???

15/38

MEE & ETP
EARTH Pits

ETP LAYOUT DRAWING



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ANNEXURE-4

MAHARASHTRA
ENVIRO POWER LTD

This is to certify that: M/S. OC SPECIALITIES PVT LTD.
Address : Plot No. E 18, MIDC Chincholi, Tal - Mohol, Solapur – 413255 a Valid member of CHWTSDF (As per MOU with MIDC & MPCB), at Plot No. P-56, Ranjangaon MIDC, Taluka – Shirur, Pune - 412 220.

Membership No. : MEPL/ 33001375

Membership Period: 20 August 2017 to 19 August 2022

For Maharashtra Enviro Power Ltd.

Authorized signatory

Marketing Coordinator

MAHARASHTRA ENVIRO POWER LTD.

Maharashtra Pollution Control Board

महाराष्ट्र प्रदूषण नियंत्रण मंडळ

Form 4

See rules 6(5),13(8),16(6) and 20(2) of Hazardous and other wastes 2016

FORM FOR FILING ANNUAL RETURNS

[To be submitted to state pollution control board/pollution control committee by 30th June of every year for the preceeding period April to march]

Unique Application Number:
MPCB-HW_ANNUAL_RETURN-0000016335

Submitted On:
01-07-2020

Submitted for Year:
April 2019 to March 2020

1. Name of the generator/operator of facility
M/s. OC Specialities Pvt. Ltd

Address of the unit/facility
Plot No. E-18, MIDC, Chincholi

1b. Authorization Number
Format1.0/BO/AST/UAN No. 0000022128/a-1907000179

Date of issue
Jul 4, 2019

Date of validity of consent
Jun 30, 2024

2. Name of the authorised person
Mr. Vikas M. Shah (Director)

Full address of authorised person
Plot No. E-18, MIDC, Chincholi Industrial Area

Telephone
9819807073

Fax
022-26269292

Email
contact@ocspl.com

3.Production during the year (product wise), wherever applicable

*Product Type **	*Product Name **	*Consented Quantity*	*Actual Quantity*	*UOM*
Chemical ,Petrochemical &Electrochemical	Sodium Bromide Soln.	4745.00	702.00	MT/A
Chemical ,Petrochemical &Electrochemical	"Zinc Hydroxide OR Zinc Oxide"	2186.35	0.00	MT/A
Chemical ,Petrochemical &Electrochemical	Di Isopropyl Ethyl Amine(DIPEA)	222.65	112.11	MT/A
Chemical ,Petrochemical &Electrochemical	Methyl-2-Chloro Phenyl Acetate	124.10	0.00	MT/A
Chemical ,Petrochemical &Electrochemical	4 Methoxy Phenyl Acetone	120.45	0.00	MT/A
Chemical ,Petrochemical &Electrochemical	2,3 Dichloro Pyridine	120.45	77.5	MT/A
Chemical ,Petrochemical &Electrochemical	2-Amino-2-Phenyl Butyric Acid	76.65	0.00	MT/A
Chemical ,Petrochemical &Electrochemical	Ortho Hydroxy Phenyl Acetic Acid	182.50	0.00	MT/A
Chemical ,Petrochemical &Electrochemical	2 Coumaranone	149.65	0.00	MT/A
Chemical ,Petrochemical &Electrochemical	3-isochromanone	146.00	0.00	MT/A
Chemical ,Petrochemical &Electrochemical	2,6 Dichloro Benzoyl Chloride	270.10	90.95	MT/A
Chemical ,Petrochemical &Electrochemical	Methyl-2- Dimethylamino-2 -Phenyl Butyrate	120.45	0.00	MT/A
Chemical ,Petrochemical &Electrochemical	2- Dimethylamino-2 -Phenyl Butano	36.50	0.00	MT/A
Chemical ,Petrochemical &Electrochemical	P-Bromoanisole / 4 – Bromo Anisole	200.75	0.00	MT/A
Chemical ,Petrochemical &Electrochemical	Para Bromophnetole /4- Bromophenetole	175.20	0.00	MT/A
Chemical ,Petrochemical &Electrochemical	2,4 - Dichloro phenyl acetyl chloride	481.80	0.00	MT/A
Chemical ,Petrochemical &Electrochemical	2,5 - Dimethyl phenyl acetyl chloride	394.20	126.00	MT/A

Chemical ,Petrochemical &Electrochemical	Indoline	441.65	0.00	MT/A
Chemical ,Petrochemical &Electrochemical	Ethyl Phenyl Glyoxalate (EPG)	346.75	0.00	MT/A
Chemical ,Petrochemical &Electrochemical	Ethyl - 1- Hydroxy Cyclohexane Carboxylate	401.50	43.00	MT/A
Chemical ,Petrochemical &Electrochemical	Ethyl - 1- Hydroxy Cyclo Pentane Carboxylate	441.65	88.00	MT/A
Chemical ,Petrochemical &Electrochemical	3 - Chloro- 2 - Hydrazinylpyridin e	438.00	184.00	MT/A
Chemical ,Petrochemical &Electrochemical	Sodium Bromide Powder	2821.45	0.00	MT/A

PART A: To be filled by hazardous waste generators

1. Total Quantity of waste generated category wise

Type of hazardous waste	*Wate Name*	*Consented Quantity*	*Quantity*	*UOM*
20.3 Distillation residues	Distillation residue	254.40	10.34	MTA
28.1 Process Residue and wastes	Process residue	157.68	7.41	MTA
35.3 Chemical sludge from waste water treatment	ETP Sludge	109.50	24.86	MTA
34.2 Sludge from treatment of waste water arising out of cleaning / disposal of barrels / containers	MEE SALT	360.00	108.3	MTA
Other Hazardous Waste	Sodium sulphate Solution 30%	2193.65	72.53	MTA
Other Hazardous Waste	HCl 30%	919.80	174.76	MTA
Other Hazardous Waste	Sodium Nitrite Solution 30%	368.65	11.28	MTA
Other Hazardous Waste	Distillation Residue of p-xylene	43.80	9.13	MTA
Other Hazardous Waste	Ammonium Chloride	438.00	7.82	MTA

2. Quantity dispatched category wise.

Type of Waste	*Quantity of waste*	*UOM*	*Dispatched to*	*Facility Name*
20.3 Distillation residues	10.34	MTA	Disposal Facility	MAHARASHTRA ENVIRO
28.1 Process Residue and wastes	7.41	MTA	Disposal Facility	MAHARASHTRA ENVIRO
35.3 Chemical sludge from waste water treatment	24.86	MTA	Disposal Facility	MAHARASHTRA ENVIRO
34.2 Sludge from treatment of waste water arising out of cleaning / disposal of barrels / containers	108.3	MTA	Disposal Facility	MAHARASHTRA ENVIRO
Other Hazardous Waste	72.53	MTA	Recycler or Actual user	Sale
Other Hazardous Waste	174.76	MTA	Disposal Facility	Sale
Other Hazardous Waste	11.28	MTA	Disposal Facility	Sale
Other Hazardous Waste	9.13	MTA	Disposal Facility	Sale
Other Hazardous Waste	7.82	MTA	Disposal Facility	Sale

3. Quantity Utilised in-house,If any

Type of Waste	*Name of Waste*	*Quantity of Waste*	*UOM*
	0	0	KL/Anum

4. Quantity in storage at the end of the year

Type of Waste	*Name of Waste*	*Quantity of Waste*	*UOM*

???

0	0	KL/Anum

PART B: To be filled bt Treatment,storage, and disposal facility operators

1.Total Quantity received
NA

UOM
KL/Anum

State Name
Maharashtra

2. Quantity in stock at the beginning of the year
NA

UOM
KL/Anum

3. Quantity treated
NA

UOM
KL/Anum

4. Quantity disposed in landfills as such and after treatment

Direct landfilling
NA

UOM
KL/Anum

Landfill after treatment
NA

UOM
KL/Anum

5. Quantity incinerated (if applicable)
NA

UOM
KL/Anum

6. Quantiry processed other than specified above
NA

UOM
KL/Anum

7. Quantity in storage at the end of the year.
NA

UOM
KL/Anum

PART C: To be filled by recyclers or co-processors or other users

1. Quantity of waste received during the year

Waste Name/Category	*Country Name*	*State Name*	*Quantity of waste received from domestic sources*	*Quantity of waste imported(If any)*	*Units*
NA	India	Maharashtra	NA	NA	KL/Anum

2. Quantity in stock at the beginning of the year

Waste Name/Category	*Quantity*	*UOM*
NA	NA	KL/Anum

3. Quantity of waste recycled or co-procesed or used

Name of Waste	*Type of Waste*	*Quantity*	*UOM*
NA	NA	NA	KL/Anum

4. Quantity of products dispatched (wherever applicable)

Name of product	*Quantity*	*UOM*
NA	NA	KL/Anum

5. Total quantity of waste generated

Waste name/category	*quantity*	*UOM*
NA	NA	KL/Anum

6. Total quantity of waste disposed

Waste name/category	*quantity*	*UOM*
NA	NA	KL/Anum

7. Total quantity of waste re-exported (If Applicable)

Waste name/category	*quantity*	*UOM*
NA	NA	KL/Anum

8. Quantity in storage at the end of the year

Waste name/category	*quantity*	*UOM*
NA	NA	KL/Anum

Personal Details

Place	Date	Designation
Solapur	2019-06-30	Director

???

ANNEXURE-5

TATA AIG INSURANCE
WITH YOU ALWAYS

Date: 25/06/2020

OC SPECIALITIES PVT. LTD
PLOT NO. E18, MIDC CHINCHOLI INDUSTRIAL AREA
TAL:MOH NORTH, SOLAPUR
SOLAPUR, MAHARASHTRA
NORTH SOLAPUR - 413255
SOLAPUR
MAHARASHTRA
INDIA
27AAACO7181P1ZT(GSTIN Number)

Policy No : 0302000569
Renewal : 04
Endorsement : 01

Dear Sir / Madam,

We thank you for choosing **Tata AIG General Insurance Company Ltd.** as your preferred insurer. Your Policy No. Is 0302000569 04 01.

We are glad that you have chosen our product **PUBLIC LIABILITY ACT** and given us an opportunity to be your risk carrier for this Product.

'Casualty Line' caters to most of the Enterprises / Industries in India, whether Large, Medium or Small. As one of the India's most established insurance companies, we understand these unique needs of coverage. At Tata AIG we care for you and would strive to offer convenience coupled with a range of products that cater continously to your ever increasing needs.

Enclosed please find your policy docket based on the information furnished by you in the Proposal.

We look forward to a long and mutually beneficial relationship and providing you wider range of benefits in the years to come.

Yours Sincerely,
For Tata AIG General Insurance Company Limited

Authorized Signatory

TATA AIG INSURANCE
WITH YOU ALWAYS

PUBLIC LIABILITY ACT POLICY
POLICY SCHEDULE

Agent/Broker Name -GLOBAL INSURANCE BROKERS PVT. LTD.
Agent/Broker License Code - 119:Agent/Broker :Contact No - 66560505 (mobile or landline)

Attaching to and forming part of Policy No.	0302000569 04 01
Name of Insured Owner:	OC SPECIALITIES PVT. LTD
Business:	Manufacturing Hazardous and Non Hazardous chemicals
Address:	PLOT NO. E18, MIDC CHINCHOLI INDUSTRIAL AREA TAL:MOH NORTH, SOLAPUR SOLAPUR, MAHARASHTRA NORTH SOLAPUR - 413255 SOLAPUR MAHARASHTRA INDIA 27AAACO7181P1ZT(GSTIN Number) Place of supply -MAHARASHTRA State code -27
Territorial limits:	Anywhere In India

Policy Period: **From:** 16/06/2020 12:00 AM/ PM
To Midnight of: 15/06/2021 12:00 AM/ PM

Indemnity limit:Rs 50,000,000.00 In respect of any one accident and not exceeding 3 times thereof in the aggregate during the policy period.

Service Tax Registration No:

Premium	₹ 15,000.00
UGST/SGST @9 %	₹ 1,350.00
CGST @9 %	₹ 1,350.00

Contribution to the Environment Relief Fund:₹ 15,000.00

Date of Proposal and declaration:16/06/2020

In witness whereof the undersigned being duly authorized by the company and on behalf of the company has hereto set his hand at MUMBAI on 25/06/2020

The stamp duty of 0.25 paid in cash or demand draft or by pay order,vide Receipt/Challan no: CSD/07/2020/1354/2020 dated the 29/04/2020

For Tata AIG General Insurance Company Limited

Authorized Signatory

Date :25/06/2020
Place :MUMBAI

Policy Servicing Office
Tata AIG General Insurance Company Limited
2ND FLOOR, CITI TOWER, 61, DR. S.S.RAO ROAD,, NEXT TO M.G.M HOSPITAL, PAREL(E), MUMBAI - 400012,MUMBAI,MAHARASHTRA,MUMBAI-400012
Tel No:22-22-62606600

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POS PAN No:
POS Aadhar No:

TATA AIG INSURANCE
WITH YOU ALWAYS

RECEIPT

Receipt No. : 102001014587690

Receipt Date : 12/06/2020

Policy No : 0302000569 04 01

Received with thanks from OC SPECIALITIES PVT. LTD a sum of ₹ **32,700.00** (Rupees Thirty Two Thousand Seven Hundred And Paise 00 Only)

Sr. No.	Policy Number	Total Premium (₹)	Utilized from the receipt for policy (₹)	Balance (₹)
1	0302000569 04 01	32,700.00	32,700.00	0.00

Note:

1. This is a computer generated receipt and does not require a signature.
2. Upon issuance of this Receipt, all previously issued temporary receipts, if any, related to this Policy shall be considered null and void.
3. Amounts received by cheque shall be subject to realisation.
4. Any amount received in excess of the Premium is being/shall be refunded by the Company.

GSTIN : 27AABCT3518Q1ZW - MAHARASHTRA Service Accounting Code : 9971

Revenue (consolidated) Stamp Duty duly paid vide challan No.CSD/245/2019/5930/19 date 19/12/2019 for applicable cases.

POS PAN No:

POS Aadhar No:

Insurance is the subject matter of the solicitation. For more details on risk factors, terms and conditions, please read sales brochure carefully before concluding a sale.
TATA AIG General Insurance Company Ltd. Regd. Office: 15th floor, Tower A, Peninsula Business Park,Ganpatrao Kadam Marg, Off Senapati Bapat Marg, L
IRDA Registration No.108, CIN No : U85110MH2000PLC128425, PAN : AABCT3518Q, UIN No : IRDAN108CP0058V01201819

TATA AIG INSURANCE
WITH YOU ALWAYS

LIABILITY INSURANCE POLICY
(UNDER PUBLIC LIABILITY INSURANCE ACT 1991)

1.OPERATIVE CLAUSE

Whereas the Insured Owner named in the schedule hereto and carrying on business described in the said schedule has applied to the Tata AIG General Insurance Company Limited (hereinafter called the Company) for the indemnity hereinafter contained and has made a written proposal and declaration which shall be the basis of this contract and is deemed to be incorporated herein and has paid the premium and statutory contribution towards the Environment Relief Fund as per the provisions of the Public Liability Insurance Act and the rules framed thereunder.

NOW THIS POLICY WITNESSETH that subject to the terms, exceptions and conditions contained herein or endorsed hereon, the company will indemnify the insured owner against the statutory liability arising out of accidents occurring during the currency of the policy due to handling hazardous substances as provided for in the said Act and the Rules framed thereunder.

2.DEFINITIONS:

a)"ACT" unless otherwise specifically mentioned shall mean the Public Liability Insurance Act 1991 as amended from time to time;

b) "Accident" means an accident involving a fortuitous, sudden or unintentional occurrence while handling any hazardous substance resulting in continuous, intermittent or repeated exposure to death of, or injury to any person or damage to any property but does not include an accident by reason only of war or radioactivity;

c) "Handling" in relation to any harzardous substance means the manufacture, processing, treatment, package, storage, transportation by vehicle, use, collection, destruction, conversion, offering for sale, transfer or the like of such hazardous substance;

d) "Hazardous Substance" means any substance or preparation which is defined as hazardous substance under the Environment (Protection) Act, 1986, and exceeding such quantity as may be specified, by notification, by the Central Government;

e)"Owner" means a person who owns, or has control over handling any hazardous substance at the time of accident and includes:
I) In the case of a firm any of its partners;
II) In the case of an association, any of its members, and
III) In the case of a company, any of its directors, managers, secretaries or other officers who is/are directly in charge of, and is/are responsible to the company for the conduct of the business of the company;

f) "Turnover" shall mean
I) Manufacturing units-Annual Gross Sales of all goods including all levies and taxes
II) Godowns/ warehouse owners-Total Annual rental receipts.
III)Transport Operators-Total Annual freight receipts.
IV)Others-Total Annual gross receipts.

3. EXCLUSIONS:

(1) arising out of wilful or intentional non-compliance of any Statutory provisions.

(2) in respect of fines, penalties, punitive and/or exemplary damages.

(3) arising under any other legislation except in so far as provided for in Section 8 Sub Section (1) and (2) of the Act.

(4) in respect of damage to property owned, leased or hired or under hire purchase or on loan to the Insured or otherwise in the Insured Owner's control, care or custody.

(5) directly or indirectly occasioned by, happening through or in consequence of war, invasion, act of foreign enemy, hostilities (whether war be declared or not), civil war, rebellion, revolution, insurrection or military or usurped power;

(6) directly or indirectly caused by or contributed to by.

(a) ionising radiation or contamination by radioactivity from any nuclear fuel or from any nuclear waste from the combustion of nuclear fuel

(b) the radioactive, toxic, explosive or other hazardous properties of any explosive nuclear assembly or nuclear component thereof.

4. CONDITIONS:

(1) The Insured owner shall give written notice to the Company as soon as reasonably practicable of any claim made against the Insured Owner or of any specific event or circumstance that may give rise to a claim. The Insured Owner shall immediately give to the Company copies of notice of applications forwarded by the Collector and all

such additional information and or assistance that the company may require.

(2) No admission, offer, promise or payments shall be made or given by or on behalf of the Insured owner under this policy without the written consent of the Company.

(3) The Company shall not be liable for any claim for relief made after five years from the date of occurrence of the accident.

(4) The Insured Owner shall keep record of annual turnover, and at the time of renewal of insurance declare such turnover and all other details as may be required by the Company. The Company shall at all reasonable times have full rights to call for and examine such records.

(5) If at the time of happening of any accident resulting in a claim under this policy there be any other insurance covering the same liability, then the Company shall not be liable to pay or contribute more than its ratable proportion of such liability.

(6) This policy may be cancelled by the Insured Owner by giving 30 days notice in writing to the company in which event the Company will retain premium at short period scale subject to there not having occurred an accident during the policy period which may give rise to a claims(s), failing which no refund of premium shall be allowable.

(7) This Policy may also be cancelled by the Insurer by giving 30 days notice in writing to the Insured Owner in which event the Company shall be liable to repay on demand a ratable proportion of the premium for the unexpired term from the date of cancellation.

(8) If the Company shall disclaim liability to the Insured Owner for any claim hereunder and such claim shall not within 12 calendar months from the date of such disclaimer have been made the subject matter of a suit in a competent court of law, then the claim for the practical purposes shall be deemed to have been abandoned and shall not thereafter be recoverable hereunder or be made the subject matter of any suit.

(9) The Company shall not be liable to make any payment in respect of any claim if such claim shall be in any manner fraudulent or supported, by any person on behalf of the Insured Owner and/or if the insurance has been continued in consequence of any material misstatement or non-disclosure of any material information by or on behalf of the Insured Owner. In such a case if the Company pays any amount to the claimant due to any statutory provision such amount shall be recoverable from the Insured Owner.

(10) The Policy and the Schedule shall be read together as one contract and any word or expression to which a specific meaning has been assigned in the Act and the Rules framed thereunder or in this Policy shall bear such specific meaning.

(11) Any dispute regarding interpretation of the terms, conditions and exclusions of this Policy shall be determined in accordance with the law and practice of a court of competent jurisdiction within India.

TATA AIG INSURANCE
WITH YOU ALWAYS

GRIEVANCE REDRESSAL POLICY

Grievance Lodgment Stage

The Company is committed to extend the best possible services to its customers. However, if you are not satisfied with our services and wish to lodge a complaint, please feel free to contact us through below channels:

Call us 24X7 toll free helpline 1800 266 7780
Email us at customersupport@tataaig.com

Write to us at : Customer Support, Tata AIG General Insurance Company Limited
A-501 Building No.4 IT Infinity Park, Dindoshi, Malad (E), Mumbai - 400097
Visit the Servicing Branch mentioned in the policy document

Nodal Officer

Please visit our website at www.tataaig.com to know the contact details of the Nodal Officer for your servicing branch.
After investigating the grievance internally and subsequent closure, we will send our response within a period of 10 days from the date of receipt of the complaint by the Company or its office in Mumbai. In case the resolution is likely to take longer time, we will inform you of the same through an interim reply.

Escalation Level 1

For lack of a response or if the resolution still does not meet your expectations, you can write to manager.customersupport@tataaig.com. After investigating the matter internally and subsequent closure, we will send our response within a period of 8 days from the date of receipt of your complaint.

Escalation Level 2

For lack of a response or if the resolution still does not meet your expectations, you can write to the Head-Customer Services at head.customerservices@tataaig.com. After examining the matter, we will send you our response within a period of 7 days from the date of receipt of your complaint. Within 30 days of lodging a complaint with us, if you do not get a satisfactory response from us and you wish to pursue other avenues for redressal of grievances, you may approach Insurance Ombudsman appointed by IRDA under the Insurance Ombudsman Scheme. Given below are details of the Insurance Ombudsman located at various centers.

List of Insurance Ombudsman Offices

Office of the Ombudsman	Address & Contact details	Jurisdiction of Office Union Territory, District
AHMEDABAD	Office of the Insurance Ombudsman, Jeevan Prakash Building, 6th Floor, Tilak Marg, Relief Road, Ahmedabad - 380 001. Tel.: 079 - 25501201/02/05/06 Email: bimalokpal.ahmedabad@ecoi.co.in	Gujarat, Dadra & Nagar Haveli, Daman and Diu.
BENGALURU	Office of the Insurance Ombudsman, Jeevan Soudha Building, PID No. 57-27-N-19 Ground Floor, 19/19, 24th Main Road, JP Nagar, Ist Phase, Bengaluru – 560 078. Tel.: 080 - 26652048 / 26652049 Email: bimalokpal.bengaluru@ecoi.co.in	Karnataka
BHOPAL	Office of the Insurance Ombudsman, Janak Vihar Complex, 2nd Floor, 6, Malviya Nagar, Opp. Airtel Office, Near New Market, Bhopal – 462 003. Tel.: 0755 - 2769201 / 2769202 Fax: 0755 - 2769203 Email: bimalokpal.bhopal@ecoi.co.in	Madhya Pradesh Chattisgarh
BHUBANESHWAR	Office of the Insurance Ombudsman, 62, Forest park, Bhubneshwar - 751 009. Tel.: 0674 - 2596461 /2596455 Fax: 0674 - 2596429 Email: bimalokpal.bhubaneswar@ecoi.co.in	Orissa
CHANDIGARH	Office of the Insurance Ombudsman, S.C.O. No. 101, 102 & 103, 2nd Floor, Batra Building, Sector 17 – D, Chandigarh - 160 017. Tel.: 0172 - 2706196 / 2706468 Fax: 0172 - 2708274 Email : bimalokpal.chandigarh@ecoi.co.in	Punjab, Haryana, Himachal Pradesh, Jammu & Kashmir, Chandigarh
CHENNAI	Office of the Insurance Ombudsman, Fatima Akhtar Court, 4th Floor, 453, Anna Salai, Teynampet, CHENNAI - 600 018. Tel.: 044 - 24333668 / 24335284 Fax: 044 - 24333664 Email : bimalokpal.chennai@ecoi.co.in	Tamil Nadu, Pondicherry Town and Karaikal (which are part of Pondicherry).
DELHI	Office of the Insurance Ombudsman, 2/2 A, Universal Insurance Building, Asaf Ali Road, New Delhi – 110 002. Tel.: 011 - 23239633 / 23237532 Fax: 011 - 23230858 Email: bimalokpal.delhi@ecoi.co.in	Delhi
GUWAHATI	Office of the Insurance Ombudsman, Jeevan Nivesh, 5th Floor, Nr. Panbazar over bridge, S.S. Road, Guwahati – 781001(ASSAM). Tel.: 0361 - 2132204 / 2132205 Fax: 0361 - 2732937 Email : bimalokpal.guwahati@ecoi.co.in	Assam, Meghalaya, Manipur, Mizoram, Arunachal Pradesh, Nagaland and Tripura
HYDERABAD	Office of the Insurance Ombudsman, 6-2-46, 1st floor, "Moin Court", Lane Opp. Saleem Function Palace, A. C. Guards, Lakdi-Ka-Pool, Hyderabad - 500 004. Tel.: 040 - 65504123 / 23312122 Fax: 040 - 23376599 Email : bimalokpal.hyderabad@ecoi.co.in	Andhra Pradesh, Telangana, Yanam and part of Territory of Pondicherry.
JAIPUR	Office of the Insurance Ombudsman, Jeevan Nidhi – II Bldg., Gr. Floor, Bhawani Singh Marg, Jaipur-302 005. Tel.: 0141 - 2740363 Email: Bimalokpal.jaipur@ecoi.co.in	Rajasthan
ERNAKULAM	Office of the Insurance Ombudsman, 2nd Floor, Pulinat Bldg., Opp. Cochin Shipyard, M. G. Road, Ernakulam - 682 015. Tel.: 0484 - 2358759 / 2359338 Fax: 0484 - 2359336 Email : bimalokpal.ernakulam@ecoi.co.in	Kerala, Lakshadweep, Mahe-a part of Pondicherry
KOLKATA	Office of the Insurance Ombudsman, Hindustan Bldg. Annexe, 4th Floor, 4, C.R. Avenue, KOLKATA-700 072. Tel.: 033 - 22124339 / 22124340 Fax : 033 - 22124341 Email: bimalokpal.kolkata@ecoi.co.in	West Bengal, Sikkim, Andaman & Nicobar Islands
LUCKNOW	Office of the Insurance Ombudsman, 6th Floor, Jeevan Bhawan, Phase-II, Nawal Kishore Road, Hazratganj, Lucknow - 226 001. Tel.: 0522 - 2231330 / 2231331 Fax: 0522 - 2231310 Email : bimalokpal.lucknow@ecoi.co.in	Districts of Uttar Pradesh : Laitpur, Jhasi, Mahoba, Hamirpur, Banda, Chitrakoot, Allahabad, Mirzapur, Sonbhabdra, Fatehpur, Pratapgarh, Jaunpur, Varanasi, Gazipur, Jalaun, Kanpur, Lucknow, Unnao, Sitapur, Lakhimpur, Bahraich, Barabanki, Raebareli, Sravasti, Gonda, Faizabad, Amethi, Kaushambi, Balrampur, Basti, Ambedkarnagar, Sultanpur, Maharajgang, Santkabirnagar, Azamgarh, Kushinagar, Gorkhpur, Deoria, Mau, Ghazipur, Chandauli, Ballia, Sidharathnagar

MUMBAI	Office of the Insurance Ombudsman, 3rd Floor, Jeevan Seva Annexe, S. V. Road, Santacruz (W), Mumbai - 400 054. Tel.: 022 - 26106552 / 26106960 Fax: 022 - 26106052 Email : bimalokpal.mumbai@ecoi.co.in	Goa, Mumbai Metropolitan Region excluding Navi Mumbai & Thane
NOIDA	Office of the Insurance Ombudsman, Bhagwan Sahai Palace, 4th Floor, Main Road, Naya Bans, Sector 15, Distt: Gautam Buddh Nagar, U.P-201301. Tel.: 0120-2514250 / 2514252 / 2514253 Email : bimalokpal.noida@ecoi.co.in	State of Uttaranchal and the following Districts of Uttar Pradesh : Agra, Aligarh, Bagpat, Bareilly, Bijnor, Budaun, Bulandshehar, Etah, Kanooj, Mainpuri, Mathura, Meerut,Moradabad, Muzaffarnagar, Oraiyya, Pilibhit, Etawah, Farrukhabad, Firozbad, Gautambodhanagar, Ghazaibad, Hardoi, Shahjahanpur, Hapur, Shamli, Rampur, Kashganj, Sambhal, Amroha, Hathras, Kanshiramnagar, Saharanpur
PATNA	Office of the Insurance Ombudsman, 1st Floor,Kalpana Arcade Building, Bazar Samiti Road, Bahadurpur, Patna 800 006. Tel.: 0612-2680952 Email:bimalokpal.patna@ecoi.co.in	Bihar, Jharkhand
PUNE	Bhagwan Sahai Palace , 4th Floor, Main Road, Naya Bans, Sector 15, G.B. Nagar, Noida. NOIDA – 201301 Tel: 0120-2514250/51/53 Email: bimalokpal.noida@gbic.co.in	Maharashtra, Area of Navi Mumbai and Thane excluding Mumbai Metropolitan Region

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ANNEXURE-6

December 2020

OCCUPATIONAL HEALTH & SAFETY AUDIT IS-14489-2018

OC Specialities Pvt. Ltd.

E-18, CHINCHOLI MIDC, SOLAPUR,
MAHARASHTRA 413255

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SCHEDULE II

(See MFR 1963- rules 8 & 9)

Proforma for Safety Audit Report

1) Name and address of the factory	**OC Specialities Pvt. Ltd.** **E-18, M.I.D.C. Chincholi, Taluka –Mohol Solapur.-413225**
2) Name of the Occupier	**Shri.MANISH SHAH**
3) Date of Audit	**08/12/2020**
4) List of finished products with maximum storage quantity	**Refer Annexure-I**
5) List of raw materials with maximum storage quantity	**Refer Annexure-II**
6) Manufacturing process flow chart	**Refer Annexure-III**
7) P& I Diagram of all plants (Chemical Factory)	**P & I diagram is not attached.**
8) Name of Safety Auditor and name of the person who has carried out safety audit	**Safety Auditor Shri. NILESH SHAHAJI NIKAM(MH/Industrial Safety & Health/ Recognized Safety Auditor/N-005/2019)**
9) Whether enclosed Safety Audit Report as per IS 14489 or any such standards prevailing at the relevant time, whichever is latest	Yes, Safety Audit Report is as per IS-14489-2018

Date: 06/01/2021

Signature of Safety Auditor/
Person or employee of an Institution
Authorized to carry out safety audit

I (Occupier) undertake to submit the action taken report on recommendations of Safety Audit on or before_____

Date:

Signature of the Factory Occupier/ Factory Manager.

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महाराष्ट्र शासन

नमुना - क

(नियम ६(२) (ड) पहावा)

सुरक्षा लेखा परीक्षक मान्यता प्रमाणपत्र

प्रमाणपत्र क्रमांक : मरा/औसुवआ/सुलेप/एन-००५/२०१९.

कळविण्यात येते की, श्री. निलेश शहाजी निकम, ३, शिवतीर्थ पार्क, रुई-वयाजीनगर, एच.पी. पेट्रोल पंपच्या मागे, भिगवन रोड, एम.आय.डी.सी. बारामती, ता. बारामती, जि. पुणे-४१३ १३३, यांना राज्य शासनाचे पत्र क्र. एफएसी- २०१९/प्र.क्र.१०३/काम-४, दिनांक २८/०६/२०१९ अन्वये, सुरक्षा लेखा परिक्षण करण्यासाठी, महाराष्ट्र कारखाने (सुरक्षा लेखा परीक्षा) नियम, २०१४ नुसार, सुरक्षा लेखा परीक्षक म्हणून मान्यता देण्यात येत आहे.

हे प्रमाणपत्र दिनांक ०४/०७/२०१९ ते दिनांक ०३/०७/२०२१ पर्यंत ग्राह्य राहील

हे प्रमाणपत्र खालील अटींच्या अधीन राहून देण्यात येत आहे :-

१) महाराष्ट्र कारखाने (सुरक्षा लेखा परीक्षा) नियम, २०१४ मधील तरतुदी नुसार सुरक्षा लेखा परीक्षण करण्यात यावे.

२) सुरक्षा लेखा परीक्षण हे भारतीय मानक संहितेतील मानक १४४८९:१९९८ नुसार किंवा त्या त्या वेळी अधिभावी असलेल्या कोणत्याही मानकानुसार करण्यात यावे.

३) सुरक्षा लेखा परीक्षण करते वेळी सुरक्षा लेखा परीक्षक किंवा संस्थेने प्राधिकृत केलेल्या व्यक्तीने व्यक्तिशः हजर रहावे व केलेल्या कामाची नोंद वही नियम ६(२)(ड)(एक) नुसार अद्ययावत ठेवावी.

४) सुरक्षा लेखा परीक्षकाने त्याचा प्रमाणपत्र क्रमांक व कालावधी सुरक्षा लेखा परीक्षण अहवालात नमूद करावा.

५) कोणतेही सुरक्षा लेखा परीक्षण प्राधिकृतीच्या विहित कालावधीनंतर करण्यात येऊ नये.

६) सदर प्रमाणपत्र कोणत्याही वेळी रद्द, निरस्त व सुधारणा करण्याचे अधिकार राज्य शासनाकडे राहतील.

७) सुरक्षा लेखा परीक्षक किंवा संस्थेने प्राधिकृत केलेली व्यक्ती ज्या कारखान्यामध्ये नोकरी करीत असेल अथवा त्याच्या कुटुंबातील व्यक्तींच्या, त्यांनी प्रचालन केलेल्या, व्यवस्थापन केलेल्या वा चालविलेल्या कोणत्याही कारखान्याचा भोगवटादार, भागीदार, संचालक किंवा व्यवस्थापक असेल, किंवा ज्या मध्ये लेखा परीक्षकाचा प्रत्यक्ष किंवा अप्रत्यक्षहित संबंध असेल, अशा कारखान्यांची सुरक्षा लेखा परीक्षा करणार नाही. ज्या कारखान्याच्या लेखापरीक्षकाने संयत्र व यंत्र सामुग्री, कच्चा माल, सुरक्षेची साधने किंवा इतर माल, साधने पुरविलेली असेल, अशा कारखान्याची सुरक्षालेखा परीक्षा करणार नाही.

८) सुरक्षालेखा परीक्षकाची, संस्थेची किंवा संस्थेने प्राधिकृत केलेल्या व्यक्तीची मान्यता रद्द झाली तरीही, त्याने लेखा परीक्षक म्हणून आपली कर्तव्ये पार पाडण्याच्या ओघात त्याला ज्ञात झालेली कोणतीही उत्पादन विषयक किंवा व्यावसायिक गुपिते किंवा उत्पादन प्रक्रिया किंवा इतर गोपनीय माहिती जाहीर करु नये, यात कसूर झाल्यास, तो त्या वेळी अस्तित्वात असलेल्या कायद्या नुसार फौजदारी आणि दिवाणी कारवाईस पात्र होईल.

९) सुरक्षा लेखा परीक्षा प्रमाणपत्राच्या नूतनीकरण अर्ज मान्यता कालावधी संपण्याच्या किमान तीन महिने अगोदर या संचालनालयास सादर करावा.

क्र. औसुवआ/सुद/सुलेप/८६/७२८१/१,
औद्योगिक सुरक्षा व आरोग्य संचालनालय,
कामगार भवन, [illegible] मजला, सी-२० ब्लॉक, वांद्रे-कुर्ला संकुल,
बांद्रे (पूर्व), मुंबई-४०० ०५१.
दिनांक : ०४ जुलै, २०१९.

hamya ४/७/१९

डॉ. महेन्द्र कल्याणकर (भा.प्र.से.)
संचालक,
औद्योगिक सुरक्षा व आरोग्य,
महाराष्ट्र राज्य, मुंबई (अ.का.)

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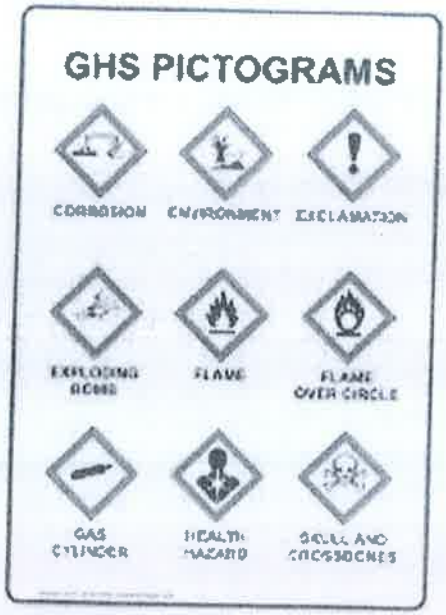
7. OBSERVATIONS AND RECOMMENDATIONS

1) ***Fire extinguisher*** *total number to be recalculated as per* ***factory act 1948 & MFR 70, 71 B.***

2) *For all* ***Hazardous Chemicals Safety Data Sheet*** *with GHS signs to be display and in local language.*



GHS

Global Harmonization System

3) ***Loading*** *and* ***Unloading*** *of* ***Finished Goods*** *and* ***Raw Material*** *to be displayed.*

4) ***Rubber mat*** *not found at some electrical panel back side in shop floor area. Provide it on priority.*

5) ***For all types of cylinders use in company, documents of pressure testing to be maintained from suppliers or manufacturers.***

???

6) *Prepare* ***Contract*** *or* ***tie up*** *with* ***Hospital*** *for* ***Biohazard disposal.***

7) *Update the SOP for* ***Vehicle Inspection to check the safety legal compliance.***

8) *In* ***engineering store*** *rack arrangement is very good but material stored in the three-step rack was wrong. There we found heavy material on upper side and light weight material on lower side.* ***Correct it on priority.***

9) *For electrical panel* ***arc flesh radius*** *to be calculate as company is using flammable solvents if storage of their solvents is in the area of arc radius it unsafe for company.*

10) ***Zone area classification*** *by electrical is not done for paint booth area of the company to be done on priority.*

11) Fire Hydrant System is auto mode maintains it regularly and pressure gauges to be calibrated.

12) For safety in handling Cyanide
To be effective, first aid must be prompt. Sodium cyanide solid is poisonous by ingestion and inhalation of its dust. Contact with skin and eyes and may cause irritation of the skin and eyes and poisoning symptoms similar to those for ingestion of prime importance is the protection of the rescuer no attempt at rescue should be performed until an appropriate hazard assessment of the exposure site is made and appropriate personal protection equipment and personnel are in place. First aid attention must be given as urgently as possible as outlined below. All suspected sodium cyanide ingestion, inhalation and contact should receive medical attention. Training on handling sodium cyanide incidents using this MSDS should be provided before any sodium cyanide handling or use commences.

13) *Provide* ***maximum limit parameter*** *on gauges by red line mark i.e. on* ***pressure gauges.***

All pressure gauges should be with maximum pressure ***red mark. .***

MAHARASHTRA POLLUTION CONTROL BOARD

ANNEXURE 7

REGIONAL OFFICE - PUNE

Phone No 020-25811694
Fax No. 020-25811701
e-mail ropune@mpcb.gov.in
visit us : www.mpcb.gov.in

महाराष्ट्र

Jog Centre, 3rd Floor,
Wakdewadi,
Old-Pune Mumbai Road,
Pune- 411003

MPCB/ROP/ MPCB/CO/2010070001 Date: 07/10/2020

To,
M/s. OC Specialties Pvt. Ltd.,
Plot No. E-18, MIDC Chincholi,
Tal. Mohol Dist. ~~Pune~~ Solapur

Sub: Closure Directions u/s 33A of the Water (Prevention & Control of Pollution) Act, 1974 and u/s 31 A of the Air (Prevention & Control of Pollution) Act, 1981 and Hazardous and Other Wastes (Management & Transboundary Movement) Rules, 2016 and amendments thereaftor.

Ref: 1) Consent granted by the Board vide dtd. 4.07.2019 valid upto 31.06.2024
2) EC Granted from MOEF&CC, Govt. of India vide dtd. 31.01.2017
3) Compliant received from Mr. Sandeep Guleria, Environment Activist, Kalyan East, Maharashtra
4) Board Official visit to your industry on 8.09.2020
5) Legal Proposal received from Sub Regional Officer Solapur vide No. LEGAL ACTION No. MPCB-LEGAL_ACTIONS-100920004 on 10.09.2020
6) Approval received from HQ vide dtd. 30.09.202020

WHEREAS, you are operating your industry in 'Pollution Prevention Area' under Water (Frevention & Control of Pollution) Act, 1974 & Air (Prevention & Control of) Act, 1981 & Hazardous & Other Wastes (Management & TM) Rules, 2016 and amendments thereafter.

AND WHEREAS, it was obligatory on your part to obtain Consent to operate from the Board under the Provision of Water (P &CP) Act, 1974 ,; Air (P &CP) Act 1981 and Hazardous & Other Wastes (M & TM) Rules 2016 and to comply the same scrupulously.

AND WHEREAS, it is obligatory on your part to provide pollution control systems as it warranted and to operate and maintain the same continuously and effectively so as to achieve the standards prescribed in the consent.

AND WHEREAS, it is obligatory to comply with the conditions of the Environmental Clearance granted by MOEF&CC.

AND WHEREAS, Compliant received regarding producing highly polluted products 2-Methoxy Benzoic acid and Amide Chloride without EC as ref (3).

AND WHEREAS, Board official has visited to your industry on 8.09.2020 and accordingly Sub Regional Officer, Solapur has submitted the action proposal vide ref (5), wherein reported that, you are engaged in the manufacturing of product of Amid Chloride and 2, Methoxy Benzoic Acid without Environmental Clearance.

[illegible]

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AND WHEREAS, after going through the record of your case, reports and information of the Board officials and making necessary enquiries, I came to the conclusion that you are failed to comply with the provision of Water (P&CP) Act, 1974, Air (P&CP) Act, 1981 thereby causing grave injury to the Environment in the least bothered way.

NOW, THEREFORE, in exercise of powers conferred upon me by the Board u/s 33A of the Water (Prevention & Control of Pollution) Act, 1974 and u/s 31 A of the Air (Prevention & Control of Pollution) Act, 1981 **I the undersigned, Dr. J. B. Sangewar, Regional Officer at Pune hereby direct you to stop manufacturing activity within 72 hours as safe Closure** from receipt of this directions. The Competent authorities are directed to disconnect water and electricity supply of your industry after safe Closure period which may please be noted.

For and on behalf of
Maharashtra Pollution Control Board

(Dr. J. B. Sangewar)
Regional Officer, Pune

Copy submitted for favor of information to -
1 The Member Secretary, MPCB, Mumbai

Copy forwarded to -
1. Joint Director (WPC), MPCB, Mumbai
2. Law Officer (P & L Div), MPCB, Mumbai

Copy forwarded with compliments for necessary action to
1. **Executive Engineer, MSEDCL Div., MIDC Chincholi Tal. Mohol Dist. Solapur** - He is directed to disconnect the electric supply of above unit, after completion of safe closure period and communicate accordingly.
2. **Executive Engineer (Water Supply), MIDC Chincholi Tal. Mohol Dist. Solapur** - He is directed to disconnect the water supply of above unit, after completion of safe closure period and communicate accordingly.

Copy to Sub Regional Officer, Solapur -
He is directed to serve the directions to addressee, competent authorities and complainant with acknowledgement copy to this office immediately & submit further compliance report of same.

For and on behalf of MPC Board

(Dr. J. B. Sangewar)
Regional Officer, Pune

35/38

???

MAHARASHTRA POLLUTION CONTROL BOARD
REGIONAL OFFICE - PUNE

Phone No. 020-25811694
Fax No. 020-25811701
e-mail : ropune@mpcb.gov.in
visit us : www.mpcb.gov.in

Jog Centre, 3rd Floor,
Wakdewadi,
Old-Pune Mumbai Road,
Pune- 411003

MPCB/RESTART/ 20112500 1 Date: 25/11/2020

To,
M/s. OC Specialities Pvt. Ltd.,
Plot No. E-18, MIDC Chincholi,
Tal. Mohol, Dist. Solapur.

Sub: Conditional Restart Directions under section 33A of the Water (P& CP) Act, 1974 and under section 31A of the Air (P & CP) Act, 1981.

Ref: 1. Board's Closure Directions vide letter no. MPCB/ROP/MPCB/CD/2010070001, Dtd. 07/10/2020.
2. Industry reply and request vide letter dtd. 26/10/2020
3. Visit of Board Officials on 02/11/2020.
4. Proposal submitted by Sub Regional Officer Solapur for issuance of Restart vide no. MPCB- LEGAL_ACTIONS- 041120015 on 04/11/2020 and approved by HQ on 23/11/2020.

.....

This refers to the Closure Directions issued by Board vide letter under ref (1) to your industry due to non-compliances / violations of Environmental Acts and causing environmental pollution.

Considering your reply and recommendations of Sub-Regional Officer, Solapur and approval received from HQ on 23/11/2020 the Closure Directions is withdrawn herewith and allowed to restart / resume your manufacturing activities of existing consented products only subject to following terms & conditions.

1. You shall manufacture only consented products as per Board's consent granted vide dtd. 04/07/2019.
2. You shall not manufacture any products which are not mentioned in the consent or in environmental clearance.
3. You shall submit fortnight production report to this office with production and its quantity details with signature of competent authorities.
4. You shall strictly comply with the Environmental Clarence and Consent conditions.
5. You shall submit Bank Guarantee of Rs. 2.0 Lakh (Two Lakh Only) in favor of Regional Officer, Pune, within 15 days period towards compliance of above directions.

These directions are issued under the powers conferred upon me by the Board under section 33 A of Water (Prevention and control of Pollution) Act, 1974.

These directions shall be followed scrupulously in case of noncompliance the Board is constraint to take stringent legal action including forfeiting of bank guarantee and closure of unit, which may please be noted.

2...

This is issued with the approval of Member Secretary of the Board.

For and on behalf of
Maharashtra Pollution Control Board,

REGIONAL OFFICER PUNE M.P.C.B.

(Dr. J. B. Sangewar)
Regional Officer, Pune

Copy submitted for favor of information to:-
1. The Member Secretary, MPCB, Mumbai

Copy forwarded to:-
1. Joint Director (WPC), MPCB, Mumbai.
2. Law Officer (P & L Div), MPCB, Mumbai

Copy to Sub Regional Officer- Pune-II :-
- He is directed to serve the directions and report the compliance accordingly.

Copy forwarded with compliments for necessary action to:-
1. Executive Engineer, MSEDCL Div., MIDC Chincholi, Tal. Mohol, Dist. Solapur :-
   - He is directed to restore the electric supply of above unit, after receipt of these directions and communicate accordingly.

2. Executive Engineer (Water Supply), MIDC Chincholi, Tal. Mohol, Dist. Solapur :-
   - He is directed to restore the water supply of above unit, after receipt of these directions and communicate accordingly.

For and on behalf of
Maharashtra Pollution Control Board,

REGIONAL OFFICER PUNE M.P.C.B.

(Dr. J. B. Sangewar)
Regional Officer, Pune

[illegible]

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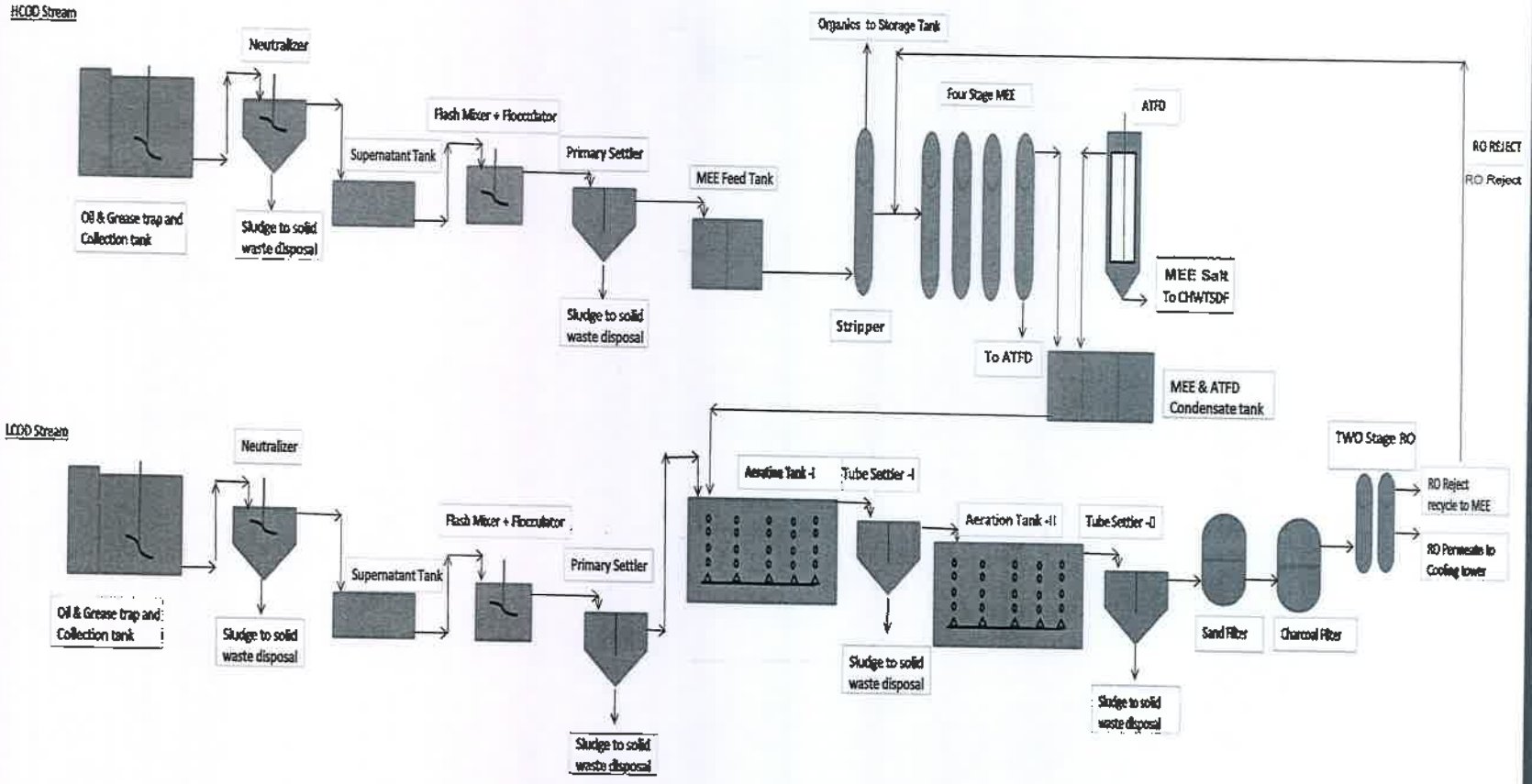
OCSPL

Process Flow - Zero Liquid Discharge System



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ENCLOSURE-V

Water Lifting Permission

MAHARASHTRA INDUSTRIAL DEVELOPMENT CORPORATION

HEAD OFFICE : "Udyog Sarthi", Mahakali Caves Road,
Andheri (E), Mumbai - 400 093

FORT BRANCH : Orient House, 5th Floor,
Adi Marjaban Street, Billard Estate, Fort, Mumbai - 38.
Tele. : 2687 0027/52/54/73 Fax : (022) 2687 1587
Tele. : 2261 6547 Fax : (020) 2261 6548

||उद्यमात् सकल समृध्दि ||

MIDC

जा.क्र /तां.शा. /सांगली /६२५५ /२०१२.
कार्यकारी अभियंता यांचे कार्यालय, मऔविम,
विभाग सांगली उद्योग भवन विश्रामबाग सांगली
दिनांक :- २६/११/२०१२

प्रति,
मे. ओसी स्पेशालिटीज प्रा. लि.,
भुखंड क्र.ई-१८ मऔविम,
चिंचोली औद्योगिक क्षेत्र,
जिल्हा सोलापूर.

विषय : चिंचोली औद्योगिक क्षेत्र..
भुखंड क्र.ई-१८ .. नळजोडणीचा आकार २५ मी.मी. वरून ५० मी.मी. वाढीव असा करणेबाबत

संदर्भ :- १) आपले उप अभियंता यांना लिहिलेले पत्र दिनांक ०४/०९/२०१२
२) या कार्यालयाचे पत्र क्रमांक ५६१८ दिनांक १५/१०/२०१२
३) आपले उप अभियंता यांना लिहिलेले पत्र दिनांक ०९/११/२०१२

महोदय,

संदर्भिय पत्र क्रमांक २ अन्वये कळविलेप्रमाणे आपण करारनाम्यासाठी आवश्यक असणारी रक्कम रूपये ३,१०,६००/- वाढीव सुरक्षा अनामत रक्कम व इतर शुल्क असे एकूण रूपये ३,११,७००/- पावती क्र. २२९३३ दिनांक ०९/११/२०१२ अन्वये उप अभियंता मऔविम, सोलापूर यांचेकडे भरणा केलेला आहे. तसेच विहित नमुन्यातील करारनामा भरून सादर केलेला आहे.

तरी कळविणेत येते की, आपणांस भूखंड क्र. ई-१८ चिंचोली औद्योगिक क्षेत्र जि. सोलापूर करिता २५ मि.मी.वरून ५० मी.मी. व्यासाची एक औद्योगिक नळ जोडणी करारानाम्यातील अटी व शर्तीनुसार आपणांस मंजूर करणेत आलेले आहे. तरी आपण उप अभियंता सोलापूर यांचेशी संपर्क साधावा म्हणजे ते ५० मि.मी. व्यासाची नळजोडणी देण्याची व्यवस्था करतील. नळजोडणीसाठी लागणारे साहित्य उदा.मीटर, पाईप, फेरूल, व्हाल्व, चेंबर बांधणे इत्यादीसाठी आपणांस खर्च करावे लागेल. जर रस्ता पार करावयाचा असेल तर २०० मि.मी. व्यासाची आर.सी.सी. पाईप टाकूण त्यातून आपली पाण्याची पाईप टाकावी लागेल. तसेच सध्या आपणांस पाण्याचा दर रू. ३३.४० प्रतिघमी आकारला जाईल. इमारत पुर्णत्व दाखल्यानंतर रूपये.२२.२५ प्रतिघमी किंवा त्यावेळचा प्रचलित औद्योगिक दर आकारला जाईल. तरी पाण्याचे व सेवाभार देयक वेळेवर भरून सहकार्य करावे हि विनंती .

कळावे,

आपला विश्वासु,
(signature) २६/११/१२

(एस. एस. वराळे)
कार्यकारी अभियंता
मऔविम, विभाग सांगली

सोबत : करारनाम्याची प्रत

MAHARASHTRA
ENVIRO POWER LTD
ISO 9001:2015 EMS 14001 : 2015 OHSAS 18001 : 2007 Certified Company
(Common Hazardous Waste Treatment, Storage and Disposal Facility)
The Corporate Identity Number (CIN) : U40105MH2005PLC150780

Doc No.. SMS/MEPL/IMS/MKT/PMC
Issue/Rev. No.: 04/00
Rev. Date: 01.02.2017

MAHARASHTRA
ENVIRO POWER LTD

This is to certify that: ***M/S. OC SPECIALITIES PVT LTD.***
Address : ***Plot No. E 18, MIDC Chincholi, Tal - Mohol, Solapur – 413255*** *a Valid member of CHWTSDF (As per MOU with MIDC & MPCB), at Plot No. P-56, Ranjangaon MIDC, Taluka – Shirur, Pune - 412 220.*

Membership No. : MEPL/ 33001375

Membership Period: ***20 August 2017*** ***to*** ***19 August 2022***

For Maharashtra Enviro Power Ltd.

Authorized signatory

Marketing Coordinator

MAHARASHTRA ENVIRO POWER LTD.

ENCLOSURE-VII
ONSITE EMERGENCY PLAN

ERP

FOREWORD

Inspite of the best safety measures and systems, the probability of occurrence of an incident having disastrous consequences in a plant can not be totally ruled out. In some cases this may result in heavy losses of life and/or extensive damage to property. To minimize the potential for such loss and damage, it is necessary to plan responses to such emergencies in advance. Fires, Explosion, Gas release, Chemical spills and the forces of nature are among the conditions that may lead to an emergency in the chemical industries.

OCSPL is aware of its responsibility towards the Safety, Health & Environment protection within and neighborhood and has formulated this emergency plan to minimize and control the losses of life and property.

An EMERGENCY PLAN is a description of series of action and decisions which when carried out are intended to control or minimize the adverse results on an emergency.

Each community and each individual has a role to play in case of emergency. Our preparedness to prevent and control emergency are more important than our guesses as to its probability. Failure to prepare it in advance, is to invite it. The one who has an effective emergency plan have much hope of survival.

The following represents basic principles for an individual action in an emergency.

a) Control depends on an immediate response to procedures that have been learned, it depends on how well individuals know what to do in an emergency.
b) The survival of others depends on the wisdom of your reaction to an emergency.
c) Emotional security depends on facts, understanding, sound action and basic emergency.
d) Self reliance can reduce confusion and casualties.
e) It is normal to be afraid, but excessive and irrational behavior leads to mass hysteria.
f) All have responsibility within limits of their powers and ability to control the information and support during preparation of this plan. We are also thankful to neighboring industries who have extended their support for MUTUAL AID, in case of emergency.

Prepared By:	Checked By:	Authorized By:

Place : Solapur Date :

INDEX

CHAPTER – 1

PRELIMINARY

CHAPTER – 1
PRELIMINARY

1.1 INTRODUCTION OF THE PLANT :-

Primarily this is prepared to furnish details, which may be required at the time of emergency, to delegate responsibility, to estimate consequences in advance and to prepare our selves to control any type of emergency.

Many parts of the chemical industries have high potential for loss and the losses measured in both human and monetary terms have been severe. However, these losses can be minimized effectively by formulating and practicing the prepared action plans for ON-SITE and OFF-SITE EMERGENCIES.

It has been our endeavor to see that any hazard either to employees or others arising out of the activities carried out by OCSPL, as far as possible shall be identified, notified, warned and steps shall be taken to prevent occurrence of it.

The EMERGENCY ACTION PLAN formulated herein contains the measures that are required to be taken and co-ordination procedures for various activities / various agencies both internal and external, to help prevent escalation of dangerous situations. Some definitions used in on-site emergency plan are given below.

- **AN ACCIDENT :**

  Is an unplanned event which has a probability of causing personal injury or property damage or both. It may result in physical harm (injury or disease) to person(s), damage to property, and loss to the company, a near miss or any combination of these effects.

- **A MAJOR ACCIDENT :**

  Is a sudden, unexpected, unplanned event, resulting from uncontrolled developments during an industrial activity, which causes, or has the potential to cause –

  a) Serious adverse effects immediate or delayed (death, injuries, poisoning or hospitalization) to a number of people inside the installation and/or to persons out side the establishment, OR
  b) Significant damage to crops, plants or animals, or significant contamination of land, water air, OR
  c) An emergency intervention out side the establishment (e.g. evacuation of local population, stopping of local traffic), OR
  d) Significant change in the process operating conditions, such as stoppage or suspension of normal work in the concerned plant for a significant period of above, OR
  e) Any combination of the above effects.

- **AN EMERGENCY :**

  An emergency could be defined as any situation, which presents a threat to safety of persons and/or property. It may also require outside help.

- **A MAJOR EMERGENCY :**

  Is one that may affect several departments within it and/or may cause serious injuries, loss of life, extensive damage to property or serous disruption out side the works. It will require the use of out side resources to handle it effectively.

  NOTE : (emergency due to operating conditions uncontrolled reaction, small fire, small gas leak, spill, failure of power, water , air steam, cooling media, scrubbing media etc.) and which can be locally handled by plant personnel alone (without out side help) is not considered as major emergency.

- **DISASTER :**

  Is a catastrophic situation in which the day-to-day patterns of life are, in many instances, suddenly disrupted and people are plunged in to helplessness and suffering and as a result need protection, clothing, shelter, medical and social care other necessities of life. Such as –

  a) Disasters resulting from natural phenomena like earthquakes, volcanic eruptions, storm, surges, cyclones, tropical storms, floods, landslides, fierce fire and massive insect infestation. Also in this group, violent draught which will cause a creeping disaster leading to famine, disease and death must be included.
  b) Second group includes disastrous events occasioned by man, or by man's impact up on the environment, such as armed conflict, industrial accidents, factory fires, explosions and escape of toxic gases or chemical substances, river pollution, mining or other structural collapses, air, sea, rail and road transport accidents, aircraft crashes, collisions of vehicles carrying inflammable liquids, oil spills at sea and dam failures.

- **HAZARDS :**

  Is a physical situation which may cause human injury damage to property or the environmental or some combination of these criteria.

- **RISKS :**

  Is the likelihood of an undesired event (i.e. accident, injury or death) occurring within a specified period or under specified circumstances. It may be either a frequency or a probability depending on the circumstances.

  The on-site emergency plans deals with measures to prevent and control emergency within the factory and not affecting out side public or environment.

The off-site emergency plan will deal with measures to prevent and control emergencies affecting public and the environment out-side the premises. It is also called a district contingency plan of the district. It is administered by the collectorate through Factory Inspection Department.

1.2 OBJECTIVES OF EMERGENCY PLAN :

a) To define and assess the emergencies, including risk and environment impact assessment.
b) To contain the incident and bring it under control by mobilizing the internal resources and with the help of Mutual aid schemes.
c) To safeguard the lives.
d) To minimize the damage to property and/or neighboring environment.
e) To inform employees, the general public and the authority about the hazards/risks assessed, safeguards provided and the role to be played by them in the event of emergency.
f) Initiating and organizing evacuation of affected persons.
g) Medical preparedness for the probable casualties.
h) Integration of resources under OFF-SITE EMERGENCY PLAN OF DISTRICT CONTIGENCY PLAN, SOLAPUR.
i) To secure the safe rehabilitation of affected areas and to restore normally
j) To work out a plan with all provisions to handle emergencies and to provide for emergency preparedness and the periodical rehearsal of the plan.

Emergency planning is not a substitute for good design. Operating and maintenance practices. Therefore they must be followed to avoid emergency.

This plan comprises of Geographical details of OCSPL facilities available, risk analysis and Environmental Impact assessment, storage and process Hazards, Effluents Treatment methods and other controls, fire protection, control methods of other major Hazards, plant–wise on-site actions in case of various emergencies, Mutual Aid arrangements, Medical and safety services, key persons available along with their phone numbers and address and other relevant information to combat the emergencies.

CHAPTER – 2

RISK AND ENVIRONMENT IMPACT ASSESSMENT

CHAPTER – 2
RISK AND ENVIRONMENT IMPACT ASSESSMENT

2.1 GENERAL:

Identification, analysis and assessment of Hazards and risks provide vital information to risk management, that can be incorporated in the on-site and off-site emergency plan and safety measures can be planned accordingly.

2.2 RISK ASSESSMENT :

Hazards can not be removed from any activity. They can be controlled only. Risk associated with any activity is directly proportional to Hazards control procedures and arrangements.

In order to carry out risk assessment, following hazards control procedures and arrangements should be considered –

a) Factory Layout
b) Fire protection arrangements
c) Medical Services
d) Safety Services
e) Engineering services
f) Storage hazards and controls
g) Process hazards and controls
h) Other hazards and controls
i) Trade waste disposal
j) Records of past incidents
k) Risk assessment activities

2.2.1 FACTORY LAYOUT

OCSPL is a specialties chemicals manufacturing company located at plot no E18, MIDC,Solapur surrounded by other industrial units.

A plan of factory premises showing details of various plants, Emergency Control Center inside the factory, Hazards Storage, Assembly Points, Entry / Exit gates and Emergency exit is enclosed in **ANNEXURE – 3**.

The plot plan also includes First Aid Box, Wind Direction, Wind Indicator, Siren Location, Incinerator and Effluent Treatment Plant.

2.2.2 FIRE PROTECTION AT OCSPL

OCSPL is using / producing s chemicals which are hazardous in nature. Chemicals and solvents such as Ethanol, Toluene, Ethylene Dichloride, and High Speed Diesel are flammable and toxic in nature. Chemicals such as Thionyl chloride is toxic and

water reactive. Chemicals such as Hydrochloric Acid, Sulphuric Acid, and Caustic Soda Lye are corrosive in nature.

OCSPL is well aware of its responsibilities to protect all the persons on-site as well as neighboring units and population from any kind of UNWANTED INCIDENTS.

OCSPL has developed the protection and prevention resources keeping in view the potential hazards.

FIRE PROTECTION EQUIPMENT AT OCSPL

A. FIRE EXTINGUISHERS :

Adequate numbers of dry chemical powder type, mechanical foam type and carbon dioxide type Fire Extinguishers are installed on each floor as per the requirement of fire risk in all plants/sections/depts.

Details of fire extinguisher installed in various locations are as below:

Sr. No	Location	Type of estinguisher	Capacity	Available in numbers
1	Block A	MAP 90%	6 Kgs	3
		MAP 90%	4 Kgs	3
		Mech.Foam	9 lits	3
		CO2	4.5 Kgs	1
2	Block B	MAP (90%)	6 kg	7
		Mech.Foam	9 lits	2
		CO2	4.5Kgs	1
3	Block C	MAP (90%)	6Kgs	1
		MAP (90%)	4Kgs	1
		CO2	4.5 Kgs	1
4	Block D	MAP (90%)	4 kgs	0
		MAP (90%)	6 Kgs	5
		Mech. Foam	9Lits	1
5	PILOT PALANT	MAP (90%)	4 kgs	2
		MAP (90%)	6 Kgs	4
		Mech. Foam	9Lits	1
6	Old store	MAP (90%)	4 kgs	2
		MAP (90%)	6 Kgs	2
		Mech. Foam	9Lits	1
		CO2	4.5 Kgs	1
7	DG/PPC Room	CO2	4.5 Kgs	2
		Mech. Foam	9 Lits	1
8	Admin/security /QC	MAP (90%)	6 Kgs	2
		MAP (90%)	4 Kgs	1
		MAP (90%)	2 Kgs	6
		CO2	4.5 Kgs	2
9	Utility Boiler	MAP (90%)	6 Kgs	3
		CO2	4.5 Kgs	2

		Mech. Foam	50Lits	1
10	New ETP /MEE	MAP (90%)	6 Kgs	5
		MAP (90%)	2 Kgs	1
		CO2	4.5 Kgs	6
11	Engg/Inst.workshop	MAP (90%)	6 Kgs	3
12	E16 Gate	MAP (90%)	6 Kgs	1
		MAP (90%)	4 Kgs	1
		CO2	4.5 Kgs	2
	E16 Strore	MAP (90%)	6 Kgs	6
		MAP (90%)	2 Kgs	1
		CO2	4.5 Kgs	2
		Mech. Foam	50Lits	2
13	Godown	MAP (90%)	6 Kgs	2
		Mech. Foam	9 Lits	2

B. FIRE HYDRANT SYSTEM :

Fire hydrant main pump : 1 no. x 171 m3/hrs.
(Electrical driven)
Fire hydrant Sprinkler pump : 1 no. x 171 m3/hrs.
(Electrical driven)
Fire hydrant jockey pump : 1 no. x 10.8 m3/hrs.
Fire Hydrant Diesel Pump : 1 No. x 171 m3/hrs.
Water reservoir : 200 m3
Total fire hydrant points : 30 Nos.
Foam monitors : 02 Nos.
Total hose pipes available : 38 Nos.
Short branch : 30 Nos.

Fire hydrant system is maintained under 7 kg/cm2 pressure in auto mode. Jockey pump will start automatically at 6 kg/cm2 pressure and maintain the pressure of the system 7 kg/cm2. When the pressure reaches the 7 kg/cm2 pressure, jockey pump will automatically stops. If pressure further goes down up to 4 kg/cm2, electrical driven main pump will start automatically and supply the water with adequate pressure for fire fighting.

The hydrant system is automatic in operation. In case of fire, break the small glass of hose box, take out the key to open the Hose Box and take out the hosepipes and connect the branch pipe to it. Then couple the hose with nearby hydrant post and open the valve to get water for fire fighting. In case

the key is not available in the hose box, the front glass of hose box can be broken to take out the hoses.

Hold the hosepipe and nozzles firmly. Open the hydrant Valve slowly. Direct (down wind direction) the water jet on the base of fire. Use another hose pipe to cool the adjacent area. Care must be taken to switch off power prior to use hydrant water to quench fire.

C. FIRE ALARM SYSTEM

Fire alarm system is installed in the factory premises. Fire alarm manual call points are provided at all the floor level of the plants and buildings. Fire alarm panel is placed in Emergency Control Centre which will indicate the zone of the emergency and give the information where the manual call point is operated. Hooter provided on the top of Admin building will also blow in the case of fire alarm system is operated by breaking the glass. Zones are defined as under :

Manual Call Point & Smoke Detection System				
Sr.No.	**ZONE**	**LOCATIONS**	**Manual Call Points**	**Smoke Detectors**
1	ZONE:1	Admin Block	MCP : 03	S.D.: 19 Nos.
2	ZONE:2	North side of Plant (Entry)	MCP : 04	N.A.
3	ZONE:3	Back side of plant (ETP Plant)	MCP : 02	S.D.: 01 Nos.
4	ZONE:4	South side of Plant (DG side)	MCP : 04	S.D.: 02 Nos.
5	ZONE:5	Block -'A' North side concrete Staircase	MCP : 03	S.D.: 02 Nos.
6	ZONE:6	Block -'A' South side Steel Staircase	MCP : 03	N.A.
7	ZONE:7	Block- 'B' North side concrete Staircase	MCP : 03	S.D.: 02 Nos.
8	ZONE:8	Block- 'B' South side Steel Staircase	MCP : 03	N.A.
9	ZONE:9	Utility -Elect Panel room	N.A.	S.D.: 04 Nos.

2.2.3 MEDICAL SERVICES :

OCSPL has built fully equipment Occupational Health Centre (OHC). Visiting doctor is appointed as Factory Medical Officer (FMO). Employees get themselves examined for routine work related / non-work related complaints by the doctor. FMO is responsible for carrying out pre as well as periodical medical examination.. Antidots are being maintained in adequate quantities in OHC and also monitored periodically.

Apart from above facility OCSPL has made arrangement with Dr. Chidgupkar Hospital Solapur for treatment of persons who meet with accidents. Hospital is well within the reach of factory and also having adequate facilities.

Emergency vehicle is available to transport casualty to the hospital as early as possible. Driver is available round the clock in the factory. Safety showers are also provided in all the plants at all floors as well as at the point of chemical handling at different locations.

- **MEDICAL CHECK UP :**

  i. The pre-employment medical check-up is being carried out by third party.

  ii. Routine and yearly medical check-up.

  Routine medical check-up done by FMO for each employee on regular basis .Yearly medical checkup is done by external agency and record is being maintained as well as treatment is given as and when necessary.

  First aid boxes are also provided at all plants to get immediate first aid treatment near the work place.

- **FIRST AID BOXES :**

  First Aid Box installed and all necessary items are maintained by safety department. They are inspected on regular interval of one week.

2.2.4 SAFETY SERVICES :

Safety Department has been set up and it is headed by Manager – EHS, reporting to Unit Head .Department is provided with following manpower:

a) Manager – EHS	: 01 No.
b) Asst. Mgr. EHS	: 01 Nos.
c) Executive EHS	: 01 Nos.

Procurement, planning and placement of Safety and Fire protection equipment as well as inspection and maintenance of emergency equipment etc. are being looked after by safety department. Safety dept, is also carrying out line functioning by active involvement in safety work permit and systems to avert any incidents.

- **LIST OF SAFETY APPLIANCES :**

A) RESPIRATORY PPE :

- Self Contained Breathing Apparatus	: 04 Nos.
- Organic Cartridge Gas Mask	: 10 Nos.
- Positive Pressure Suit	: 04 Nos.
- Bubble Hood	: 02 Nos.
- Organic Vapor Mask	: 10 Nos.
- Dust Mask	: 10 Nos.

B) PERSONAL PROTECTIVE EQUIPMENT :

- Helmets	: Issued to all
- Safety shoes	: Issued to all
- Safety goggles	: Issued to all
- Hand gloves	: Available for all
- Organic Cartridge Gas Mask	: Available for all
- Safety Belts	: 05 Nos.
- Ear Plug/Ear Muff	: Available for all

C) EMERGENCY SAFETY SHOWERS :

A Block	: 01 Nos.
B Block	: 01 Nos.
D Block	: 01 Nos.
MEE	: 01 Nos.
Storage tank	: 01 Nos.
Walk way	: 01 Nos.
Ware house	: 01 Nos.

2.2.5 ENGINEERING SERVICES :

Engineering services consists of mechanical, electrical, civil and instrumentation. Engineering department plays a vital role in emergency situation to control the gravity of incidents. Engineering department have material handling manpower and equipment like Chain Pulley Block, Wire rope, tools and tackles required for handling emergency situation.

2.2.6 STORAGE HAZARDS AND CONTROLS :

Storage facility in the complex is situated away from the manufacturing plants and fulfilling all rules and regulations. All storage tanks of hazardous chemicals are located within separate fencing enclosure. All necessary fire fighting arrangement and other safety fittings has been provided. Refer ANNEXURE – 4 for more details about storage hazards and control measures provided.

Chemical in any form can be safely stored, handled and used if the physical, chemical and hazardous properties are fully understood and the necessary

precautions, including the use of proper safe-guards and personnel protective equipment are used. Material Safety Data Sheet (MSDS) attached in ANNEXURE – 5 will explain about physical, chemical and Hazardous properties as well as protective measures required while handling and storage.

2.2.7 PROCESS HAZARDS :

Plant- wise hazards of processes, operation and controls provided to cope up with all kinds of abnormalities. ANNEXURE – 6 gives the complete details about various plants process and vessel hazards and controls.

The consequences arising from the release of toxic, flammable material would be time dependent and would vary according to the point of release.

The hazardous nature of various nature of various chemical is given in MSDS ANNEXURE – 5.

2.2.8 OTHER HAZARDS AND CONTROLS :

Hazards arising out of neighboring plants, structures, pipe lines, boilers etc., are given in this section. It includes all other hazards which are not classified as storage hazards in annexure – 4 and process and vessel hazards in annexure – 6.

All the relevant details are furnished in ANNEXURE – 7.

In case of a rupture of the pipelines running on pipe racks out side the plant premises an outflow of chemicals will occur. The duration of release depends, of course on the possibility of pump “switch off” or valve closure etc.

The neighboring plants in and around tank farm area also may likely to get affected in case of overfilling, dispersion, evaporation, pool formation, fire and explosion. Considering above hazard, distance between plants and tank farm is maintained, to minimize the effect.

2.2.9 TRADE WASTE DISPOSAL :

OCSPL is concerned about environment protection and pollution control at all times. In a ceaseless endeavor, irrespective of cost involved, the company has been trying to reduce and abate pollution to its ultimate end.

The waste water generated from the process stages of existing and proposed products are categorized based on toxicity, COD and TDS into three Categories.

CATEGORY I: TOXIC STREAMS FOR FORCED EVAPORATIONS

These are treated primarily (neutralized, suspended solids removal) the clarified water is subjected to a 2 stage multiple effect evaporator.

CATEGORY II: NON-TOXIC STREAMS

These non-toxic streams are collected separately at the sources itself and further collected for mixing with the distillate of the Forced Evaporation Distillate after Fenton's Treatment. The mixed effluent is then Send to CETP for treatment.

OCSPL is also member of CETP of to send high toxic and high TDS effluent for treatment.

Similarly gaseous pollutant from utility (i.e. Boiler, DG, Thermic Fluid Heater),and production units like scrubbers outlet provided Plants is controlled and monitored. The details of which are provided in Annexure – 24.

2.2.10 RECORDS OF PAST INCIDENTS :

Our knowledge and safety measures are tested when any accident takes place which teaches us a lesson, and we are compelled to acquire the acknowledgement of the causes of accident and of preventive measures to stop its recurrence.

2.3 ENVIRONMENT IMPACT ASSESSMENT

Environment includes human beings, other living creatures, plants and property. Amongst there, the human beings are the most important and need protection from any adverse impact.

To consider societal risk, whereabouts of the people at risk should be known. They are in two groups.

a) Those at work on-site and
b) Those living and/or working in vicinity.

Of these, the first group is known while preparing on-site emergency plan. The second group i.e. off-site population need following aspects.

a) Location and number of people normally resident at night.
b) Day time variation to this data.
c) Proportion of people out doors.

A household composition model includes total night time household persons who are away at work, unemployed persons, actual persons away at work, children and students, children under five or ill, children at school and college, retired and disabled people, house persons in house during day time.

All such data is most useful for the planning of on-site and off-site emergency plans.

2.4 CONSEQUENCE ANALYSIS

2.4.1 GENERAL :

Despite the universal acceptance of excellent codes of practice for design and operation of plant and storages, there have been occurrences of a number of losses due to major accidents of varying degree of severity. In many cases, these accidents could be attributed to failure of adherence to the codes of practice.

The failures cases generally depend upon the availability of safety systems, instrumentation and their response time and the probability of human error. Thus, prior to identifying the failure scenarios for estimating the affected areas, the above mentioned safety systems have been studied carefully. Adequate considerations have also been given to other parameters such as material of construction, other protection systems etc. provided in the plant.

2.4.2 DISPERSION MODELS :

Dispersion modeling aims at estimating the distances likely to be affected due to release of certain quantity of toxic or flammable gas within an acceptable concentration limit. Depending upon the properties of the material released and the release conditions, dense gas dispersion or a buoyant gas release model is used for estimating the affected area. Both the models describe the behaviour of material subsequent to its release, in the predominant downwind direction, at a particular wind speed, and at the existing meteorological conditions, such as humidity, ambient temperature, etc. It should be noted that the release rate would depend on storage conditions (temperature and pressure), the release/failure point, intervention time, the release are and other factors.

Wind speed and turbulence are significant factors, as the amount of air entertainment into the released gas would depend on the velocity at which the cloud is traveling and also on the turbulence in the surroundings. Varying terrain contours in the area would affect the dispersion. The atmospheric stability class takes into account atmospheric turbulence and is another important consideration in modeling. This in turn depends on several factors such as wind speed, isolation, cloud cover and the time period i.e. day or night. Stable atmosphere conditions lead to least amount of mixing, thus resulting in larger areas for gas dispersion and unstable conditions result in maximum mixing of gas with air, leading to the dilution of the gas.

Surrounding areas including building and other structures also have a marked effect on the dispersion of released gas. The dispersion would vary with the size and position of the building relative to the source of release, along with the other factors already discussed above.

2.4.3 TOXIC GAS EFFECT :

These are caused by release of materials which have high toxicity hazards to human beings. It is difficult to precisely evaluate toxic response, caused by acute exposures to toxic materials for various reasons which are as follows :

Firstly, humans experience a wide range of acute adverse health effects including irritation, narcosis, asphyxiation, desensitization, blindness, organ/ system damage

and death. In addition, the severity of many of these effects varies with the intensity and duration of exposure.

Secondly, in a typical population, there is a high degree of variation amongst individuals, in extent of damage to health due to a particular chemical and depends upon factors such as age, health, degree of exertion, etc.

Thirdly, for a majority of chemicals, there is not enough data on toxic response of humans to estimate an accurate or precise assessment of the chemical hazard potential. Generally the only data available in form of experiments, which are conducted on laboratory animals.

Fourthly, many releases involve multi-components and it is difficult to evaluate whether the effects are synergistic or antagonistic on the population.

The various criteria which could be used for estimating the toxic effects are LC50, LD50, LCLO (Lethal concentration 100%, 50% and low), IDLH (Immediately dangerous to life and health), STEL (Short term exposure limit), TLV (Threshold limiting value), PEL (Permissible exposure limit), and ATC (Acute toxicity concentration).

2.4.4 VAPOUR CLOUD EXPLOSION :

When any flammable material is released to the atmosphere, it rapidly disperses resulting in formation of a vapour cloud. If the cloud comes in contact with an ignition source, before diluting below the lower flammability limit (LFL), an unconfined vapour cloud explosion or flash fire may occur depending on the flammable mass in the cloud. However, a vapour cloud explosion is generally not expected if the explosive mass in the cloud is below 5 Te, a flash fire is more likely. If the ignition source is encountered, when concentration in the cloud is between lower flammability limit and upper flammability limit, damage due to both fire and blast effects may take place. Flammable vapour clouds may be ignited from a number of sources which may be continuous (e.g. pilot flame / flare, etc.) or intermittent (e.g. from smoking, vehicles, etc.).
The blast effects produced by confined vapour cloud explosion have proved to have a potential for higher damage as compared to an unconfined vapour cloud explosion.

2.4.5 JET FIRES :

These generally tend to the localized in effect and are of concern mainly in establishing the potential for domino effects and employee safety zones. Issues relating to spacing of critical equipment, etc. can be addressed on the basis of specific consequence analysis for a range of possible jet fires. The effects of a jet fire depends upon factors such as flammability, combustibility and amount of material released, temperature, humidity and flame length.

2.5 ASSUMPTIONS FOR VARIOUS MODELS

The following are the general model assumptions made for estimating the impact distances for cloud dispersion vapour cloud explosion and jet fires.

2.5.1 GENERAL ASSUMPTION :

a) Simultaneous failure leading to more than one scenario is not considered. However major fire/explosion is likely to cause domino effects particularly in dense area of piping/equipment.
b) Catastrophic failure of the pipeline is not generally considered due to high integrity of construction, quality control and safety measures that is provided.

2.5.2 CLOUD DISPERSION :

a) The cloud is pancake shaped for dense cloud dispersion.
b) Ground surface is leveled and the roughness for a given surface is uniform.
c) It is assumed that the atmospheric conditions are constant for at least the time taken for the cloud to develop as a plume, to the lowest concentration of interest.
d) Concentration fluctuations within the cloud are ignored.
e) The chemical reaction and deposition of the chemical is limited.

2.5.3 VAPOUR CLOUD EXPLOSION :

a) The flame speed thorough the cloud is constant.
b) Stoichiometric concentration of the cloud is uniform.

2.6 DAMAGE CRITERIA :

2.6.1 EXPLOSION OVER PRESSURE DAMAGE ESTIMATES :

Distances are estimated for unconfined vapour cloud explosion for over pressures of 1, 2 and 5 psi. These over pressures are the peak pressures formed in excess of normal atmospheric pressure by blast and shock waves.

The severity of explosion of 5 psi blast over pressure could cause collapse of conventional building and rupture of pipeline connections. Such damage is considered to produce 50 % mortality in humans.

Over pressure effects of 2 psi blast could cause damage to storage tanks at ambient pressure, booster pumps, roads and can cause repairable damage to both domestic and office buildings. About 10 % fatality could occur.

The severity of explosion of 0.5 – 1.0 psi over pressure could cause damage to windows with likelihood of injury due to flying glass.

Table 2.1 gives damage levels at various over pressures for both property damage and human injury as follows :

TABLE 2.1

BLAST OVER PRESSURE (PSI)	DAMAGE LEVEL
5.0	Major structure damage.
3.0	Storage Tank failure.
2.5	Eardrum damage.
2.0	Pressure vessels remain intact, light structures collapse.
0.5 – 1.0	Major window glass breakage, possibly causing some injuries.
0.3	10 % windows glass breakage.

2.6.2 DAMAGE CAUSED AT DIFFERENT INCIDENT LEVELS OF THERMAL RADIATION

The flammable material released accidentally, from an orifice would form a vapour cloud. If the cloud encounters an ignition source it would result in a jet fire.

If the cloud formed due to any failure, finds an ignition source before reaching a concentration below lower flammable limit, and the flammable mass in the cloud is less than 5 Te a flash fire is likely to occur. The flame could also travel back to the source of leak. Any person caught in the flash fire is likely to suffer burns of varying degrees and at times could be fatal (100 %). Therefore, in consequence analysis, the estimated distance up to LEL value is usually taken to indicate the area which may be affected by a flash fire.

In case of a jet fire/flash fire, if any other combustible material is within the affected area, there is a possibility that a secondary fire may ensue. As the area close to the source of leak may be depleted in oxygen the chances of human mortality due to asphyxiation can not be ruled out. Generally a minimum of 19 % oxygen in air is considered essential for preventing adverse impact to human lives.

Table 2.2 indicates the damage effects due to radiation of varying intensity as follows :

TABLE 2.2

DAMAGE DUE TO INCIDENT RADIATION INTENSITY

INCIDENT RADIATION INTENSITY (KW/M2)	TYPE OF DAMAGE
37.5	Sufficient to cause damage to process equipment unless the equipment is fully thermally fire protected (insulation, fire proofing, sprinkler protection etc.)
25.0	Minimum energy required to ignite wood at infinitely long exposure (non-piloted) and would damage thermally unprotected tanks, equipment, etc.

12.5	Minimum energy required for piloted ignition of wood, melting plastic tubing, etc.
4.5	Sufficient to cause pain to personnel if he is unable to reach to a safe area within 20 seconds, blistering of skin (1st degree burns) is likely.
1.6	Will cause no discomfort to long exposure.
0.7	Equivalent to solar radiation.

2.7 TOXIC EFFECTS :

As discussed earlier toxic effects of a particular chemical vary with factors such as age, sensitivity of an individual and, most important the concentration of the gas at that time.

General toxic effects include asphyxiation, general system damage (irreversible or reversible) and death in severe cases.

From an array of exposure limits such as TLV, STEL, IDLH etc., the IDLH value has been considered as the effects concentration for the risk analysis study. IDLH value specifies the concentration, at which, when exposed for a period of 30 minutes or higher, there are chances of health effects. This value is considered due to the fact that any person exposed to these concentration may need medical treatment immediately after exposure. It has been considered that the exposure of a person in the area would be limited for less than half an hour.

CHAPTER – 3

EMERGENCY ORGANISATION

CHAPTER – 3
EMERGENCY ORGANISATION

3.1 INTRODUCTION :

This chapter highlights the organization for emergency preparedness. No plan will succeed without effective emergency organization. Emergency organization is a part of good ON-SITE and OFF-SITE emergency plan, without which all resources, facilities etc. even available with us can not be put into services at right times as time is the key factor in controlling the emergency.

It is not possible to envisage and detail every action which should be taken in emergency and to harness the basic elements of emergency preparedness and Gravity of emergency. Emergency Organization is set up specifying duties and responsibility of all to make best use of all resources and to avoid confusion while tackling the emergency. Emergency Organization is set up specifying duties and responsibility of all to make best use of all resources and to avoid confusion while tackling the emergency. Emergency Control Organization chart for on-site which is prepared designation wise is given in Figure – 1.

Emergency arrangements includes :

- Assembly points
- Emergency control center
- Fire and toxicity control arrangements
- Medical arrangements
- Transport arrangements
- Pollution control arrangements
- Other arrangements

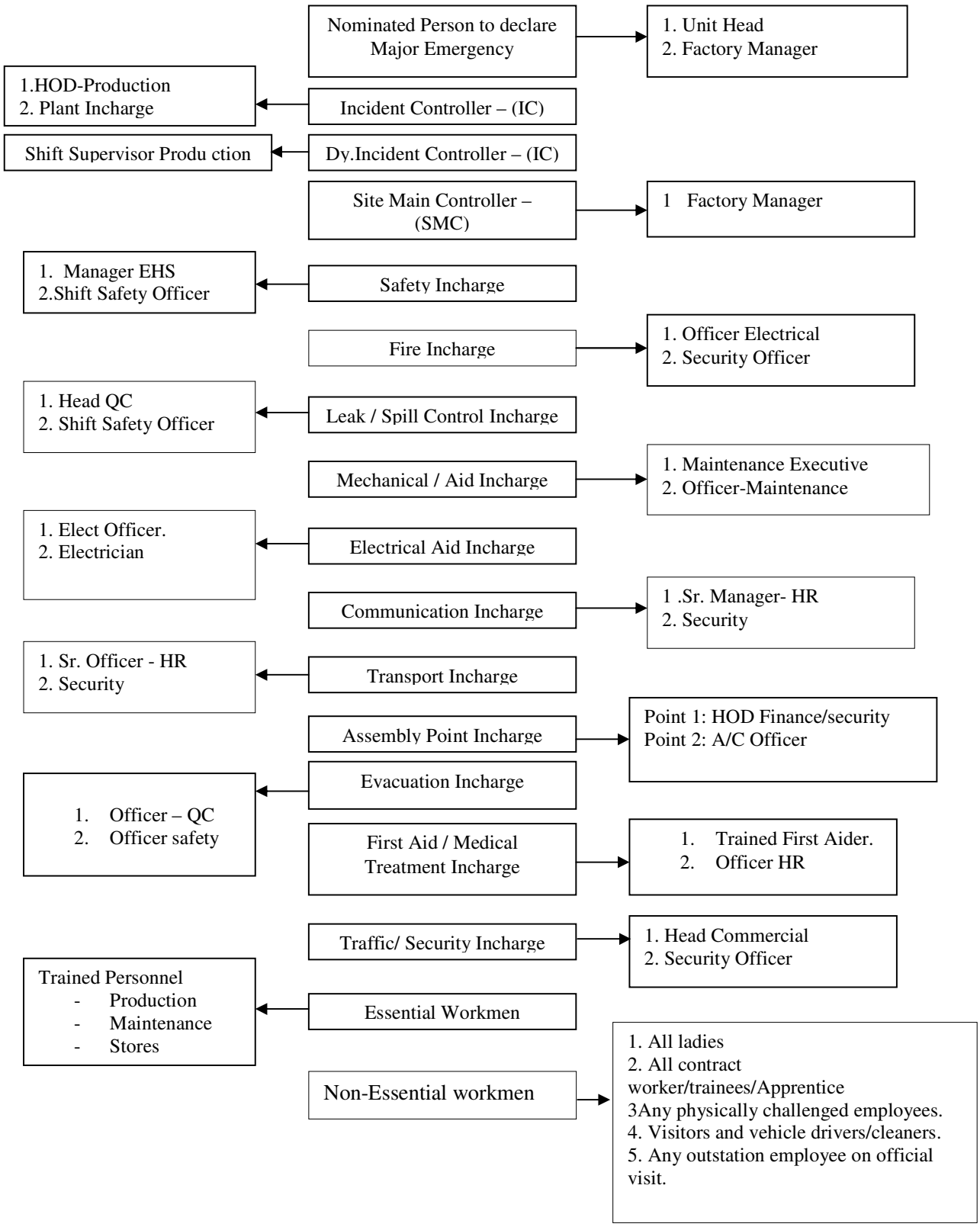
3.2 ASSEMBLY POINTS :

Total 2 assembly points are fixed. Considering wind velocity at the time of emergency, Site Main Controller / Incident Controller will direct evacuated personnel to assemble at selected assembly point. Assembly point in-charge has to record name and department of those reporting there. He will keep contact with incident controller / site main controller through phone. Details of assembly point is mentioned in Annexure – 19 and duties of assembly point incharge is mentioned in point No. – 3.6.

List of Assembly points

i. Security Main Gate
ii. Second gate

FIGURE – 1 EMERGENCY CONTROL ORGANISATION



3.3 EMERGENCY CONTROL CENTRE

The emergency control center (ECC) is the place from where the emergency control operations to handle the emergency are directed and coordinated. ECC is located at Main Gate, near Security Office. It will be attended by site main controller (SMC), key personnel and senior officers, of fire, police, factory inspectorate, District authorities and emergency services. The center is equipped with telephone facility to keep contact with incident controller and areas of works as well as outside. Emergency telephone no. are displayed and necessary fire fighting equipments and PPEs are also kept in ECC.

Details of ECC given in Annexure – 20.

3.4 FIRE & TOXICITY CONTROL ARRANGEMENTS :

Location of storage tank, fire extinguishers is shown in Factory Layout, other details of fire protection facility is given in Annexure – 21. Name and address of nearby fire stations are given in Annexure – 28.

3.5 OTHER ARRANGEMENTS :

The details about Medical arrangements (Annexure – 22), Transport & Evacuation arrangement (Annexure – 23), pollution control arrangements (Annexure – 24) have been provided. Brief information is also furnished in Chapter – 2.

3.6 DUTIES OF EMERGENCY TEAMS

3.6.1 EMERGENCY FIRST RESPONDER

No fixed person can be appointed as Emergency Ringer

a) Any person, who has observed any abnormal situation such as fire, gas leaks, chemical leak outs, etc. can ring the bell to warn/inform all working in plant.
b) Shout “Danger ! Danger !” or “Fire !” “Fire !”.
c) Break the glass of nearest “Manual call point”.
d) Inform immediate officer or Security at gate about the abnormal situation.
e) If possible, attempt to contain/control the incidence with available resources without risk to life.
f) If possible do not left position till incident controller is arrived and informed him about incident.

3.6.2 NOMINATED PERSON TO DECLARE MAJOR EMERGENCY :-

a) Factory Manager.

Duties/Functions :
Immediately being aware of the emergency he will proceed to the scene/location and on arrival he will:

1. Assess the scale of emergency and decide if a major emergency exists.
2. After receiving the message from Incident controller take a decision to declare MAJOR-EMERGENCY.
3. Activate the on-site plan and if necessary the off-site emergency plan.
4. Direct/advice Incident Controller about shutting down and evacuation of plant and areas likely to be affected by emergency.
5. Ensure that out side emergency services, including Mutual-Aid have been called.

3.6.3 SITE MAIN CONTROLLER :

(Priority Order of Calling)

- Factory Manager.

Duties / Functions :
Immediately on being aware of emergency, he will go to the Emergency Control Centre (ECC). On arrival he will :

1. In consultation with the incident Controller, decide whether major emergency exists and on declaration of a major emergency ensure that the outside emergency services and mutual help are called, the on-site plan activated and if necessary, nearby factories and population are informed.
2. Ensure that the key personnel are called.
3. Exercise direct operational control of those parts of the work outside the affected area.
4. Continually review and assess possible developments to determine the most probable course of events.
5. Direct the safe close down and evacuation of plants in consultation with the incident controller and key personnel. If necessary arrange for evacuation of neighboring population.
6. Ensure that casualties are receiving adequate attention. Arrange for hospitalization of victims and additional help if required. Ensure that the relatives are informed.
7. Inform and liaise with the Chief Officers of fire and Police services, District Emergency Authority and with the Dy. Director of Industrial Safety & Health and experts on health and safety, provide advice on possible effects on area outside the factory.
8. In the case of prolonged emergencies involving risk to outside areas by wind blown materials, contact the local meteorological office to receive early notification of impending changes in weather conditions.
9. Ensure the accounting for personnel and rescue of missing persons.
10. Control traffic movement within the factory.
11. Arrange for a chronological record of the emergency to be maintained.

12. Where the emergency is prolonged arrange for relief of personnel and the provision of catering facilities.
13. Issue authorized statements to the news media where necessary, inform head office.
14. Ensure that proper consideration is given to the preservation of evidence. Arrange for photographs/video.
15. Control rehabilitation of affected areas and victims on cessation of the emergency. Do not restart the plant unless it is ensured safe to start and authorized the sounding of the "All Clear" siren which will be one continuous long siren for three minutes.

3.6.4 INCIDENT CONTROLLER

a) Head Production
b) Delegate

Duties/Functions
Immediately on being aware of the emergency and its location, he will proceed to the scene. On arrival he will:

1. Assess the scale of emergency and decide if a major emergency exists or is likely. On his decision, he will activate the on-site emergency plan and if necessary the off-site emergency plan.
2. Inform site main controller and perform as site main controller till his arrival. Particularly he will :-
    i. Direct the shutting down and evacuation of plant and areas likely to be affected by the emergency.
    ii. Ensure that outside emergency services, including mutual aid have been called in.
    iii. Ensure that key personnel have been called in.

3. Direct all operations within the affected area with the following priorities :
    i. Secure the safety of the personnel.
    ii. Minimize damage to plant, property and the environment.
    iii. Minimize loss of material.

4. Direct rescue and fire fighting operation until the arrival of the outside fire brigade, when he will relinquish control to the head of the fire brigade.
5. Search for casualties.
6. Evacuate non-essential workers to the assembly points.
7. Set up a communications point and establish telephone/messenger/walk talkie contact as appropriate with the Emergency Control Centre.
8. Give advice and information as requested to the head of the Fire Brigade and other emergency services.
9. Brief the Site Main Controller and keep informed of developments.
10. Preserve evidence that will be necessary for subsequent inquiry into the cause of the emergency and concluding preventive measures.

3.6.5 SAFETY INCHARGE

a) Head– EHS
b) Delegate

1. On being informed about the incident proceed to the scene of incident and assess the situation, report to the site main controller.
2. Help the incident controller/site main controller in fire fighting/ incident control operation by organizing/ supervising fire fighting/ incident control crew. Provide necessary PPE to incident control crew.
3. Liaise with outside emergency services for mutual aid, evacuation, shelter, ambulance, medical help and others.
4. To maintain necessary Emergency control Equipment.
5. To carry out/co-ordinate pre emergency activities for preparedness.

3.6.6 TRAFFIC IN CHARGE

a) HOD Store
b) Delegate

1. On hearing the Bell proceed to the site of incident along with the security personnel with the exception of one at the gate.
2. Control traffic movement in the factory premises. Cordon off area as required.
3. Remove unauthorized and untrained persons from the scene of incident and instruct them to report at assembly point.

3.6.7 FIRE TEAM INCHARGE

a) Security Officer

1. On hearing the Bell proceed to the scene of incident and Co-ordinate with Fire Station, Security Incharge and form fire squad.
2. Organize fire squad and arrange to extinguish the fire/control the incident with the help of trained personnel.
3. Provide all necessary help / direction to fire control squad.
4. Inform mutual aid if required.
5. To maintain fire protection system/apparatus in working condition.

3.6.8 TRANSPORT INCHARGE

a) HOD HR
b) Delegate

1. Arrange transport for evacuated persons to shift to outside shelter.
2. Take charge of all transport vehicles available on-site and keep drivers ready.
3. Arrange to transfer casualties to nearest hospital.
4. Co-ordinate with Site Main Controller and follow his instructions.
5. To maintain arrangements of transport.

3.6.9 MECHANICAL AID IN CHARGE

a) Assistant Manager Maintenance
b) Delegate

1. On being informed about the incident proceed to the scene of incident and report to Incident Controller.
2. Follow instruction from Incident Controller.
3. Ensure that emergency engineering services are in working condition.
4. Render all engineering help to the Incident Controller in controlling the incident.
5. Arrange/Supervise mechanical repairs.
6. Arrange/provide help for Heavy Vehicle as per requirement. Eg. Crain ,hydra

3.6.10 FIRST AID/MEDICAL TREATMENT INCHARGE

a) Head QC.
b) Delegate

1. On being informed about the incident proceed to Security Gate.
2. Take charge of Occupational Health Centre.
3. Arrange to give First – Aid and maintain record.
4. Decide for further treatment & Co-ordinate with transport incharge & keep record.
5. Assess need of extra Medical, Ambulance help co-ordinate with Incident Controller/ Site Main Controller.

3.6.11 COMMUNICATION IN CHARGE

a) Head - HR
b) Delegate

1. On being informed about the incident maintain contact with Incident Controller.
2. Take charge of all external telephones.
3. Receive inward massage and keep record of it.
4. Arrange and make one or two lines free for inward message.
5. Inform emergency services and make them alert them to come on second call. Also keep record of all outward massage on separate paper.
6. Also record any emergency message for mutual aid, in specified format in detail.
7. Follow instructions from Site Main Controller / Incident Controller.

3.6.12 ASSEMBLY POINT INCHARGE

a) Point No. 01 – HOD Finance
b) Point No. 02 – A/C Officer
    1. On being informed about the incident, proceed to the site and report to Site Main Controller/Incident Controller.
    2. If evacuation call is given, arrange to record names/department of those persons assembled (evacuated) at assembly point. Arrange roll call at all assembly points.
    3. Follow instructions from Site Main Controller.
    4. If required arrange for transport to shift all evacuated persons to shelters in co-ordination with Transport Incharge.

3.6.13 EVACUATION INCHARGE

a) Head – Project.
b) Delegate

    1. On being informed/aware of the emergency report to the Site Main Controller.
    2. On declaration of Major Emergency, supervise transport to evacuate persons to downwind area.
    3. Keep contact with assembly point incharge and arrange search operation for missing persons.
    4. Utilize “Mutual Aid” arrangements for quick action.
    5. Keep contact with Site Main Controller/ Incident Controller for quick action related to weather condition.

3.6.14 LEAK/SPILL CONTROL IN CHARGE

a) Head – QC
b) Delegate

    1. On being informed /aware of the emergency report to the Site Main Controller.
    2. Keep contract with Incident Controller and arrange for proper spill control activity to minimize spillage and leakage of the material.
    3. Arrange for removal of material from nearby areas, which may be affected due to fire.

4. Keep contact with Site Main Controller/ Incident Controller for quick action related to weather condition.

3.6.15 ELECTRICAL AID INCHARGE

a) Head – Electrical department.
b) Delegate
    1. On being informed /aware of the emergency report to the Site Main Controller.
    2. Keep contact with Fire Incharge and arrange for electrical isolation for affected area if required.
    3. Arrange the electrical person in fire pump house in case of electrical problem.
    4. Arrange for emergency lighting as per requirement at the site.

3.6.16 ESSENTIAL WORKERS & KEY PERSONNELS

1. All trained Workers and key personnel whose names are listed in Annexure-17 & 18 will report to Site Main Controller.
2. Follow the instructions of Site Main Controller/ Incident Controller.

Note :
This group of people is very useful and can be used for various purposes like Runners as messengers, as supporting line to various emergency control squads, depending upon need.

3.6.17 PERSONNEL OF AFFECTED AREA

They shall:
a) Do as directed by Site Main Controller/ Incident Controller.
b) Continue to handle the emergency as per the laid down practice and codes and as guided by Incident Controller.
c) Stop all hot work, work at height etc.
d) Remove unwanted persons from the affected area to the nearest safe “Assembly Point”.
e) Stop all non essential operations.

3.6.18 PERSONNEL OF NON-AFFECTED AREAS

They shall :
a) Promptly relieve the essential workers/key personnel’s and direct them to rush to the scene of incident.
b) Those employees who may be in canteen or toilet or any other place, on hearing the alarm shall :
    - Immediately rush back to their work area.
    - Act as per the instruction of the Incident Controller.
    - All the employees shall confine themselves in place of work and wait for further instructions.
c) Take adequate steps to safeguard important documents in case their area is likely to be affected.

3.6.19 Non-Essential workers

a) Contractor employees shall stop their work informed to their supervisors and report at the “Assembly Point”.
b) All ladies worker except certified first aid trainer should informed to immediate higher official and report at appropriate Assembly point.
c) All trainees and Apprentice should informed to their officer and report to appropriate Assembly point.
d) All outsider vehicle/truck driver should report to appropriate Assembly point.
e) All visitors should report to appropriate Assembly point.

CHAPTER – 4

COMMUNICATION

CHAPTER – 4
COMMUNICATION

4.1 COMMUNICATION SYSTEM

Effective and immediate communication of the emergency is the vital element in the process of emergency preparedness. It helps to mobilize the resources in the shortest possible time and attack on the emergency at its incipient stage.

Under section 41-B of Factory Act also, the disclosure of information to the workers, general public, local authority and the Factories Inspectorate is compulsory. Such advance communication is for the purpose of the emergency preparedness at District level.

Communication system at OCSPL has been divided into four parts as mentioned below :

a) Internal communication inside the factory.
b) To key personnel out side after General shift hours.
c) To the outside emergency services and authorities.
d) To the neighbouring factories and public in vicinity.

The communication with regards to raising the alarm, declaring the on-site or off-site emergency and procedure to make it known to others is explained below in brief.

4.2 RAISING THE ALARM & MAKING THE EMERGENCY KNOWN

All the plants/departments are provided with internal Telephones. All department heads as well as key personal in Maintenance department and production department are having GSM mobile phone. Fire call bell (break the glass type) of fire alarm system is installed in the plant at distinct location, which is easily approachable and visible.

Plant Helper/ Workman/ Operator of a plant, while working in plant/ taking round of the plant, can easily notice an untoward incident that may occur. He shall immediately communicate the same to other helpers/ operators as well as Shift Incharge/ Officer using nearest telephone or by breaking the glass of fire call point of fire alarm system. Any one of them can contact Security and/or ring emergency bell from the nearest point available depending upon the seriousness of the incident. Security officer can announce the zone or area depending on received massage through Internal Public Address System to communicate the location of emergency in the plant. Announcement about major emergency can be made by blowing the siren. Security person is responsible to blow siren after getting instruction of the Site Main Controller/ Incident Controller.

4.2.1 SIREN & CODES

TABLE – 4.1
EMERGENCY COMMUNICATION – BELL RINGING / SIREN CODES

Sr. No.	Code	Message Conveyed – Important Actions
01	**ON-SITE EMERGENCY** 10 sec. ON – 5 sec. OFF **(For 3 times)**	For an Accident affecting within the plant area : No external help and/or Abnormal Plant condition – Which require external help. (i.e. Fire, Rescue, Gas Leak, Spillage, Ambulance) Purpose : ➢ Alert other plants and wait for next message ➢ Alert all & required Incident Controller/ Site Main Controller to reach at the scene. ➢ All plant operator to keep alert and ready for their respective plant/ section emergency shut down. Action : ➢ As per wind direction Incident Controller/ Site Main Controller to review situation. ➢ That incident can be controlled using on-site resources? ➢ That incident will not affect nearby plant/ Sections? ➢ That it does not require shut down of plant/ section of same plant? ➢ That it is emergency standby situation only? If answer of above question is negative. It is an On-Site emergency- Declare immediately. ➢ Convey – Message to that entire incident is big. ➢ Emergency shut down is required. ➢ All seniors/emergency control organization members should report to Site Main Controller. ➢ All Visitors/ non essential workers will report to assembly point (depending on wind direction). ➢ Neighboring industries/public are warned and advised to prepare for evacuation if Off-Site emergency plan activated.
02	**EVACUATION** Raising the siren for 15 seconds / Announcement in Internal Public Address System **(Siren for 15 sec.)**	Purpose : ➢ Evacuate particular plant/section or evacuate all personnel to nearest safe assembly point. ➢ Stop all hot work, work at height etc. ➢ To facilitate safe shutdown of all the processes, equipments and activities.
02	**OFF-SITE EMERGENCY**	➢ When Site Main Controller considers the accident would assume Off-Site implication.

	Blowing the siren 10 Seconds ON 05 Seconds OFF **(For 02 minutes)**	➢ Site Main Controller informs Collector / Factory Inspector/ Police / Fire Station & other Off-Site emergency control agencies. ➢ All affected plant will observe emergency shutdown. ➢ Neighboring industries/ public are advised (as per wind direction) for evacuation. ➢ Collector will take charge of Off-Site evacuation/ emergency. ➢ Police will handle traffic control and evacuation.
03	**All Clear** **For On-Site Emergency** Continuous blowing of Siren **(For 2 minutes)** **For Off-Site Emergency** Continuous ON **(For 2 minutes)**	➢ After controlling On-Site Emergency Incident Controller/ Site Main Controller can give all clear signals after thorough inspection. ➢ All evacuated personnel can re-enter and re-start plant. ➢ Nearby industries/ public need "Not Worry", that Off-Site emergency will not occur. Incident was controlled. ➢ Collector can give all clear termination of "OFF-SITE" emergency after ensuring that incident was controlled and re-entry to the area is possible.
Siren Testing : Every Tuesday at 11:00 am.		
Annexure – 26 details of siren provided.		

4.3 INFORMATION AND WARNING

After detection of an emergency it is very essential to have an effective communication. It is planned in four levels to minimize the time and assign specific responsibility as per following table.

TABLE – 4.2 FOUR LEVEL COMMUNICATION

Sr. No.	Communication to	During General-Shift	After General-Shift
01	Internal Communication (by phone, by GSM mobiles, & Siren system)	Concerned Department Staff , Security	Concerned Department Staff, Security
02	Neighboring Factories and public in vicinity (by phone, messenger & Siren System)	HOD HR, Security	Production Officer, Security
03	Key personnel Available inside & Out Side (by Mobile phone)	HOD HR, Security	Production Officer, Security
04	Outside Emergency services and authorities (by Mobile phones)	HOD HR, Security	Production Officer, Security

In order to ensure effective four level communications as above, various groups have been assigned to carry out communication during general shift hours and after General Shift hours as per advice given by Site Main Controller/ Incident Controller. A record of communication will be maintained by respective group in chronological order with time and keep constant touch with Site Main Controller/ Incident Controller.

4.4 DECLARING THE MAJOR EMERGENCY

The declaration of major emergency puts many agencies on actions and the consequences may be serious, therefore, such declaration should not be decided on whims or immature judgment or without proper thoughts.

Because of the scale of activity which will be activated after the declaration of on-site emergency, it is advisable to restrict the authority to declare it.

In our case Site Main Controller shall declare major emergency. In his absence in general shift Head Production and after general shift hours and during off days Shift Incharge shall declare on-site or off-site emergency and communicate the same to Site Main Controller on priority basis.

4.5 TELEPHONE MESSAGES

After emergency declaration or even while just receiving the emergency message on phone. Communication Incharge has to play an important role. He should be precise, sharp, attentive and quick in receiving and noting the messages and then for immediate subsequent action for further communication. His communication will be with internal senior officers, key personnel out site the factory and external agencies. Use internal telephone system for internal officer communication related to evacuation.

4.6 EMERGENCY COMMUNICATION CHART

TABLE : 4.3

Sr. No.	Communication to	Telephone Numbers		
		General Shift Hours	**After General Shift Hours**	
A	INTERNAL COMMUNICATION INSIDE THE FACTORY	1. Fire Alarm System 2. Internal Telephone 3. Give short emergency message to ADMN office.	1. Fire Alarm System 2. Internal Telephone 3.Information to concerned department head 4. Information to Site Main Controller 5. Information to Production Head. 6. Information to Unit Head. 7. Information to EHS Head.	
	Name	Desk number	Mobile number	
1	Mr. Biswajit Bhattacharya	11	9158890891	
2	Mr. Chandrakant Kamble	14	7045745507	
3	Mr. Bhasker Godbole	28	8390591693	
4	Mr. Pravinkumar Patil	16	8390591510	
5	Mr.Tapan Maity	26	8459614176	
6	Mr. Arjun Wale	18	9763317143	
7	Mr.Anand Kanaka	13	9970174232	
8	Mr. Vinod Nimblakar	30	9923602890	
9	Mr. Khairul Basar	21	9022930355	
10	Mr.Datta Harkud	33	7030765989	
11	A Block	37	8378984303	
12	B Block	38	8378984300	
13	C Block	39	8378984309	
14	D Block	40	8378984309	
15	Store	33	9168094999	
16	Electrical		9923602895	
17	Maintenance		8459614183	
18	Security	31	8378984301	
19	MEE	35	8459614179	
20	EHS	17	9923602896	
21	Mr.Balasaheb Shendage		8459614180	

B	NEIGHBOURING INDUSTRIES & PUBLIC IN VICINITY	1. Ask one security guard to inform Balaji Amines, for evacuation depending up on wind direction.
		2. Check public outside the factory and ask them to leave the area
3	OUT SIDE EMERGENCY SERVICES	
	FIRE STATION	
	MIDC	02189-2357123,2357101
	Solapur Municipal corporation	0217-2740364
	MSEB	0217-2357279
	Solapur	
	POLICE STATION Mohol	02189-232233
	HOSPITAL	0217-2319060
	Yashodra Hospital	0217-2323001/2/3
	COLLECTOR OFFICE,	0217-2731002
	FACTORY INSPECTOR,	0217-2626230
	MAMLEDAR, Mohol, Prant Office	02184-220289
	MPCB Solapur	0217-2319850

CHAPTER – 5

ACTION ON-SITE

CHAPTER – 5
ACTION ON-SITE

5.1 CLASSIFICATION OF EMERGENCY

The incident or emergency which are confinable, controllable within the plant premises, which under normal circumstances does not affect area out side the said plant boundary limit and controlling does not involve/ require external help.

TYPE OF CODE

Concerned department or any person observes any abnormal situation will break the glass of nearest Manual call point to inform all other employees.

LINE FUNCTION

Immediately on being aware of the emergency and its location, Site Main Controller/ Incident Controller will proceed to the scene and take charge of situation.

This Includes :

1. Critical process parameter up-set/ abnormal plant condition.
2. Leakage - Spillage of Caustic, HCL, Ethyl alcohol, Thaionyl chloride, Toluene, Ethylene Dichloride, from pipeline, storage tank or Drums.
3. Gas release – Chlorine.
4. Leakage / Spillage of Raw material in Raw Material Storage yard.
5. Explosion in Boiler.
6. Laboratory / R&D Fire.
7. Transformer oil leakage / spillage and fire.

ON-SITE EMERGENCY

When the incident, or emergency is not controlled within 5 to 10 minutes or does not come under control within 5 to 10 minutes, Incident Controller / Site Main Controller reviews the situation and decides,

- If situation is worsening.
- Can affect other sections of the same plant and necessitate shut down of these sections.
- And / or can affect other near by plant / sections and necessitate shut down of the area.
- And / or affecting whole of premises and not out side the premises.

Then without delay declare ON-SITE EMERGENCY and blow the siren as per code and give message to affected area for safe shut down.

LINE FUNCTION

- All seniors / Emergency control organization will report to Site Main Controller / Incident controller and wait for further instruction.
- Site Main Controller / Incident controller will advice for evacuation and safe shut down of affected area.

- Site Main Controller / Incident controller will organize emergency control team as per need and available personnel on-site and co-ordinate all actions as per on-site emergency plan.
- Pass on messages to all concerned as per action plan of on-site emergency plan.

OFF-SITE EMERGENCY

After surveying on-site emergency implication, if there is a likely hood of Toxic Gas cloud formation and spreading of cloud in down wind direction affecting neighboring population of industry and villages and / or likely hood of Fire / Explosion may effect near by industry and population, Site Main Controller / Incident Controller should active OFF-SITE EMERGENCY.

LINE FUNCTION

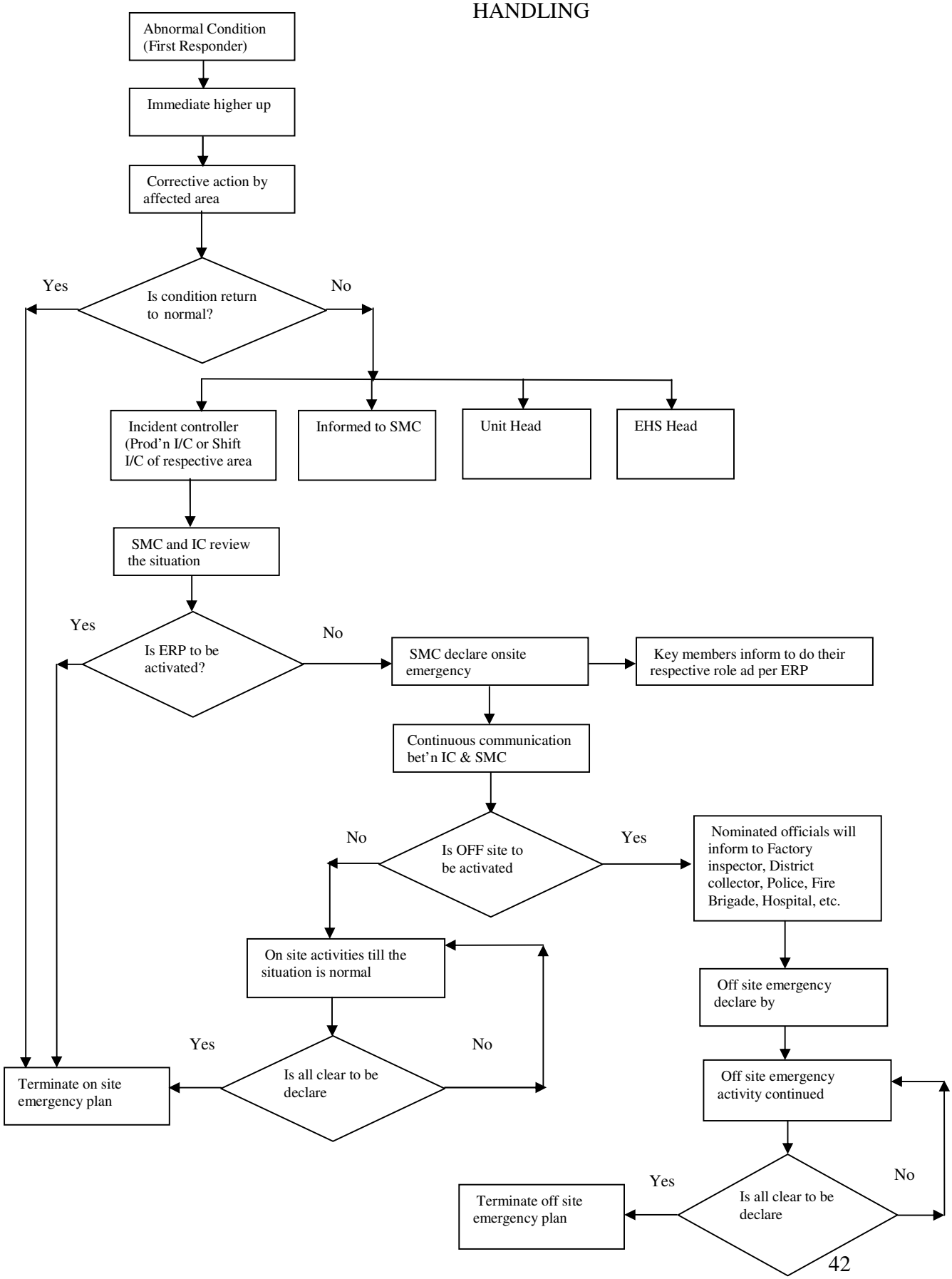
- Follow evacuation procedure as per on-site emergency plan, if not done earlier.
- Follow evacuation procedure as per off-site emergency plan.
- Pass on messages to all concerned as per action plan of off-site emergency plan.

5.2 EMERGENCY CONTROL PROCEDURE

A) GENERAL INSTRUCTIONS

Leakage/release of Chlorine gas and Thionyle chloride are the major emergency; although other emergencies due to fire, explosion or spillage of chemicals may occur. Immediate steps should be taken to stop the leak. Emergency situation is classified in to On-Site and Off-Site emergency. On-Site emergency should be controlled effectively so that they do not become Off-Site emergency. Action plan for On-Site emergency is described in detail. Please refer figure-2 for action plan for handling emergency.

FIGURE-2
FLOW DIAGRAM FOR EMERGENCY HANDLING



The general instructions are as follows:

1. Chlorine gas is heavier than air and settles at ground level. It does not diffuse quickly in atmosphere.
2. Always use respiratory equipment before going near the leakage.
3. Always stand in the upwind direction, while attending the leakage or standing near the leakage.
4. The best effort should be made to contain the spilled liquid. It should be recovered to the extent possible and neutralized before it is discharged in to the effluent stream.
5. Effluent treatment plant should be informed immediately to take corrective action.
6. In case of fire first identify that the material is not water reactive before using water as a fire hydrant agent.
7. Only trained employees should be allowed to go near the danger area with proper safety equipment and emergency kit to stop the leak.
8. All other employees should assemble as per the instruction of incident controller.

B) INITIAL EMERGENCY RESPONSE ACTIONS

Immediately on being aware of the emergency and its location, Incident Controller/Dy. Incident Controller will proceed to the scene after assess the situation he will informed to SMC. Immediately on being aware of the emergency and its location Site main controller will proceed to Emergency Control Center and after receiving information from IC; base on type and location of emergency SMC will activate On-site or off site emergency plan. Incident Controller should form initial response team, based on the type and location of the emergency, and respond to the scene. Initial notifications are made to appropriate off-site organizations and Government Agencies by the communication Incharge, under the direction of the Site Main Controller / Incident Controller. If the event is classified as off-site emergency, the full emergency response action should be activated.

The site main controller will monitor the emergency condition and mitigation efforts until escalation occurs, or until mitigation is successful and re-entry and recovery can begin.

The communication incharge, as directed by the Site Main Controller, will :

- Notify the appropriate off-site agencies of the type of incident occurred.
- Notify facility key personnel as needed.
- Notify appropriate facility management.
- Key personnel will report to their assigned locations and co-ordinate with, or assist, the emergency team(s) to promptly mitigate the accident and begin re-entry and recovery of the facility.

C) FULL EMERGENCY RESPONSE ACTION

The incident controller will assume command and control of the emergency teams and will commence the immediate mitigation of the emergency condition. Security and Assembly point Incharge will be responsible for accounting for all personnel who were on-site just prior to the emergency condition. If full accountability cannot be assured a search and rescue team will be formed and will be directed to locate any

missing individual(s). Once the emergency condition is under control, the site main controller de-escalates the classification and begins directing the re-entry and recovery efforts.

D) EVACUATION PROCEDURE

1. Site Main Controller / Incident Controller will identify extent of emergency and probable effect of the incident.
2. Considering prevailing wind direction affected area will be identified.
3. Site Main Controller / Incident controller will instruct affected Area Incharge for evacuation of area and also give place of Assembly point and evacuation route leading to Assembly point.
4. Respective area Incharge will start evacuation after safe close down of plant.
5. First non-essential worker, contract employee, visitors will leave area and report to Assembly point.
6. Rest of employee will vacate the place & report to Assembly point after safe close down of the plant.
7. While Evacuation please remember the following points :
   - Be calm, do not be panicky.
   - Do not run, walk quickly, cover your nose with wet cloth and breath slowly through it.
   - Decide for wind direction and move cross wind.
   - Do not close, lock area, cabins, rooms keep it open for search operation if required.
8. Report Assembly point Incharge and co-operate him in taking head count and follow his instruction.

5.3 ACTION ON-SITE

5.3.1 EMERGENCY ACTION PLAN FOR CRITICAL PROCESS PARAMETER UPSET :

Critical process parameter up set – plant abnormal condition. Emergency which can be controlled within the plant itself without affecting other section, department, plants.

a) When critical parameter indicate erratic upset check for any possible malfunction of measuring equipment, leak, spill with the help of field operator.
b) Inform Shift Incharge of plant.
c) Take corrective action if actual upset is detected and bring down to normal value as early as possible.
d) Review other implication of Abnormal condition.
e) If this can lead to serious consequences and control becomes difficult give warning by raising the siren as per code for On-Site emergency situation, contact all emergency control teams.
f) Review situation and consult senior personnel available on-site or on phone.
g) Decide whether corrective action has resulted towards a normalcy or situation becoming worst then earlier.
h) If plant becomes normal terminate emergency and declare all clear by raising the siren as per code for On-Site emergency.

i) If situation still becomes worst declare Major Emergency by raising Siren as per code for Off-Site emergency.
j) Advise Plant / section shut down as per need.

5.3.2 EMERGENCY ACTION PLAN FOR TOXIC GAS LEAKAGE

a) On detection of Toxic gas leakage inform Shift Incharge.
b) The Site Main Controller / Incident Controller will assess the situation at the site.
c) Check wind direction and wind speed.
d) Identify source of leakage by approaching from up wind direction using PPEs, like SCBA set, Air line respirator, Hand Gloves and Gumboot.
e) Site Main Controller / Incident controller will decide for evacuation of affected down wind area and arrange for search and rescue as required.
f) Stay upwind, cordon off area, prevent entry of unwanted personnel.
g) Try to isolate leaky portion of pipeline, equipment by closing isolation valve on both side of leak.
h) Try to stop / reduce leakage if it can be done without risk using PPEs and special tools and kits.
i) Start water spray in atmosphere to knock down vapours. Do not spray water on the source of leak.

5.3.3 EMERGENCY ACTION PLAN FOR LEAKAGE / SPILLAGE OF CHEMICAL

a) On detection of leakage / spillage inform Shift Incharge.
b) The Site Main Controller / Incident Controller will assess the situation at the site.
c) Check wind direction and wind speed.
d) Identify source of leakage by approaching from up wind direction using PPEs like SCBA set, Air line respirator, Hand Gloves, and Gumboot.
e) Site Main Controller / Incident Controller will decide and blow siren to alert others as per assessment of level of emergency and declare emergency as per assessment, and organize squad for leakage control.
f) Site Main Controller / Incident Controller will decide for evacuation of affected down wind area and arrange for search and rescue as required.
g) Stay upwind, cordon-off area, prevent entry of unwanted personnel.
h) Try to isolate leaky portion of plant, pipeline, equipment storage tank, by closing isolation valve on both side of leak. Consider following points before isolation.
i) When isolation is affecting the specific plant, section then think for shut-down of the plant, section.
j) Try to stop / reduce leakage if it can be done without risk using PPEs and special tools and kits or by lowering pressure creating negative pressure by available methods.
k) Start water spray in atmosphere if problem of toxic, irritating vapours, fumes exists to knock down such vapours to limit effect of vaours extending outside the premises.
l) Contain spillage by making bund (Dyke) of sand, earth or soda ash. Avoid contact with skin, eyes.
m) Inform ETP for possible overload and emergency neutralization.
n) Arrange for transferring of material if leak is from storage tank, drums, if it can be done without risk.
o) Cut off power supply if required to selected plant / sections, equipment.

- Sweep up material and place into a suitable disposal container.
- Clean up spills with soap solution immediately.

5.3.4 EMERGENCY ACTION PLAN FOR LEAKAGE / SPILLAGE OF FLAMMABLE / COMBUSTIBLE MATERIAL WITH OR WITHOUT FIRE

a. On detection of leakage / spillage inform shift incharge.
b. The Site Main Controller / Incident Controller will assess the situation at the site.
c. Check wind direction and wind speed.
d. Identify source of leakage by approaching from up wind direction using PPEs like SCBA Set, Air line respirator, Positive Pressure Suit, Hand Gloves and Gumboot.
e. Site Main Controller / Incident Controller will decide and blow siren to alert others as per assessment of level of emergency and declare emergency as per assessment and organize squad for leakage control as well as for fire fighting.
f. Site Main Controller / Incident Controller will decide for evacuation of down wind area and arrange to stop welding, gas cutting and all hot job in surrounding area and specifically in down wind direction.
g. Evacuate affected area and prevent entry of unwanted personnel.
h. Cordon-off area.
i. Switch off all power supply specifically temporary
j. Contain spillage by making bund of sand / earth.
k. Cover small spillage with sand and absorb it and collect in close drum for later disposal.
l. Cover large spillage with DCP.

FIRE

- Avoid inhalation of smoke and product of combustion.
- Blow the siren.
- Start fire fighting using water / suitable fire extinguisher till the arrival of fire tender.
- Site Main Controller / Incident Controller will decide for calling fire brigade from neighboring industry and from other source.
- Cool surrounding area, equipment, structures, tanks, cylinder, container, drums by spraying water.
- Do not spray water on water reactive chemicals.
- Avoid water spraying on electrical systems before power-cut off, cut off power supply from MCC / Substation.

CHAPTER – 6

OFF-SITE EMERGENCY PLAN

CHAPTER – 6
OFF-SITE EMERGENCY PLAN

6.1 NEED OF THE OFF-SITE EMERGENCY PLAN

The off-site emergency plan prepared herein will deal with those incidents identified under Major Emergency in the on-site plan, which have the potential to harm persons or the environment out side the boundary of the Factory premises.

The most significant risk to out side areas is that associated with a large release of toxic gas and fire in solvent storage. Spread of its effects out side the works may require traffic control, evacuation, and shelter arrangement.

Off-Site emergency plan has been drawn up with a view to mobilize resources and integrate with District contingency plan for an effective system of command and control in combating the emergency.

Thus in brief the two main purpose of the off-site emergency plan are:

- To provide the local / district authorities, police, fire brigade, doctors, surrounding industries and the public, the basic information of risk and environmental impact assessment and to appraise them of the consequences and the protection prevention measures and control plans and to seek their help to communicate with the public in case of major emergency.

- To assist the district authorities for preparing the off-site emergency plan for the district or particular area and to organize rehearsal from time to time and initial corrective action based on the lessons learnt.

6.2 STRUCTURE OF THE OFF-SITE EMERGENCY PLAN

This off-site emergency plan should be integrated properly with the District Contingency plan to tackle any kind of emergency. The site main controller will keep liaison for this purpose with the District Authorities.

The names of the key persons have been defined to establish contacts and co-ordinate the activities with the help of the collector and Disaster Prevention & Management Centre in case of a major emergency.

The safety department and individual plant has already the list of quantities of resources like breathing air sets, rescue masks, fire extinguishers, water resources etc. available with various industries in the vicinity which can be spared under Mutual Aid System to tackle such emergencies after receiving call from us.

6.3 COMMUNICATION AND WARNING BY DISASTER PREVENTION & MANAGEMENT CENTRE

When a disaster occurs, the industry affected by the disaster will immediately inform the Disaster Prevention & Management Centre (DPMC) with all available information, the DPMC will act as per the contingency plan and DPMC will also communicate immediately to District Collector. The integration of on-site plan with District contingency plan and various functions to be carried out are mentioned in the chart OFF-SITE emergency plan as follows –

6.4 ROLE OF FACTORY MANAGEMENT

A copy of the on-site / off-site emergency plan has been given by the site main controller to the factory inspectorate, which is acting as Ex-office Secretary to the District Contingency plan. Time to time the plan will be updated and necessary changes will be incorporated, and communicated to factory inspectorate office.

Regular rehearsals of the plan on-site as well as off-site are being conducted to attain perfection to combat any kind of emergencies.

CHAPTER – 7

TRAINING, REHEARSAL AND RECORDS

CHAPTER – 7
TRAINING, REHEARSAL AND RECORDS

7.1 NEED FOR TRAINING & REHEARSAL

It is important that every emergency plan, when finalized should be written down and communicated to all concerned. After making persons aware of such plans, the plan itself should be put to test, preferably in parts, to begin with, so that the effectiveness can be assessed and alternatives developed. After this, more extensive exercises can be conducted once a year involving out side agencies also. This will not only enable the industrial plant personnel to enhance their speed of mobilization, but also will help the out side agencies to improve their effectiveness in responding to emergencies.

These exercises will help to refine the procedures by identifying deficiencies and difficulties. At this stage more elaborate exercise can be planned to involve the out side services who should be closely involved at the planning stage. Each exercise should be monitored by a member of independent observers located at various positions.

7.2 MOCK DRILL RECORDS & OBSERVATION

We are carrying out mock drills and record of that is maintained. Observation made during each mock drill will be recorded and corrective action will be taken to correct any short fall or in action plan. Emergency plan will be updated based on these Deficiencies; omission or shortcomings identified during the rehearsal will be reviewed and incorporated in the on-site emergency plan for continual updating of the plan.

CHAPTER – 8

ANNEXURE

List of Annexure

Sr. no.	Description
1	Identification of Factory
2	Map of the area
3	Factory lay out
4	Storage hazards and control
5	Material Safety Data Sheet
6	Process and vessel hazards and control
7	Other hazard and control
8	Trade waste disposal
9	Records of past incident
10	Gas dispersion concentration
11	Evacuation table
12	Environment impact assessment
13	Weather condition
14	Incident controller
15	Deputy Incident Controller
16	Site Main Controller
17	Key personnel
18	Essential Worker
19	Safe Assembly Point
20	Emergency Control center
21	Fire and toxic control arrangements
22	Medical arrangements
23	Transport and evacuation arrangement
24	Pollution control arrangement
25	Other arrangement
26	Alarms and siren
27	Internal Phones
28	Nominated Persons to declare major emergency
29	Record of emergency telephone call form.
30	Statutory communication
31	Separation distance

Annexure 1

Identification of Factory

1	Name of Factory	OC SPECIALITIES PVT. LTD.		
2	Address	Plot No.E-18, Chincholi MIDC ,Tal: - Mohol, Dist:- Solapur-413255, (Maharashtra)		
3	Telephone No.	Not available		
4	Fax No.	Not available		
5	E -mail Id	chandrakant@ocspl.com,		
6	Full Name & address of occupier	Mr. Manish Shah. Mumbai.		
7	Full Name & Address of the Factory Manager	Mr. Chandrakant Kamble, Suncity, Solapur.		
8	Telephone No.	9923602899		
9	Manufacturing Process	Chemical Industry		
10	Shift Details			
Name Of Shift		Maximum workers /staff at a time		
		Male	Female	Total
General		45	2	47
First		39	Nil	39
Second		36	Nil	36
Third		28	Nil	28
Total		148	2	150

Annexure-2

Map of the area

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OC SPECIALITIES PVT.LTD.		
SOLAPUR		
FIRST AIDER LIST		
Sr.no	**NAME**	**DEPARTMENT**
1	ARJUN WALE	PRODUCTION
2	GANESH TADAKA	PRODUCTION
3	NAMDEV SONNE	PRODUCTION
4	SAMDHAN PATIL	PRODUCTION
5	SAYYAD KARBHARI	PRODUCTION
6	SOMNATH MALI	PRODUCTION
7	VAIJNATH DOKE	PRODUCTION
8	VINOD NIMBALKAR	QC
9	SHAKIR SAYYAD	QC
10	VIJAYASHRI KARANDE	ACCOUNT
11	SANTOSH KAWALE	MAINTANANCE
12	PRAMOD PAWAR	EHS
13	ANAND KANAKA	HR
14	SATISH PADASALGI	HR
15	PRASHANT INGALE	HR

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Annexure-4

Storage Hazards and control

RAW MATERIAL

Sr.no	Name of raw material	Actual quantity stored	Place of Store	State,Pressure and temperature	Type of Hazards	Control measure	Name of In charge	Cont.No
1	CAUSTIC SODA FLAKES	50 kg bag	Store & Godown	Solid pack in bags	Spillage	Packed in HDPE bags and store in ventitlated room.PPEs used while packing.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180
2	SILICA	10kg bag	Store & Godown	Solid pack in bags	Toxic,spillage	Packed in Paper with liner bags and store in ventitlated room.PPEs used while packing.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180
3	N,N DI ISO PROPYL ETHYL AMINE (DIPEA)	150 kg	Store & Godown	Liquid pack in drums	Fire,Spillage	Packed in HDPE well tested drums and store in well ventitlated room with FLP fitting.PPEs used while packing.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180

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4	DI ETHYL SULPHATE	250 kg drums	Store & Godown	Liquid,pack in drums/IBC	Fire,Spillage	Packed in HDPE well tested drums and store in well ventitlated room with FLP fitting .PPEs used while packing	Mr.Balasaheb Shendage	Mobile no - 91+8459614180
5	DI ISO PROPYLAMINE	145 KG DRUM	Store & Godown	Liquid,pack in drums/IBC	Fire,Spillage	Packed in well tested MS drums and store in well ventitlated room with FLP fitting.PPEs used while packing.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180
6	CAUSTIC SODA LYE	25 KL Storage Tank	Storage tank farm area	Liquid in tank	Spillage	Closed system covered with dyke wall.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180
7	ACTIVATED CARBON POWDER	25 KG bag	Store & Godown	Solid pack in bags	Fire,Spillage	Packed in HDPE bags and store in ventitlated room.Pressure suit used while packing.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180

8	2,6 DICHLORO BENZALDEHYDE	250 kg drums	Store & Godown	Liquid pack in drums	Fire,Spillage	Packed in well tested MS drums and store in well ventitlated room with FLP fitting .	Mr.Balasaheb Shendage	Mobile no - 91+8459614180
9	2,6 DICHLORO TOLUENE	172 kg drums	Store & Godown	Liquid pack in drums	Fire,Spillage	Packed in well tested MS drums and store in well ventitlated room with FLP fitting .	Mr.Balasaheb Shendage	Mobile no - 91+8459614180
10	CHLORINER TONNER	900 KG Tonners	Store & Godown	Gas in chlorine tonner	Spillage	Tonners stored in ventilated room.Pressure suit used while operation.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180
11	MCB (F)	200 kg drums	Store & Godown	Liquid pack in drums	Fire,Spillage	Packed in HDPE well tested drums and store in well ventitlated room with FLP fitting.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180

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12	Catalyst X (165 KG REJECTED)	Cartoon	Store & Godown	Solid pack in cartoon	Spillage	Packed in corrogative drum bags and stored in ventilated room.Pressure suit used while packing.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180
13	AMMONIA SOLUTION (LTR)	30 LTR CARBOY	Store & Godown	Liquid pack in drums	Spillage	Packed in well HDPE Carbo tested drums and store in well ventitlated room with FLP fitting.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180
14	CAT-X	25 kg bag	Store & Godown	Solid pack in bags	Spillage	Packed in HDPE bags and store in ventitlated room.Pressure suit used while packing.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180
15	PARAXYLENE	180 kg drums	Store & Godown	Liquid pack in drums	Fire,Spillage	Packed in well tested MS drums and store in well ventitlated room with FLP fitting.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180

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16	PARAFORMALDEHYDE	25 kg bag	Store & Godown	Solid pack in bags	Spillage	Packed in Paper with liner bags and store in ventitlated room.Pressure suit used while packing.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180
17	P E G -400	230 kg drums	Store & Godown	Liquid,pack in drums	Fire/Spillage	Packed in HDPE well tested drums and store in well ventitlated room with FLP fitting.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180
18	ZINC CHLORIDE	25 kg cartoon	Store & Godown	Solid pack in cartoon	Spillage	Packed in corrogative drum bags and stored in ventilated room.Pressure suit used while packing.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180
19	DI METHYL FORMAMIDE	200 kg drums	Store & Godown	Liquid pack in drums	Spillage	Packed in HDPE well tested drums and store in well ventitlated room with FLP fitting.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180

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20	TRI ETHYL AMINE	150 kg drum	Store & Godown	Liquid pack in drums	Fire,Spillage	Packed in well tested MS drums and store in well ventitlated room with FLP fitting.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180
21	HCL	25 KL Storage Tank	Storage tank farm area	Liquid in tank	Spillage	Closed system covered with dyke wall.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180
22	CAT-B	50kg drums	Store & Godown	Liquid pack in drums	Spillage	Packed in corrogative drum bags and stored in ventilated room.Pressure suit used while packing.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180
23	SODIUM BICARBONATE	50 kg bags	Store & Godown	Solid pack in bags	Spillage	Packed in HDPE bags and store in ventitlated room.Pressure suit used while packing.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180
24	POTASSIUM CARBONATE	25 kg bags	Store & Godown	Liquid,pack in drums	Spillage	Packed in HDPE well tested drums and store in well ventitlated room with FLP fitting.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180

25	PROPANIC ACID/01 drum 115 kg in store.	150 kg drum	Store & Godown	Liquid,pack in drums	Fire,Spillage	Packed in HDPE well tested drums and store in well ventitlated room with FLP fitting.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180
26	SULPHURIC ACID	50 kg carboys	Store & Godown	Liquid,pack in drums	Fire,Spillage	Packed in well tested MS drums and store in well ventitlated room with FLP fitting.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180
27	METHANE SULPHONIC ACID	250 kg drums	Store & Godown	Liquid pack in drums	Fire,Spillage	Packed in well tested MS drums and store in well ventitlated room with FLP fitting.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180
28	PHOSPHOROUS TRICHLORIDE	150 kg drums	Store & Godown	Liquid pack in drums	Fire,Spillage	Packed in well tested MS drums and store in well ventitlated room with FLP fitting.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180
29	METHANOL	166 kg	Store & Godown	Liquid pack in drums	Fire,Spillage	Packed in HDPE well tested drums and store in well ventitlated room with FLP fitting.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180

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30	CYLCO HEXANONE CYANOHYDRINE	200 kg drums	Store & Godown	Liquid pack in drums	Fire,Spillage	Packed in HDPE well tested drums and store in well ventitlated room with FLP fitting.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180
31	SODIUM BISULPHATE	50 kg bag	Store & Godown	Solid pack in bags	Spillage	Packed in HDPE bags and store in ventitlated room.Pressure suit used while packing.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180
32	COPPER SULPHATE	25 kg bags	Store & Godown	Solid pack in bags	Spillage	Packed in HDPE bags and store in ventitlated room.Pressure suit used while packing.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180
33	CALCIUM CHLORIDE	40 kg bags	Store & Godown	Solid pack in bags	Spillage	Packed in HDPE bags and store in ventitlated room.Pressure suit used while packing.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180
34	CYLCOPENTANONE	220 kg drum	Store & Godown	Liquid pack in drums	Fire,Spillage	Packed in HDPE well tested drums and store in well ventitlated room with FLP fitting.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180

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35	POTASSIUM PERMANGANATE PURE GRADE 99%	50 kg drums	Store & Godown	Liquid,pack in drums	Spillage	Packed in well tested HDPE CARBO and store in well ventitlated room with FLP fitting.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180
36	SODIUM CYANIDE	50 kg drums	Store & Godown	Solid,pack in drums	Spillage	Packed in well tested MS drums and store in well ventitlated room with FLP fitting.Use PPEs while handling.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180
37	ALCON INDUSTRIAL SOLVENT (PURE)	200 Kg drums	Store & Godown	Liquid,pack in drums	Fire,Spillage	Packed in HDPE well tested drums and store in well ventitlated room with FLP fitting.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180
38	ALCON INDUSTRIAL SOLVENT (REGULAR)	20 TONE	Store & Godown	Liquid,pack in tanks	Fire,Spillage	Packed in well tested MS Tank and store in well ventitlated room with FLP fitting.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180
39	CAT-P	50 kg bag	Store & Godown	Solid pack in bags	Spillage	Packed in HDPE bags and store in ventitlated room.Pressure suit used while packing.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180

40	THIONYL CHLORIDE (coloured)-129 kg	300 kg drum	Store & Godown	Liquid pack in drums	Spillage	Packed in well tested GI drums and store in well ventitlated room with FLP fitting.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180
41	ETHY PHENYL GLYOXYLATE 95%	250 kg drums	Store & Godown	Liquid pack in drums	Spillage	Packed in HDPE well tested drums and store in well ventitlated room with FLP fitting.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180
42	3-AMINO PYRIDINE	200 kg	Store & Godown	Semi Solid pack in drums	Fire,Spillage	Packed in HDPE carbo well tested drums and store in well ventitlated room with FLP fitting.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180
43	CAT-C-40% solution	55 kg drum	Store & Godown	Liquid pack in drums	Spillage	Packed in HDPE carbo well tested drums and store in well ventitlated room with FLP fitting.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180
44	CAT-D	25/50 kg bags	Store & Godown	Solid pack in bags	Spillage	Packed in HDPE bags and store in ventitlated room.Pressure suit used while packing.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180

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45	CAT-E	25 kg bags	Store & Godown	Solid pack in bags	Spillage	Packed in HDPE bags and store in ventitlated room.Pressure suit used while packing.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180
46	CAT-K	25/50 kg bags	Store & Godown	Solid pack in bags	Spillage	Packed in HDPE bags and store in ventitlated room.Pressure suit used while packing.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180
47	HYDROGEN PEROXIDE	50 kg carbo	Store & Godown	Liquid pack in drums	Spillage	Packed in well tested HDPE carbos and store in well ventitlated room with FLP fitting.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180
48	SALT	50 kg bags	Store & Godown	Solid pack in bags	Spillage	Packed in HDPE bags and store in ventitlated room.Pressure suit used while packing.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180
49	SODIUM NITRITE POWDER 98%	25 kg bag	Store & Godown	Solid pack in bags	Spillage	Packed in HDPE bags and store in ventitlated room.Pressure suit used while packing.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180

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50	ISOPROPYL ALCOHOL	160 kg drums	Store & Godown	Liquid pack in drums	Fire,Spillage	Packed in well tested MS Tank and store in well ventitlated room with FLP fitting.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180
51	HYDRAZINE HYDRATE 100 %	200 Kg drums	Store & Godown	Liquid,pack in drums	Fire,Spillage	Packed in HDPE well tested drums and store in well ventitlated room with FLP fitting.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180
52	N-BUTANOL	165 kg drums	Store & Godown	Liquid pack in drums	Fire,Spillage	Packed in HDPE well tested drums and store in well ventitlated room with FLP fitting.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180
53	1 DEGALAN VP	25 kg bag	Store & Godown	Solid pack in bags	Spillage	Packed in well tested HDPE CARBO and store in well ventitlated room with FLP fitting.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180
54	ETHYL ACETATE	205 kg drums	Store & Godown	Liquid,pack in drums	Fire,Spillage	Packed in HDPE well tested drums and store in well ventitlated room with FLP fitting.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180

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55	DE FOMER	200 kg drum	Store & Godown	Liquid pack in drums	Spillage	Packed in HDPE well tested drums and store in well ventitlated room with FLP fitting.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180
56	HYDRATED LIME	50 kg bags	Store & Godown	Solid pack in bags	Spillage	Packed in HDPE bags and store in ventitlated room.Pressure suit used while packing.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180
57	NITRIC ACID	70 kg drum	Store & Godown	Liquid,pack in drums	Spillage	Packed in well tested HDPE CARBO and store in well ventitlated room with FLP fitting.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180
58	Sodium chloride	50 kag bag	Store & Godown	Solid pack in bags	Irritant, Spillage	Packed in HDPE bags and store in ventitlated room.Pressure suit used while packing.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180
59	Ethyl chloro formate	200 kg drums	Store & Godown	Liquid pack in drums	Fire,Spillage	Packed in HDPE well tested drums and store in well ventitlated room with FLP fitting.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180

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60	Tetra Buttyl Ammonium Bromide	50 kg	Store & Godown	Solid pack in carbo	Spillage,Irritant	Packed in FDB well tested drums and store in well ventitlated room .Pressure suit used while packing.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180
61	Levuline acid (100%)	200 kg drum	Store & Godown	Liquid pack in drums	Spillage,Irritant	Packed in HDPE well tested drums and store in well ventitlated room .Pressure suit used while packing.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180
62	Acetic acid	35 kg	Store & Godown	Liquid pack in drums/carbo	Fire,Spillage	Packed in HDPE well tested carbo and store in well ventitlated room with FLP fitting.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180
63	Bromine	6 kg per bottel	Store & Godown	Liquid pack in glass bottel	Spillage,Toxic	Packed in well tested glass bottel and store in well ventitlated room with FLP fitting.Pressure suit used while packing.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180

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64	Potassium acetate	25 kg	Store & Godown	Solid pack in bags	Spillage	Packed in HDPE bags and store in ventitlated room.Pressure suit used while packing.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180
65	Methyl Ethyl Ketone	180 kg drums	Store & Godown	Liquid pack in drums	Fire,Spillage	Packed in HDPE well tested drums and store in well ventitlated room with FLP fitting.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180
66	Di ethyl oxalate	200 kg	Store & Godown	Liquid pack in drums	Fire,Spillage	Packed in HDPE well tested drums and store in well ventitlated room with FLP fitting.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180
67	Acetone	160 kg drums	Store & Godown	Liquid pack in drums	Fire,Spillage	Packed in well tested MS drums and store in well ventitlated room with FLP fitting.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180

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68	Dimethyl Sulphate	250 kg drums	Store & Godown	Liquid pack in drums	Fire,Spillage,Toxic	Packed in HDPE well tested drums and store in well ventitlated room with FLP fitting.Pressure suit used while packing.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180
69	MOD	25 kg	Store & Godown	Solid pack in bags	Spillage	Packed in HDPE bags and store in ventitlated room.Pressure suit used while packing.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180
70	Ethyl diamine tetra acetic acid	25 kg	Store & Godown	Solid pack in bags	Spillage	Packed in Paper with liner bags and store in ventitlated room.Pressure suit used while packing.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180
71	Cyclopentanone	200 kg	Store & Godown	Liquid pack in drums	Fire,Spillage	Packed in HDPE well tested drums and store in well ventitlated room with FLP fitting.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180

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FINISHED PRODUCTS

Sr.no	Name of product	Actual quantity stored	Place of Store	State,Pressure and temperature	Type of Hazards	Control measure	Name of In charge	Cont.No
1	DIPEA	150 kg drums	Store & Godown	Liquid,pack in drums/IBC	Fire,Spillage	Packed in HDPE well tested drums and store in well ventitlated room with FLP fitting.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180
2	NABR -POWDER	Jumbo Bag	Store & Godown	Solid pack in bags	Spillage	Packed in HDPE bags and store in ventitlated room.Pressure suit used while packing.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180
3	2,3 DCP	1000 ltr.IBC	Store & Godown	Liquid,pack in drums/IBC	Fire,Spillage, Toxic	Packed in well tested IBC and store in well ventitlated room with FLP fitting.Pressure suit used while packing.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180

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4	EPG (Ethyl phenyl glyoxalate)	1000 ltr.IBC	Store & Godown	Liquid,pack in drums	Fire,Spillage	Packed in HDPE well tested drums and store in well ventitlated room with FLP fitting.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180
5	2,6 DCBC	250 kg drums	Store & Godown	Liquid,pack in drums	Fire,Spillage,Toxic	Packed in HDPE well tested drums and store in well ventitlated room with FLP fitting.Pressure suit used while packing.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180
6	OHPA	50 kg paper bag	Store & Godown	Solid pack in bags	Irritant,Fire, Spillage	Packed in Paper bags and store in ventitlated room.Pressure suit used while packing.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180
7	3-CHP	550 kg Jumbo bag	Store & Godown	Solid pack in bags	Fire,Spillage	Packed in antistatic liner bags and store in ventitlated room.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180

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8	C5	200 kg drums	Store & Godown	Liquid,pack in drums/IBC	Fire,Spillage	Packed in HDPE well tested drums and store in well ventitlated room with FLP fitting.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180
9	C6	1000 ltr.IBC	Store & Godown	Liquid,pack in drums/IBC	Fire,Spillage	Packed in well tested IBC and store in well ventitlated room with FLP fitting.Pressure suit used while packing.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180
10	M2CP	200 ltr drum	Store & Godown	Liquid,pack in drums/IBC	Fire,Spillage	Packed in HDPE well tested drums and store in well ventitlated room with FLP fitting.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180
11	E2CP	200 ltr drum	Store & Godown	Liquid,pack in drums/IBC	Fire,Spillage	Packed in HDPE well tested drums and store in well ventitlated room with FLP fitting.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180
12	PIC K1	200 kg drums	Store & Godown	Liquid,pack in drums/IBC	Fire,Spillage	Packed in HDPE well tested drums and store in well ventitlated room with FLP fitting.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180

13	OC 25	1000 ltr.IBC	Store & Godown	Liquid,pack in drums/IBC	Fire,Spillage, Toxic	Packed in well tested IBC and store in well ventitlated room with FLP fitting.Pressure suit used while packing.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180
14	BRMP	25 kg bags	Store & Godown	Solid pack in bags	Irritant,Spillage,Toxic	Packed in well tested HDPE woven bags and store in well ventitlated room with FLP fitting.Pressure suit used while packing.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180
15	MMO	200 kg drums	Store & Godown	Liquid,pack in drums.	Fire,Spillage	Packed in HDPE well tested drums and store in well ventitlated room with FLP fitting.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180
16	ETHYL-2,4 DIOXOHEXANOATE	200 ltr drum	Store & Godown	Liquid,pack in drums.	Fire,Spillage	Packed in HDPE well tested drums and store in well ventitlated room with FLP fitting.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180

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17	2,4,6 Trimethyl pheny acetyl chloride	1000 ltr.IBC	Store & Godown	Liquid,pack in drums.	Fire,Spillage	Packed in well tested IBC and store in well ventitlated room with FLP fitting.Pressure suit used while packing.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180
18	AMIDO CHLORIDE	Jumbo Bag	Store & Godown	Solid pack in bags	Spillage	Packed in antistatic liner bags and store in ventitlated room..Pressure suit used while packing.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180
19	2-Methoxy propionic acid (MEPRA)	200 kg drums	Store & Godown	Liquid,pack in drums.	Irritant,Fire, Spillage	Packed in HDPE well tested drums and store in well ventitlated room with FLP fitting.Pressure suit used while packing.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180
20	N-Methyl 2 oxo-2Phenyl Acetamide (NMOPA)	30kg Carbo	Store & Godown	Solid pack in bags	Spillage	Packed in corrogative drum bags and stored in ventilated room.Pressure suit used while packing.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180

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21	4 Sulfamido Benzoic acid (PCBA)	30kg Carbo	Store & Godown	Solid pack in bags	Fire,Spillage	Packed in corrogative drum bags and stored in ventilated room with FLP fitting	Mr.Balasaheb Shendage	Mobile no - 91+8459614180
22	3-Methyl Pyridazine (3 MP)	200 kg drums	Store & Godown	Liquid,pack in drums.	Fire,Spillage	Packed in HDPE well tested drums and store in well ventitlated room with FLP fitting.Pressure suit used while packing.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180

BY PRODUCTS

Sr.no	Name of product	Actual quantity stored	Place of Store	State,Pressure and temperature	Type of Hazards	Control measure	Name of In charge	Cont.No
1	Spent HCL	15 kl HDPE tank	Opposite	Liquid stored in HDPE tank	Spillage, Corrosive, Irritant	Closed system covered with dyke wall.	Mr.Balasaheb Shendage	Mobile no - 91+8459614180

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Fire extingusher details

E- 18			
Sr. No.	Type of Fire Extinguisher	Capacity	Qty
1	ABC	2 KG	7 nos
2	ABC	4 KG	8 nos
3	ABC	6 KG	37 nos
4	CO2	4.5 KG	15 nos
5	FOAM	9 LIT	8 nos
6	FOAM	50 LIT	1 nos
		Total	76 nos

E 16			
Sr. No.	Type of Fire Extinguisher	Capacity	Qty
1	ABC	2 KG	1
2	ABC	4 KG	2
3	ABC	6 KG	8
4	CO2	4.5 KG	4
5	FOAM	9 LIT	1
6	FOAM	50 LIT	2
		Total	18

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OHC

Sr. No.	Description	Qty
1	OHC Room	250 sq. ft.
2	Beds	2 nos
3	Oxygen Cylinder	2 nos
4	Cynide Antidote kit	4 nos
5	Stretcher	1 no
6	Blood pressure machine	1 no
7	Eye wash bottle	2 no

PPES	
Personal Protective Equipment	Nos. Available at Site
Safety Shoes, Safety Helmet , Safety Goggles	Provided to all employees
Ear Plug, Ear Muff	Provided to Utility & Boiler employee and as per job requirement.
Full Body Pressure Suits , Bubble hood, Face Shield,	Provides as per job requirement
Cartridge Mask, Dust Mask	Provides as per job requirement
SCBA (Self contained Breathing Apparatus)	4 Nos. 45 min duration
Rubber hand gloves, Natrile hand gloves, Cotton hand gloves, Leather hand gloves, Surgical hand Gloves	Provides as per job requirement
Electrical Hand gloves	Can work up to 33 KV, 2 pairs
Safety Belt	Provides as per job requirement working above 2 m Height

Annexure -7					
OTHER HAZARDS AND CONTROL					
Sr.no	**Name of possible Hazards**	**Its Source &resons**	**Place of effect**	**control measures provided**	**Incharge Name and Designation**
1	Fire	Solvent tanker unloading operatin Spark due to static electricity	Solvent Yard	1.Earthing and bonding physically checked by electric department. 2. Earthing relay provided. 3. unloading permit implemented.4.Fire hydrant System,Fire Extinguishers,Foam Monitorand Trained Fire fighter round the clock	Mr. Bhaskar Godbole (AGM Production)
2	Acid- Alkali spillage	storage tank,drums due to leakages.	tank farm ,plant,RM godown	Tank farm surround by dyke.Tank integrity checked periodically as per MI schedule. Plant personnal trained to handle hazardous material.PPE's stock maintained.	Mr. Bhaskar Godbole (AGM Production)
3	Chlorine Gas Leak	Chlorine tonners leakage	Chlorine Station	Alkaline solution pit with sufficient qty. of solution,Chlorine sensor & alarms,Chlorine Kit,SCBA,Air pressure suit,Trained personnel each shift available.	Mr. Bhaskar Godbole (AGM Production)

ANNEXURE-8

TRADE WASTE DISPOSAL

Sr.No.	Type and nature of trade waste	Generation /Day	Place of generation	Place of disposal	Treatment method /Storage	Monitoring & control measures	Name & Designation	Tel. No.
A	**Solid**							
1	ETP sludge	500 kg	ETP	Disposal Through authorized agency	Stored in a impervious solid waste store yard.	Daily	Pravinkumar Patil	8390591510
2	ATFD Dry powder	500 Kgs	MEE	Disposal Through authorized agency	Stored in a impervious solid waste store yard.	Daily	Pravinkumar Patil	8390591510
B	**Liquid**							
1	Process Residue	600 kg	Production Block	ETP	Stored in a IBC at impervious solid waste store yard.	Daily	Pravinkumar Patil	8390591510
2	Effluent From ETP	10kl	Production Block	CETP	Treated at Effluent treatment Plant and reuse in cooling tower	Daily	Pravinkumar Patil	8390591510
C	**Gases**							
1	HCL	2000 ltr. (30%)	HCL Scrubber Plant	Scrubber system	Scrubbed HCL gas in Scrubber system.	Daily	Mr. Arjun Wale	8378984311
2	Ammonia	500 ltr. (15-17%)	Ammonia scrubber system	Ammonia Scrubbing system	Scrubbed ammonia in ammonia Scrubber System	Daily	Mr. Arjun Wale	8378984311

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Annexure -9
Record of Past incident

Sr.No.	Type of incident (Majopr accident ,emergency or disaster)	Date and time of occurance	Its place	Duration	Time required in controlling it	No.s of workers working at that time	Person affected		Persons died		Effects on servivers		Subsequent safety measure provided	Other details if any like antidotes used etc.
							Inside factory	Outside factory	Inside factory	outside factory	Immidiae	Delayed		

Annexure - 11

Evacuation table

EVACUATION TABLE BASED ON PREVAILING WIND OF 6 TO 17 m/hr			
Factory Lay out	Radius of immediate danger area –Km	Dimension of evacuation area	
		Downwind (Km)	Cross wind (Km)

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Annexure-12

Environment Impact Assesment

Sr. No.	Distance (Radius) from the factory Factory lay out	Environment (employees,neibouring, factory,residential colony ,village,water resourses, river, school, hospital, public place,vegitable,food market,crops,tall structure etc.)	Population with composition						Possible consequances and assesment					Type of control	
			Day time			Night time			Type of risk and effect possible	Duration of risk	Risk assesment			Available in the factory	Required from outside.
			Healthy	Vulnerable	Total	Healthy	Vulnerable	Total			Nos.of people ,name and amount(Rs) of property and other environment that day be affected	Frequency of the hazard (i.e.one such incident in what time)	Acceptable criteria		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

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Annexure-14

Incident Controller

Sr. Nos.	Name	Designation	Intercom	Mobile	Res.Add
1	Mr. Bhaskar Godbole	AFGM Production	28	8390591693	Solapur
2	Mr. Arjun Wale	Manager Production	18	8378984311	Bale, Solapur.

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Annexure -15

Deputy Incident controller

Sr.Nos.	Name	Qualification	Designation	Phon Fact.	Mobile no.	Resi.Address	Shift
1	Indrajit Patil	BE Chemical Engg	Officer	37		Solapur	A,B C
2	Ganesh Vitthal Tadka	Msc	Asst. Manager	40	9028956627	Solapur	A,B C
3	Sachin Jadhav	BE Chemical Engg	Asst. Manager	38	9689180867	Solapur	A,B C
4	Piyush Kapase	BE Chemical Engg	Asst. Manager	37	8421971587	Solapur	A,B C
5	Pankaj Maheshchandra Gupta	BE Chemical Engg	Dy. Manager	18	8956023051	Solapur	A,B C
6	Pranay Katkojwar	BE Chemical Engg	Executive	38		Solapur	A,B C
7	Suesh Abhiman Gund	BE Chemical Engg	Executive	38		Solapur	A,B C
8	Somnath Nana Asabe	BE Chemical Engg	Executive	37		Solapur	A,B C
9	Sayyed Karbhari	BE Chemical Engg	Officer	37	7875749670	Solapur	A,B C
10	Imran Fakir	Dip. Chemical Engg.	Executive	40	9823893146	Mohol	A,B C
11	Anand Adhlinge	Bsc.Chemistry	Officer	37	9923215445	Mohol	A,B C

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Annexure-16

Site Main Controller

Sr.Nos.	Name	Designation	Intercom	Mobile	Address
1	Mr. Chandrakant Kamble	Factory Manager	14	7045745507	Suncity, Solapur.

Annexure – 17

Key personnel

Sr. No.	Department	Name	Designation	Ext.No.	Mobile	Address
1	Operation	Mr. Biswajit Bhattacharya	Unit Head	11	9158890891	Solapur
2	Project	Mr. Chandrakant Kamble	Factory Manager	14	7045745507	Solapur
3	Production	Mr. Bhaskar Godbole	AGM	28	9404290273	Solapur
4	Production	Mr. Tapankumar Maity	Sr. Manager	26	7567590708	Solapur
5	Production	Mr. Arjun Wale	Manager	18	8378984311	Solapur
6	EHS	Mr. Pravinkumar Patil	Manager	16	8390591510	Solapur
7	QC	Mr. Vinod Nimbalkar	Manager	30	9689164189	Solapur
8	HR	Mr. Anand Kanaka	Dy. Manager	13	9970174232	Solapur
9	Purchase	Mr. Sachin Gaisamudre	Dy. Manager	12	9527693957	Solapur
10	Engineering	Mr. Khairul Basar	Dy. Manager		9022930355	Solapur
11	Engineering	Mr. Sanjit Manna	Dy. Manager	22	9022930356	Solapur
12	Production	Mr. Pankaj Gupta	Dy. Manager	18	9022930353	Solapur
13	Process	Mr. Pradeep Maske	Dy. Manager	27	9421354877	Solapur
14	SCM	Mr. Dattatraya Harkud	Executive		8459614177	Solapur

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Annexure-18

Essential employees

Sr. No.	EmployeeName	Department	Designation
1	Biswajit Bhattacharya	Sr. V.P.	Operation
2	Pandit Mahadeo Hanjage	Officer	Production
3	Shital Ramchandra Sathe	Operator	Production
4	Amar Dattatrya Paul	Operator	Production
5	Sandeep Kumar Singh	Jr. Officer	Production
6	Vaijinath Hanumant Doke	Officer	Production
7	Somnath Kushal Mali	Jr. Officer	Production
8	Namdev Navanath Sonne	Officer	Production
9	Avinash Vasant Sathe	Officer	Production
10	Ambadas Mohan Yalla	Operator	Production
11	Rakesh Jagdish Kushvah	Operator	Production
12	Ajay Shrimaladin Kushvah	Jr. Officer	Production
13	Pandurang Kalyan Chougule	Operator	Production
14	Saudagar Bajirao More	Operator	Production
15	Ram Nagnath Patil	Operator	Production
16	Shivaji Sugriv Narwade	Operator	Production
17	Ajit Ramachandr Mane	Operator	Production
18	Vishal Rajendra Jadhav	Operator	Production
19	Raju Rambilas Tadamali	Operator	Production
20	Suresh Gurunath Borkar	Jr. Officer	Production
21	Dattatray Ananta Pagade	Jr. Officer	Production
22	Samadhan Rajabhu Patil	Operator	Production
23	Satish Ramdas Reddy	Jr. Officer	Production
24	Sayyed Ieesmaieel Karbhari	Officer	Production
25	Hanumant Angad Chunge	Operator	Production
26	Ramchandra Ambadas Waghmare	Jr. Officer	Production
27	Dattatray Kashinath Koli	Operator	Production
28	Vishal Vishwanath Dhavan	Operator	Production
29	Swapnil Vernekar	Operator	Production
30	Sagar Sanajay Raje	Operator	Production
31	Santosh Chavan	Operator	Production
32	Nagnath Kshirsagar	Operator	Production
33	Narayan Nivrutti Chavan	Operator	Production
34	Imran Rukmoddin Fakir	Executive	Production
35	Anand Pandharinath Adalinge	Officer	Production
36	Pandurang Shivaji Navgire	Operator	Production
37	Aadesh Jayant Jape	Jr. Operator	Production
38	Mahadev Janardhan Patmas	Operator	Production
39	Sarjerav Laxman Mane	Operator	Production
40	Prashant R. Ghogare	Operator	Production
41	Pravin Laxman Chande	Operator	Production
42	Amol Dnyaneshwar Bhosale	Operator	Production
43	Indrajit Patil	Officer	Production
44	Arjun Guruling Wale	Manager	Production

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45	Ganesh Vitthal Tadka	Asst. Manager	Production
46	Sachin Jadhav	Asst. Manager	Production
47	Piyush Kapase	Asst. Manager	Production
48	Tapan Kumar Maiti	Sr. Manager	Production
49	Pankaj Maheshchandra Gupta	Dy. Manager	Production
50	Pranay Katkojwar	Executive	Production
51	Suesh Abhiman Gund	Executive	Production
52	Somnath Nana Asabe	Executive	Production
53	Bhaskar Godbole	Asst. General Manager	Production
54	Gajanan Bhosale	Operator	Production
55	Satyashil Yakub Minge	Jr. Officer	Maintenance
56	Krishna Balaprasad Kusba	Operator	Maintenance
57	Shrishail Shantappa Mali	Jr. Officer	Maintenance
58	Dilip Mahadev Aldar	Jr. Officer	Maintenance
59	Balasaheb Nivruti Khandeker	Fitter	Maintenance
60	Santosh Madhukar Kavale	Jr. Officer	Maintenance
61	Vilas Gurunath Birajdar	Jr. Officer	Maintenance
62	Anand Dattatray Neware	Fitter	Maintenance
63	Ratanesh Kumar Jayhind	Fitter	Maintenance
64	Krishnkumar Singh	Fitter	Maintenance
65	Akshay Baddal	Officer	Maintenance
66	Sunil Chanmal	Officer	Maintenance
67	Shahnawaz Nadaf	Officer	Maintenance
68	Chandrashekhar Shambhu Shah	Fitter	Maintenance
69	Ajay Jayhind Yadav	Fitter	Maintenance
70	Pawan Kumar Mandal	Fitter	Maintenance
71	Ramprakash Prajapati	Executive	Maintenance
72	Arvind Kumar Prasad	Fitter	Maintenance
73	Johnson Joseph Paul	Fitter	Maintenance
74	Shubham Chandrakant Kulkarni	Officer	Maintenance
75	Utkarsh Tiwari	Asst. Manager	Maintenance
76	Balbhim Kale	Executive	Maintenance
77	Sanjit Kumar Manna	Dy. Manager	New Development
78	Saifan Gani Masalikar	Electrician	Electrical
79	Savala Jaganath Kumbhar	Officer	Electrical
80	Ravindra Vitthal Kashid	Jr.Officer	Electrical
81	Tukaram Devidas Jadhav	Jr.Officer	Electrical
82	Ram Anand Waghmode	Electrician	Electrical
83	Suhas Sathe	Electrician	Electrical
84	Khairul Basar Mollah	Dy. Manager	Electrical
85	Satish Kumar Devdurgkar	Officer	Instrument
86	Prashant Sukhdev Ingle	Operator	HR
87	Anand Kanaka	Dy. Manager	HR
88	Kedar Nagnath Upase	Jr. Officer	HR
89	Pravin Patil	Manager	EHS
90	Pramod Pawar	Executive	EHS
91	Sachin Gaisamudre	Dy. Manager	Purchase
92	Pandurang Awatade	Asistant	Purchase

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93	Santosh Singeshwar Barma	Chemist	QA/QC
94	Akash Bandpatte	Officer	QA/QC
95	Bandu Shridhar Patil	Chemist	QC & QA
96	Vinod Umashankar Nimbalkar	Manager	QC & QA
97	Arvind Tanaji Devkar	Jr.Officer	QCD
98	Ulhas Dilip Byale	Executive	QCD
99	Mustajibahmed Jahangir Shaikh	Jr.Officer	QCD
100	Shakir Ismail Sayyad	Executive	QCD
101	Sandip Namdev Khatal	Chemist	QCD
102	Akshay Dashrath Patil	Chemist	QCD
103	Dattatray Ravikiran Harkud	Sr.Executive	SCM
104	Suraj Shinde	Executive	Stores
105	Bharat Gaikwad	Fork Lift Operator	Stores
106	Balaji Chavan	Fork Lift Operator	Stores
107	Balasaheb Shendage	Executive	Stores

Annexure-19

Safe Assemble Points.

Sr. No.	Location	Accomodations Capacity	Incharge	Address
1	Near Main Gate no 1 (security Office)	100 persons	Security Dept.	Solapur

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Annexure- 20

Emergency Control Center

Location of center : Main gate near security cabin.

Telephone nos. of ECC : 31

Sr. no.	Item kept in the center	Quantity	Remark
1	Helmets	20 No.	
2	Rubber Hand Gloves	10 Pair	
3	PVC Hand Gloves	10 Pair	
4	Safety Goggles	20 No	
5	SCBA	3 No	
6	Cotton dust mask	25 No	
7	ABEK Type vapor mask	15 No	
8	Emergency plan	1 No	
9	MSDS	1 No	
10	Note pad	2 No	
11	Gumboot	5 pair	
12	Plant layout copy	1 No	
13	Fire Hydrant map	1 No	

Annexure-21

Fire and Toxic Control Arrangements

Independent reservoir of water capacity : 200 M^3

Jockey pump : 10.8 M^3/ hr

Main electrical fire Hydrant pump : 171 M^3/ hr

Fire Hydrant Sprinkler pump : 171 M^3/ hr

Diesel operated fire pump : 171 M^3/ hr

SCBA set : 04 numbers + 4 Spare Cylinder

Mobile Foam Trolley : 02

Fire extinguisher Available : ---

ABC		**CO_2**		**FOAM**	
Capacity	Numbers	Capacity	Numbers	Capacity	Numbers
2 Kgs	5	4.5 Kgs	9	9 Lit.	14
4 Kgs	8			50 Lit	3
6 Kgs	21				

Annexure-22
Medical Arrangement

Occupational Health Center:--

Location : Admin Building
Intercom Phone : 31
Mobile : 8378984301
Name of FMO : Dr. Ganesh Aitwade
Phone : (02189) 232992
Moblie : 9922178617
OHC In charge : Mr. Pravinkumar Patil
Intercom Phone : 16/17
Moblie : 8390591510

Facilities & equipment:-

1. Oxygen Kit : 1No
2. Spare Oxygen cylinder : 1No
3. Ambu bags : 1No
4. Bed : 2No
5. B.P. Instrument : 1No
6. Pulse oximeter : 1No
7. Stethoscope : 1No

First aider list

OC Specialities Pvt. Ltd.,		
Solapur		
FIRST AIDER LIST		
Sr .No.	**Name**	**Department**
1	CHANDRAKANT KAMBLE	Maintenance (HOD)
2	VINOD NIMBALKAR	Quality Assurance (HOD)
3	ARJUN WALE	Production (HOD)
4	ARVIND TANAJI DEOKAR	Quality Assurance
5	ABHISHEK VIVEK GANGAREDDY	HR
6	SIDDHESHWAR CHANGADEO MALI	Production Block B
7	SAVALA JAGANNATH KUMBHAR	Electrical
8	KHANDERAO DAGDU LAMBTURE	Security
9	DILIP MAHADEV ALADAR	Maintenance
10	SANJAY MANGAL THAKUR	Production Block CD
11	TUKARAM DEVIDAS JADHAV	Electrical
12	IMRAN SALIM PATHAN	Stores
13	PANDIT MAHADEV HANJAGE	Production Block A

Annexure-23
Transport and Evacuation arrangement –Ambulance

Sr.No.	Location	Capacity	Facilities	Driver
1	**1)** MIDC Chincholi Fire Brigede P-9, MIDC Industrial Area, Midc Chincholi, Solapur. Phone:- (02181) 2357123, 2357101	1	First aid box Stretcher Oxygen Kit	Fire Brigede Driver

Other Facilities

Sr.no.	Type of vehicle	Capacity	Location	Intercom	Phone	In-charge	Dept.
1	Godrej Fork lift	2000 kgs	Store		8459614177	Dattatray Harkud	Store
2	Godrej Fork lift	2000 Kgs	Store		8459614177	Dattatray Harkud	Store
3	Honda city	4+1	Main gate	13	9970174232	Anand Kanaka	HR
4	Tata sumo	9+1 persons	Main gate	13	9970174232	Anand Kanaka	HR

Doctors / Hospital nearby Factory

Sr.No	Name of Doctors / Hospital	Res Add.	Phone
1	Civil Hospital , Solapur.	B-1 Building Qtr 12, 2nd Floor, North Sadar Bazar,, Solapur, Maharashtra 413003	Telephone: - 0217 231 9060
2	Yashodhara Superspeciality Hospital, solapur.	Sidheshwar Peth, Solapur. Maharashtra. 413001	Telephone: - (0217)-2323001/02/03 (0217)-2323231 Mob : - +(91)-9730699992
3	Ashwini Hospital Ani Sanshodhan Kendra Niya. Solapur	Survey No 7107/1 Tank Plot No 180, Near Saatrasta Chowk, Sadar Bazar, Solapur - 413003, North Sadar Bazar	Telephone: - (0217)2319900, 2319901, 2319902, 2319903, 2319904, 2319905, 2319983 Mob : - +(91)-955255503
4	Pradhan Eye Hospital And Lasik Laser Center	#50, Railway Lines Solapur, Solapur Maharashtra, 413001	Telephone: - (0217) -2720350, 2724622 Mob : - +91 9881004304
5	Dr. Dhepe Skin Clinic	Station Road, Old Employment Chowk, Near Kamat Hotel , Solapur- 413001	Telephone: - (217) -2313939, 2724810 Mob : -+(91)-9890225566
6	Chidgupkar Hospital , solapur.	Plot No 190, Samrat Chowk, Budhwar Peth, Solapur – 413002	Telephone: - (217) -2326841 Mob : -+(91)-9850888500

Annexure-24

Pollution control arrangements

A – Water pollution control.

Sr. no	System	Capacity	Log Book	Make	Incharge name
1	MEE	95Kl /Day	Yes	KEP	Mr. Pravinkumar
2	ATFD	900 Kgs/hr.	Yes	KEP	Mr. Pravinkumar

B- Air Monitoring

Sr. No.	Place of sample monitoring	Freq.	Instrument available	Log Book & Records	Incharge Name	Address	Phone
1	Near Main gate	Quarterly by third party	PM,SOX,NOX	Yes	Mr. Pravinkumar	Solapur	8378984311

C- Stack monitoring

Sr. no.	Sampling place	Freq. of sampling	Log BooK& Records	In charge Name	Address	MPCB permission obtained
1	DG Set	Quarterly	Reports for Authorized Agency available	Mr. Pravinkumar Patil.	Solapur	Yes
2	Boiler Chimney	Quarterly	Reports for Authorized Agency available	Mr. Pravinkumar Patil.	Solapur	Yes
3	Process stack	Quarterly	Record maintain	Mr. Pravinkumar Patil.	Solapur	Yes
4						
5						

Annexure-25
Other arrangement /Mutual aid arrangement

Sr. no.	Types and name of arrangement available	Quantity	Place of available	Phone Nos
1	SCBA	04	Main gate: 1 A block : 1 B block : 1 C block : 1	
2	Gas Detector	1	Safety Office	Ext.16/17

?

Annexure-26
ALARMS & SIREN

Sr. No	Location	Qty	Period of check	Duration of sounding	Types of sounding	Type of siren
1	OHC	1	Monthly	½ Minute	warning sounds	Electrical Alert alarm
2	Reception (Admin building)	1	Monthly	½ Minute	warning sounds	Electrical Alert alarm
3	Store	1	Monthly	½ Minute	warning sounds	Electrical Alert alarm
4	Admin top (Main Gate No 1)	1	Tuesday day	1-Minute	Emergency siren	Electrical Alert alarm

???

OC SPECIALITIES PVT. LTD., SOLAPUR

Intercom No list

Sr. No.	Department	Ph. No.
1	Sr.VP Sir	**11**
2	Purchase	**12**
3	HR/Admin	**13**
4	Project (Kamble C.)	**14**
5	Pravin Patil	**16**
6	Safety (HSE)	**17**
7	Production (Arjun Wale)	**18**
8	Account	**19**
9	Engg. Electric / Inst.	**21**
10	Engg. Ghodke / Parmeshwar	**22**
11	Trainee Engg.	**24**
12	Tapan K. Maiti	**26**
13	Pradeep Maske	**27**
14	Sanjiv kumar Jire	**28**
15	Conference Room (QC)	**29**
16	Lab Instrument / Nimbalkar V.	**30**
17	Security Main Gate	**31**
18	Boiler Room	**32**
19	Store	**33**
20	MEE Plant	**35**
21	Pilot	**36**
22	A - Block	**37**
23	B - Block	**38**
24	C - Block	**39**
25	D - Block	**40**
26	Utility / Maint. Plant	**41**
27	Reciption	**99**

Annexure 28

External phones

Sr. No	Name	Contac No.
1	Collector Office	0217-2731002
2	Police Station- Mohol	(02189) 232233
3	Factory Inspector	02184-220289
4	MIDC Water	(0217) 2357201
5	MIDC Fire Brigade (Near Somani Industries)	(02181) 2357123, (02181) 2357101
6	Fire Brigade (Ravivar Peth- Solapur)	(0217) 2721117
7	Fire Brigade (Sakhar Peth)	(0217) 2740364
8	Ambulance	(0217) 2721051, (0217) 2631824
9	Yashodhara Hospital	(0217) 2323001/2/3
10	Ashwini Hospital	(0217) 2319900, (0217) 2319907
11	Mr. Pravinkumar Patil	08390591510
12	Mr. Bhaskar Godbole	8390591693
13	Mr. Arjun Wale	08378984311
14	Mr. Anand Kanaka	9970174232
15	Mr. Chandrakant Kamble	09923602899
16	MSEB	0217-2357279

Annexure-29

Nominated Persons to Declare Major Emergency

Sr. No.	Name	Designation	Intercom	Mobile	Res.Address
1	Mr. Chandrakant Kamble	Factory Manager	14	7045745507	Suncity, Solapur
2	Mr. Biswajit Bhattacharya	Sr. Vice President	11	9158891891	solapur
3	Mr. Bhaskar Godbole	AGM Production	28	8390591693	Solapur

Annexure 30

A form to record emergecy telephone call

Part A: Essential Information	
Details of call as reported	
caller's Name and Designation	_____ Time _____ Ph. No. _____
Purpose of call Is any advice required immidiately?	
Name of chemical To be split out clearly	
Brief discription of incident	
Fire/expiosion/liquid spill/gas release	
Quantity involved	
Packing /storing/handling/using details	
Location of incident	
Cause if known in brief	

PartB : Information to be obtained if readily available			
Is any has been injured ?	Yes/No	If Yes,How many?	
Affected by chemicals?	Yes/No	If Yes,How many?	
Has any one been shifted to Hospital?	Yes/No		
If Yes ,Address of the hospital			
Is the road blocked?	Yes/No	Closed to traffic?	Yes/No
Who owns the chemicals? Has the owner been informed?			
If caused by vehicle	Yes/No		
Vehicle no.		Name & address of the owner	
Has the owner been informed?	Yes/No		
To whom was the loas consigned?			

ENCLOSURE-VIII- English Translation of NOC Letter from MIDC for develpment of GB on Plot OS-23

Maharashtra Industrial Development Corporation
(Gov. of Maharashtra Adopted**)**

Email-amsolapur@midcindia.org
Phone No.:0217-2391161

Outward No. MIDC/202112001836/2021
MIDC, Office of Field Administrator, Konda Nagar, Akkalkot Road, Common Facility Centre, Solapur.
Date:02.08.2021

To,
O C Specialities Pvt Ltd
Plot no E-17/18 MIDC
Chincholi, Tal-Mohol
Dist- Solapur.

Subject: - No Objection Certificate for Chincholi Industrial Area Tree Planting

The corporation has decided to implement a green MIDC campaign by planting good quality trees on the reserved spaces in the industrial area of the corporation. As you have agreed to plant trees on Open Space No. OS-23 Area 4290 Sq. M in the Corporation's Chincholi Industrial Area, you are being issued No Objection Certificate (NOC) on the following terms and conditions for planting trees on this open space (you will not have any ownership right over this space).

1. You want to plant trees in this place using MIYAWAKI Techniques method.
2. The land should be used only for MIYAWAKI Techniques and the plan should be approved by the Special Planning Authority of the Corporation. Information boards can be put up.
3. If there is a fence of the corporation on the site, then the responsibility of maintaining and maintaining the fence will remain with the plot holder.
4. The corporation reserves the right to cancel the no-objection letter with one month's notice without giving any reason.
5. Convenience if there are water pipes, drainage pipes, gas pipelines, telephone cables, power lines, etc. within the boundaries of the place.
6. No concession will be given by the corporation for separate water supply connection or water supply rate for tree planting in this area.
7. If the corporation needs the land, it is mandatory to return the land to the corporation without any complaint. Also, the corporation will not reimburse the landlord for the cost incurred by the landlord for tree fencing or any other ancillary development while taking back the land.
8. The environment department of the corporation will decide the species policy for tree planting considering the nature of the industrial area and the species should be planted accordingly. If such a policy is not announced, suitable species should be planted keeping in view the local conditions.

9. As per the above policy, the information about the plantation planted in the allotted space should be submitted to this office every three months by industrial area wise, planting area with fruit and number of tree species only.
10. Terms and conditions of the subject matter decided by the Corporation from time to time will remain binding.
11. This place / space cannot be used for any public event as well. No construction will be allowed on this site.

Thank you

Yours faithfully,

Regional Officer, MIDC, Sangli.

Copy:

1) Deputy P.O. Presented for information
2) In Information of Chief Engineer and Deputy Chief Minister (Environment)
Sincerely yours, Executive Engineer, MIDC, Sangli
Copy of Assistant Designer, MIDC, Regional Office, Pune
For information of Deputy Engineer and Special Planning Authority Solapur.

NOC letter in Marathi Language

महाराष्ट्र औद्योगिक विकास महामंडळ

(महाराष्ट्र शासन अंगिकृत)

ई-मेल-amsolapur@midcindia.org
दुरध्वनी:०२१७-२३९११६१

जा.क्र. मऔविम/२०२११२००१८३६ /२०२१
मऔविम,क्षेत्र व्यवस्थापक यांचे कार्यालय
कोंडा नगर, अक्कलकोट रोड, सामाईक सुविधा केंद्र,सोलापूर.
दिनांक :-०२.०८.२०२१

प्रति,
मे.ओ.सी.स्पेशालिटीज प्रा.लि.
भुखंड क्र.ई-१७ व ई-१८, एम.आय.डि.सी.,
चिंचोली ता.मोहोळ जि.सोलापूर.

विषय:- चिंचोली औद्योगिक क्षेत्र
वृक्ष लागवडीकरीता ना हरकत प्रमाणपत्र(NOC)

महोदय,

महामंडळाच्या औद्योगिक क्षेत्रातील राखीव असलेल्या मोकळया जागांवर चांगल्या प्रतीची वृक्ष लागवड करुन हरीत एमआयडीसी मोहिम राबविण्याचा महामंडळाने निर्णय घेतलेला आहे. महामंडळाच्या **चिंचोली** औद्योगिक क्षेत्रातील मोकळी जागा क्र.**ओएस-२३** क्षेत्र **४२९०** वर वृक्षलागवड करणेकरीता आपण सहमती दर्शविल्यानुसार, आपणांस सदरहू मोकळया जागेवर वृक्षलागवड करण्याकरीता (सदरहू जागेवर आपला कोणताही मालकी हक्क असणार नाही) खालील अटी व शर्तींवर ना हरकत प्रमाणपत्र(NOC) देण्यात येत आहे.

१. आपणांस सदरहू जागेवर MIYAWAKI Techniques पध्दतीने वृक्षारोपण करावयाचे आहे.
२. जागेचा वापर फक्त MIYAWAKI Techniques पध्दतीने वृक्षारोपण करण्यात यावी व आराखडयास महामंडळाच्या विशेष नियोजन प्राधिकरण (Special Planning Authority) यांचेकडून मान्यता घेण्यात यावी. माहिती फलक लावता येईल.
३. जागेवर महामंडळाचे कुंपण असेल तर सदर कुंपणीची निगा व देखभाल करण्याची जबाबदारी भूखंडधारकाची राहिल.
४. कोणतेही कारण न देता एका महिन्याची नोटीस देऊन ना हरकत पत्र रद्द करण्याचा हक्क महामंडळास राहील.
५. सदर जागेच्या हद्दीत जलवाहिनी, जलनि:सारण वाहिनी , गॅस पाईप लाईन, टेलीफोन केबल्स, विद्युत वाहिनी, इत्यादी असल्यास सदर सोई सुविधांची दुरूस्ती व देखभालीचे काम करतांना वाटप केलेल्या जागेवरील वृक्षारोपणाचे नुकसान झाल्यास त्यासाठी महामंडळ कोणताही मोबदला अदा करणार नाही किंबहूना महामंडळ त्यास जबाबदार राहणार नाही.

???

६. सदर जागेतील वृक्षारोपणासाठी महामंडळातर्फे स्वतंत्र पाणी पुरवठा जोडणी किंवा पाणी पुरवठयाच्या दरात कोणतीही सवलत देण्यात येणार नाही.

७. महामंडळास सदर जागेची गरज भासल्यास सदर जागा विनातक्रार महामंडळास परत करणे बंधनकारक आहे. तसेच जागा परत घेताना भूखंडधारकाने वृक्षरोपणासाठी तारेचे कुंपण किंवा इतर कुठल्याही अनुषंगिक विकासासाठी केलेल्या खर्चापोटी महामंडळ त्यांस कोणताही मोबदला देणार नाही.

८. महामंडळाचे पर्यावरण विभाग औद्योगिक क्षेत्राचे स्वरूप विचारात घेऊन वृक्ष लागवडीसाठी प्रजाती बाबतचे धोरण निश्चित करील व त्यानुसार प्रजातीची लागवड करावी. जर असे धोरण जाहीर केले नसेल तर स्थानिक परिस्थिती विचारात घेऊन सुयोग्य प्रजाती लावाव्यात.

९. वरील धोरणाप्रमाणे वाटप कलेल्या जागेत लागवड केलेल्या वृक्षारोपणाबाबतची माहिती औद्योगिक क्षेत्र निहाय, लागवडीच क्षेत्र फळासह व वृक्षप्रजातीच संख्येसह दर तीन महिन्यांनी या कार्यालयास सादर करावी.

१०. महामंडळाद्वारे वेळोवेळी ठरविण्यात येणारे विषयासंबंधीचे नियम अटी व शर्ती आपणांस बंधनकारक राहतील.

११. सदर जागेमध्ये / जागेचा कुठल्याही सार्वजनिक कार्यक्रमाकरीता वापर करता येणार नाही तसेच सदर जागेवर कोणतेही बांधकाम करण्यास परवानगी देण्यात येणार नाही.

धन्यवाद,

आपला विश्वासू,

प्रादेशिक अधिकारी,
मऔविम, सांगली.

प्रत :-१) मा. उप मु.का.अ. यांचे माहितीस्तव सादर

२) मा. मुख्य अभियंता व उप मु.काअ(पर्यावरण) यांचे माहितीस्तव सादर

प्रतः कार्यकारी अभियंता, मऔविम, सांगली यांचे माहितीकरीता सस्नेह अग्रषित.

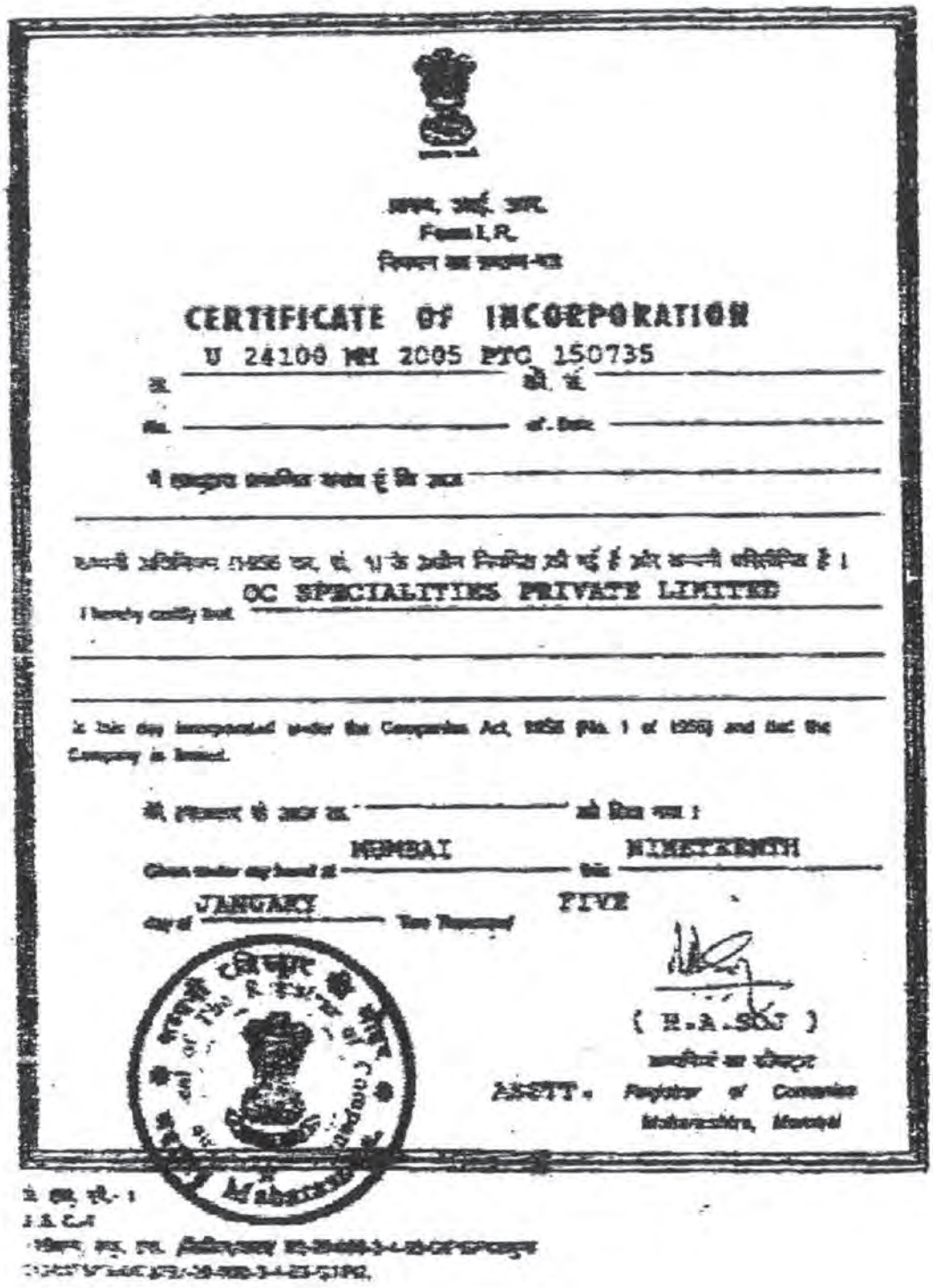
प्रतः सहाय्यक रचनाकार, मऔविम, प्रादेशिक कार्यालय पूणे यांचे माहितीकरीता.

प्रतः उप अभियंता तथा विशेष नियोजन प्राधिकरण सोलापूर यांचे माहितीकरीता.

???

Certificates & Other Documents

Certificate of Incorporation



FORM I.R.

CERTIFICATE OF INCORPORATION

U 24100 MH 2005 PTC 150735

OC SPECIALITIES PRIVATE LIMITED

MUMBAI NINETEENTH

JANUARY FIVE

(H.A.SOJ)

ASSTT. Registrar of Companies
Maharashtra, Mumbai

351

351

???

GOVERNMENT OF INDIA

MINISTRY OF COMMERCE

Office of Jt. Director General of Foreign Trade

New C.G.O. Building, New Marine Lines, Mumbai, Maharastra-400020

Certificate of Importer -Exporter

CERTIFICATE OF IMPORTER-EXPORTER CODE (IEC)

1.	Name	O C SPECIALITIES PVT.LTD.
2.	Address	6-C,SAI VISHWAKARMA DARSHAN SHIVAJI CHOWK,OPP.APNA BAZAR, VILE PARLE (EAST) MUMBAI MAHARASHTR 400057
3.	Address of the Branch/Div./ Units if any	NIL
4.	PAN	AAACO7181P
5.	IEC Number	0305003364
6.	Date of Issue	15.04.2005

Place : Mumbai
Date : 18.04.2005

(REETHA LONAPPAN)
Foreign Trade Development Officer

Issued from File No. 03/04/130/00336/AM06/ ??? dated 15.04.2005

Note : 1.In case of any change in the Name/Address or Constitution of IEC holder, the IEC holder shall cease to be eligible to Import or Export against the IEC after expiry of 90 days from the date of such a change unless in the meantime, the consequential changes are effected in the IEC by the concerned Licensing Authority.

महाराष्ट्र शासन

औद्योगिक सुरक्षा व आरोग्य संचालनालय (कामगार विभाग)

परवाना क्रं :१०००६४७५

नमूना क्रमांक ४

(नियम ६ व ८ पाहणे)

कारखान्याची नोंदणी व कारखाना चालविण्याचा संबंधीचा परवाना

नोंदणी क्रमांक : १२२६०२१००१००७७४

कारखाने अधिनियम, १९४८ आणि त्यासंबंधी असलेले नियम यांच्या तरतुदीप्रमाणे ओ सी स्पेशालिटीज् प्राईवेट लिमीटेड यांना खाली वर्णन केलेल्या जागेत कारखाना चालविण्यास परवाना देण्यात आला आहे.

या परवान्यान्वये या जागेत कोणत्याही एका दिवशी १५० पर्यंत कामगार लावण्यास आणि २००० पेक्षा जास्त अश्वशक्ति उपयोगात आणण्यास परवानगी आहे.

या परवान्याची मुदत ३१ डिसेंबर २०१९ पर्यंत आहे.

परवान्याचे नूतनीकरण १ जानेवारी २०२० ते ३१ डिसेंबर २०२३ पर्यंत करण्यात आले आहे.

शुल्क रु. ३४१२५३.६० पोहोचले

दिनांक : २६-१२-२०१८

Signature valid

सह संचालक
औद्योगिक सुरक्षा व आरोग्य,
महाराष्ट्र राज्य,पुणे २

परवाना दिलेल्या जागेचे वर्णन

परवाना दिलेल्या कारखान्याचे	**ओ सी स्पेशालिटीज् प्राईवेट लिमीटेड**
	O C Specialities Pvt Ltd
पत्ता :	**प्लॉट नं ई-१८,एम आय डी**
	सी,चिंचोळी,सोलापूर,सोलापूर दक्षिण,सोलापूर,महाराष्ट्र,४१३२५५
Address :	**Plot No E-18,M I D C,Chincholi,Solapur,Solapur South,Solapur,MAHARASHTRA,413255**
कलम :	**२(m)(i)**
औद्योगिक वर्गीकरण :	**२१००१**

कारखान्याच्या इमारतीचे नकाशे दिनांक १२.०८.२०१४ च्या जावक क्रमांक PLN/५४/१४/RBL/२८५३/२०१४ खाली मंजूर केले गेले आहेत.

This Certificate is digitally signed by on.

टिप : हा कारखान्याची नोंदणी व कारखाना चालवण्याचा परवाना आहे. हा परवाना देण्यात आल्यामुळे ज्या जागेत हा कारखाना स्थित आहे, त्या जागेस कोणतीही वैधता आपोआप बहाल होत नाही तसेच ज्या जागेत हा कारखाना स्थित आहे ती जागा आज दिनांक वेळेस अस्तित्वात असल्या संबंधात या परवान्यामुळे कोणताही हक्क व स्वामित्व सदरहू भोगवटदारास प्राप्त होत नाही

???

Plot Allotment Letter

Maharashtra Industrial Development Corporation

(A Government Of Maharashtra Undertaking)

Tel: 0233-2670594, 0233-2670554
Fax: 0233-2670556
E-mail:
ROSANGLI@MIDCINDIA.ORG

REGIONAL OFFICE,SANGLI
MIDC,. UDYOG BHAWAN 300/2,.
VISHRAM BAUG, NEAR TATA.
PETROL PUMP,. SANGLI
SANGLI - 416415

20112319

Letter No.: MIDC/RO (ROS)/CHN/LMS-725/ Date: 17-MAR-2011

Subject: - CHINCHOLI INDUSTRIAL AREA
Plot No: E-18
Allotment of Land

: ORDER:

Sanction is hereby accorded to the allotment of land admeasuring 8450 Sq. Mtrs at the rate of Rs. 150/- per Sq.Mtrs Comprising of Plot No. E-18 in CHINCHOLI INDUSTRIAL AREA to M/S. OC SPECIALITIES PRIVATE LIMITED for setting up your industrial unit for manufacturing of HYDROXY BENZONITTILE subject to the payment of the premium of Rs. 1267500/- (Rs. Twelve Lakh Sixty Seven Thousand Five Hundred Only) (including 15 % additional charges for road having 45 Mtrs. Road Width i.e 8450 * 150 * 15 % = Rs. 190200/- as additional charges) and subject to the following conditions.

1. The amount of earnest money received with the application will be appropriated towards the amount of premium. The allottee shall pay the sum of Rs. 667500/- being the balance amount of the premium and Rs.190200/- towards 15% additional rate per Sq. Mtr. as Plot is located on road having 45.0 Mtrs. Road width. Total aggregating Total Rs. 857700/- (Rs. Eight Lakh Fifty Seven Thousand Seven Hundred Only) within a period of 30 days from the date of receipt of this order, by DD, drawn in favor of REGIONAL OFFICER MIDC, SANGLI Payable at SANGLI, alongwith Undertaking of Rs. 100/- Stamp paper in report of conditions accepted and will be followed at the time of activity
2. In case the allottee fails to pay the balance amount of premium within the period mentioned above, the allotment shall be liable to cancelled without further notice.
3. In the event of the allotment being cancelled as foresaid the corporation will be entitled to forfeit the whole of the earnest money received with the application.
4. The terms & conditions of allotment of land will be those contained in the standard form of Agreement to Lease and the lease annexed thereto & in substance are as follows.

a) The allottee shall enter into an Agreement to Lease in the form prescribed by Corporation & on performance of the conditions will be entitled to lease for the term of ninety five (95) years to be computed from the date of execution of the Agreement to Lease and renewable for one further term of 95 years on payment of premium and on such terms and conditions as may be determined by the Corporation at the time of renewal.

b) The annual ground rate rent of Rupee 1/- per annum is payable in respect of the plot of land alloted.

c) The allottee shall get the plan and specification of the proposed factory building duly approved from the Executive Engineer of the said Industrial area and complete the said building in accordance with approved plans and shall obtain a Building Completion Certificate (B.C.C) from the Executive Engineer of the said industrial area within a prescribed period.

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d) The allottee shall not directly or indirectly transfer or assign the benefits of interest in the Agreement to Lease or part with possession of the land or any part there of without previous consent of the Corporation who may refuse or grant it subject to such condition as the Corporation may think fit including a condition for payment of additional premium.

e) The allottee shall be entitled to use land for the purpose of a factory but not for the purpose of a factory for any of the obnoxious industries specified in the annexure set out in for any other purpose and not for the purpose of any factory which may be obnoxious, offensive by reason of emission of odor, liquid effluvia, dust, smoke, gas, nuisance, vibration or fire hazards.

f) The other terms and conditions of allotment shall be those contained in the prescribed form of Agreement to Lease and the Lease.

g) The stamp duty in respect of preparation & execution of the Agreement to Lease & its duplication as also the Lease & its duplication in respect of the allotted plot of land as also the legal costs for the preparation and execution of these documents including the registration fees shall be borne and paid by the allottee alone.

The allottee may submit his application to the concern telephone & electricity authority immediately, after taking over the possession of the plot. This will enable the concern authorities to build up a waiting list & ensure proper planning to provide timely telephone & electric connection to the industrial units in the area. Please note that, MIDC is not responsible for supplying electricity. Hence, you should ensure the availability of such infrastructure with concerned MSEDCL authorities.

Please also note that AtoL will be signed with you within 30 days from the date of handing over of possession of plot.

Regional Officer 17-3-11
MIDC, SANGLI

To,
M/S. O C SPECIALITIES PRIVATE LIMITED
PLOT ~~NO. 6/C SAI~~ 205 The Chamber
~~VISHWAKARMA DARSHAN,~~
~~SHIVAJI CHOUK, OPP. [illegible]~~ Vile Parle E
~~BAZAR~~, VILEPARLE (EAST)
MUMBAI- 400 057

Copy submitted to :
1) The Chief Planner, MIDC, Mumbai- 400 093
Copy f.w.c.s. to :
1) The Jt. Chief Account Officer , MIDC A & FD, Chinchwad Pune -19

2) The Executive Engineer, MIDC, Division Sangli.
Copy to :
1) The Deputy Engineer, MIDC Sub-Division, Solapur.

GOVERNMENT OF MAHARASHTRA
Directorate of Industries
OFFICE OF THE GENERAL MANAGER,
DISTRICT INDUSTRIES CENTRE, SOLAPUR.
Phone No.2601791 / 2605232

FORM NO. 396

ACKNOWLEDGEMENT

"PART - I"

M/s. OC SPECIALITIES PVT. LTD. (PVT. LTD. COMPANY) HAS FILED MEMORANDUM EXPRESSING ITS INTENT TO SET UP ORGANIC CHEMICALS (MANUFACTURE) ENTERPRISE AT THE ADDRESS PROPOSED AT M.I.D.C. AREA CHINCHOLI, TALUKA - MOHOL, DISTRICT - SOLAPUR PIN - 413255 FOR THE ITEM / ITEMS INDICATED BELOW AND THE ACTIVITY IS PROPOSED TO COMMENCE FROM THE (DATE) 02.2011 AS STATED IN FORM NO. 396 AND ALLOCATED ENTREPRENEURS MEMORANDUM NO. AS BELOW:

DETAILS OF ITEM/ITEMS TO BE MANUFACTURED/SERVICE TO BE PROVIDED

Sr. No.	Items of Manufacture/Service to be rendered	Capacity in case of manufacture
1.	ORGANIC CHEMICALS	200 MT

	D	D	M	M	Y	Y	Y	Y
DATE OF ISSUE	2	1	0	5	2	0	1	0

NATURE OF ACTIVITY
(MANUFACTURING-1, SERVICES-2) 1

CATEGORY ENTERPRISES
(MICRO-1, SMALL-2, MEDIUM-3) 2

ENTREPRENEURS' MEMORANDUM NUMBER 27 | 0302 | 12 | 00396

The Acknowledgement of Memorandum is issued subject to the following conditions-

1. The issue of this Acknowledgement does not bestow any legal right. The enterprise is required to seek requisite clearances/licences & NOCs / permit required under statutory obligation stipulation under the laws of central Govt./State Govt./UT Administration/Court orders & / local authorities.
2. This Acknowledgement is subject to provisions of press Note No.6 dated 12th July 1993 and press Note 17 Dated 28 November 1997 regarding the significance, implications and legal status of filling of EM.
3. This Acknowledgement is subject to State and Central Provisions, Notifications, Rules, State Location Policy, Clearances, Permissions.

DATE :- 21.05.2010
PLACE :- SOLAPUR.

Govt. of Maharashtra - Directorate of Industries

GENERAL MANAGER
DISTRICT INDUSTRIES CENTRE,
SOLAPUR.

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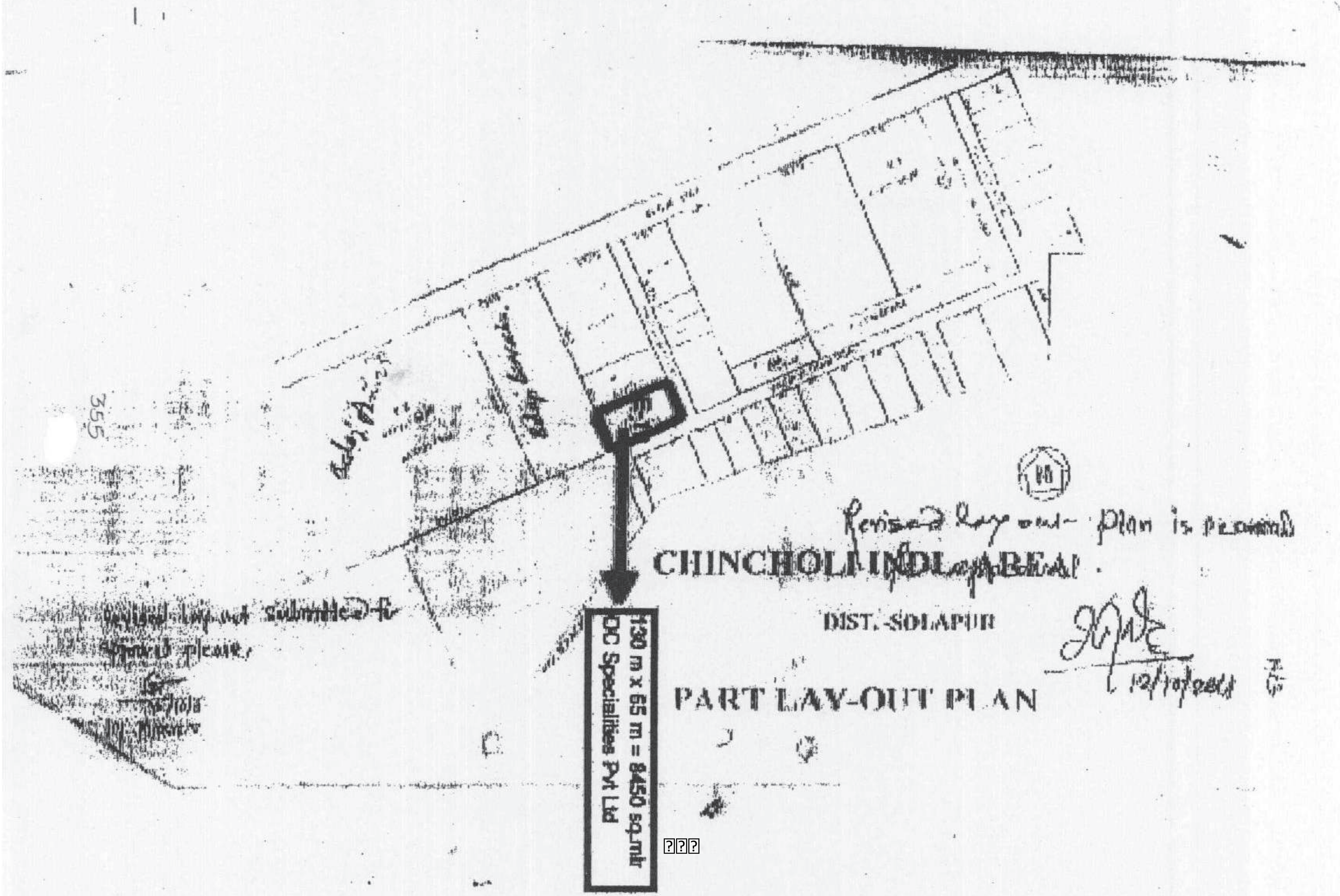
CHINCHOLI INDL. AREA
DIST.-SOLAPUR
PART LAY-OUT PLAN
130 m x 65 m = 8450 sq.mtr
DC Specialities Pvt Ltd

Maharashtra Industrial Development Corporation
(A Government Of Maharashtra Undertaking)

Tel: 0233-2670594, 0233-2670554
Fax: 0233-2670556
E-mail: rosangli@midcindia.org

REGIONAL OFFICE,SANGLI
MIDC., UDYOG BHAWAN 300/2,
VISHRAM BAUG, NEAR TATA
PETROL PUMP, SANGLI
SANGLI - 416415

By Regd. Post A.D.

Letter No.: MIDC/RO(ROS)/CHN/LMS-998/202012000235 Date: 10-FEB-2020

Subject :- **CHINCHOLI INDUSTRIAL AREA**
Plot No. E-22 Area2400m2.
Request for grant of consent for transfer of...
Read :- Letter dated 24/01/2020

ORDER

Agreement To Lease dated the 11th day of October, 2013

Licensee
M/S. B K BENZYL PRIVATE LIMITED

Current Transfer No.1
M/S. OC SPECIALITIES PVT. LTD.

By a above noted Agreement to Lease executed by the Maharashtra Industrial Development Corporation in favour of the Licensee , the Corporation in consideration of the stipulations and conditions on the part of the Licensee therein contained, agreed to grant in favour of the Licensee a Lease of the above plot of land bearing No **E-22** admeasuring **2400** m2 the manner specified in the said Agreement.

The Licensee in pursuance of sub-clause (**m**) of clause 3 of the said Agreement represented to the Corporation for grant to him/them/it of a consent transfer and assignment of his/their/its interest under or the benefit of the said Agreement in favour of : **M/S. OC SPECIALITIES PVT. LTD.** , (hereinafter called "the transferee/s"). The Corporation has after due consideration of the said request of the Licensee decided to grant its consent to the transfer by the Licensee of the benefit of his/their/its interest under the said Agreement For Mfg. of **BRIQUET COAL** .

The consent hereby granted is subject to :

(a) The payment to the Corporation by the Licensees of the sum of Rs.**66500/-** (**Rs. Sixty Six Thousand Five Hundred only**) towards **DIFFRENTIAL PREMIUM** paid of **Rs.66500/-** vide D.R.No. **20657166** dated **04-FEB-2020** .

(b) The transferee/s shall be bound to perform and observe all the stipulations and conditions contained in the said Agreement dated **11-OCT-2013** as if the said Agreement has been executed by the transferee/s and shall be entitled to the grant of the Lease in his/their/its favour of the said plot of land and the factory building only after the completion of the factory building and works on the said plot of land on the production of a completion certificate from the Executive Engineer of the Corporation in accordance with clause 7 of the said Agreement such lease to be in the standard form prescribed by the Corporation and subject to the payment of the yearly rent reserved under the said Agreement

(c) This consent is restricted to the transfer and assignment of the interest and benefits under the Agreement in favour of the transferee/s alone and for the project/s approved/permitted by the Corporation and in case the transferee/s propose/s to make any further transfer or assignment or parting wholly or partially with the possession of the said plot of land or any part thereof the transferee/s will have to make a fresh application for consent.

(d) The licensee/Transferee shall execute the lease within one month from the date hereof in which the Original licensee shall be confirming party in the Execution of Lease.

SHIVAJI
TOPU
RATHOD
Area Manager
MIDC, **Solapur**

To,

M/s. B K BENZYL PRIVATE LIMITED,
2/2, RIVER CREST, 14-A, BOAT CLUD ROAD,
PUNE- 411 001.,

Copy with compliments to

M/S. OC SPECIALITIES PVT. LTD. ,
PLOT NO. E-18 MIDC CHINCHOLI INDL. AREA
DIST.SOLAPUR.

Copy f.w.cs. to:
1. THE JT. C.A.O., A & FD, MIDC, PUNE-19
2. THE EXECUTIVE ENGINEER, MIDC, SANGLI DN. SANGLI

Copy with compliments to:
1. 1)THE DY.ENGINEER SOLAPUR SUB-DN. MIDC, SOLAPUR

भारतीय गैर न्यायिक

एक सौ रुपये **Rs. 100**

रु. 100 ONE HUNDRED RUPEES

सत्यमेव जयते

भारत INDIA

INDIA NON JUDICIAL

महाराष्ट्र MAHARASHTRA ● 2018 ● TX 031510

सोलापूर अनुक्रमांक - [illegible], दिनांक - [illegible]

श्री./सौ. [illegible]

यांनी रु. [illegible] चा जनरल स्टॅम्प मागितलेवरुन हा

रु. [illegible] चा व भरतीस रु. [illegible]

चे जनरल स्टॅम्प दिले.

प्रताप सत्यवान सूर्यवंशी

शहर मुद्रांक विक्रेता-कोड नं. २५०१०४०

परवाना क्र.७०, दि. ३०/६/१९९८

ऑफीस नं. ०९, लोखंडवाला कॉर्नर,

१९५, सिध्देश्वर पेठ, सोलापूर - २

SEAL OF THE SUB REGISTRAR MOHOL

16 NOV 2018

MAHARASHTRA INDUSTRIAL DEVELOPMENT CORPORATION

८८७	६	५५
२०१९		

This Agreement made at Sangli, this 19th day of December Two thousand Eighteen made between Maharashtra Industrial Development Corporation constituted under the Maharashtra Industrial Development Act, 1961 (MAH-III OF 1962) and having its Head Office at Udyog Sarathi, MIDC, Marol Industrial Area, Mahakali Caves Road, Andheri (E), Mumbai-400 093 (hereinafter called "the Grantor") of the **First Part**

OM CHEMICALS Solapur

OC Specialities Pvt. Ltd. Solapur

Area Manager, M.I.D.C., Sangli.

SHRI. RAJU BALBHIM SHINDE carrying on business in Proprietorship under the firm name & style of **M/S OM CHEMICAL** and having his office At **PLOT NO. E-17, CHINCHOLI M. I. D. C. INDUSTRIAL AREA, TAL-MOHOL, DIST-SOLAPUR**(hereinafter called "the Licensee") of the Second Part;

M/S. OC SPECIALITY PRIVATE LIMITED. a company incorporated under the companies Act 1956 and having its registered office at **701, PARIJAT KUTIR NEAR MILLENIUM TOWERS, OPP. SARDAR PATEL PARK, LALLUBHAI PARK, EXTN. ROAD, VILEPARLE (W) MUMBAI- 400 056** (hereinafter called "the Party of the Third Part") of the Third Part;

WHEREAS by an Agreement dated the **20th day of March, 2013** between the Grantor of the One Part and the Licensee of the Other Part (hereinafter called "the Principal Agreement") the said Agreement in consideration of the stipulations and conditions on the part of the Licensee therein contained the Grantor agreed to grant unto the Licensee a Lease of the Plot of Land bearing No. **E-17** admeasuring **9100 Sq.Mtrs.** (particularly described in the Schedule hereinafter mentioned) In the **CHINCHOLI INDUSTRIAL AREA** of the Grantor in the manner herein contained.

AND WHEREAS the Licensee in pursuant to Sub-clause of (m) of clause 3 of the Principal Agreement represented to the Corporation for grant to its consent to transfer, assignment or parting with its interest in or the benefit of the said Principal Agreement for the said Plot No. **E-17** in favour of the Party of the Third Part.

AND WHEREAS the Licensee has requested to grant to accept the Party of the Third Part as a Licensee for Plot No. **E-17** and to execute the Final Lease in favour of the Party of the Third Part, which the Grantor has agreed to do so without insisting upon Licensee to join in such execution as Confirming Party.

NOW THIS AGREEMENT WITNESSETH AS FOLLOWS :-

1. This Agreement is Supplemental to the Principal Agreement.
2. The Principal Agreement shall hereinafter to construed as if the Grantor had entered into the Principal Agreement with the Party of the Third Part for the Plot No. **E-17** and the Party of the Third Part alone had agreed to observe and perform the stipulations and conditions contained in the Principal Agreement and that the sum of Rs. 17,67,700/- Land Premium + Differential Premium Rs.2,52,500/- i.e. **Total Rs.20,20,200/- (Rs. Twenty Lakhs Twenty Thousand Two Hundred only)** Paid to the Grantor by the Licensee as premium paid by the Party of the Third Part.
3. As soon as the Executive Engineer, has certified that the factory building and works on the Plot described in the **First Schedule** to the Principal Agreement have been erected and if the Party of the Third Part shall have observed all the

OM CHEMICALS Solapur

OC Specialities Pvt. Ltd. Solapur

Area Manager, M.I.D.C., Sangli

stipulations and conditions contained in the Principal Agreement, the Grantor will grant and the Party of the Third Part will accept a Lease (which shall be executed in duplicate) of the said Plot described in the First Schedule to the Principal Agreement and the factory building erected thereon in the Standard Form of Lease prescribed by the Grantor for the term and at the yearly rent mention in the Principal Agreement without any further consent or concurrence of the Licensee.

4) Save as aforesaid all the stipulations and conditions contained in the Principal Agreement shall continue to remain in full force as if the same had been executed by the Party of the Third Part.

IN WITNESS WHEREOF the Maharashtra Industrial Development Corporation, hath caused **Shri. Shivaji T. Rathod** the Area Manager of Maharashtra Industrial Development Corporation to set his hand and affix his official Seal hereto on his behalf, the Licensee has set her respective hands and the Party of the Third Part set his respective hands hereto the day and year First above written.

THE SCHEDULE

(Description of Land)

All that piece or parcel of land known as **Plot No. E-17** in the **Chincholi** Industrial Area, within the village limits of **Chincholi,** and outside the limits of Municipal Corporation in rural Area, Taluka **Mohol,** District **Solapur** containing by admeasurements 9100 Square Meters or thereabouts and bounded by red colored boundary line on the plan annexed hereto, that is to say:-

On or towards the North by - Plot No.E-12

On or towards the South by - Plot No.E-18

On or towards the East by - MIDC ROAD 25:00 M R/W

On or towards the West by - Plot No.E-8/1

SEAL OF THE SUB REGISTRAR ... MOHOL

Area Manager,
M.I.D.C., Sangli.

OM CHEMICALS Solapur

Specialities Pvt. Ltd. Solapur

???

म.ह.ल.

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SIGNED,SEALED & DELIVERED by

Shri. Shivaji T. Rathod

the Area Manager

Of Maharashtra Industrial Development

Corporation in the presence of :-

1) K. S. Godkar, Asstt.

2) J. A. Waikar, Adm. Off.

Area Manager,
M.I.D.C., Sangli.

SIGNED & DELIVERED BY

SHRI. RAJU BALBHIM SHINDE,
Proprietor of M/S.OM CHEMICAL
Register Power of Attorney to
SHRI. NITIN KULKARNI
the Within named Licensee in the

presence of :-

1) A. S. Shitole

2) G. S. Mane

SIGNED AND DELIVERED by the
Above named Party of the Third Part
The Common Seal of the presence of :-

M/S. OC SPECIALITY PRIVATE LIMITED.

was, pursuant to a Resolution of its
Board of Directors passed in that behalf
On the dt. **27th day of November, 2018**
Affixed hereto in the presence of

Shri. SATISH G. PADSALGI

Authorized Signatory the Company who, In token of
having affixed the Company's Seal hereto has
set his respective hands hereto in the presence of :-

1) A. S. Shitole

2.) G. S. Mane

4

Maharashtra Industrial Development Corporation

(A Government Of Maharashtra Undertaking)

Tel: 0233-2670594, 0233-2670554
Fax: 0233-2670556
E-mail: rosangli@midcindia.org

REGIONAL OFFICE,SANGLI
MIDC,. UDYOG BHAWAN 300/2,.
VISHRAM BAUG, NEAR TATA.
PETROL PUMP,. SANGLI
SANGLI - 416415

By Regd. Post A.D.

Letter No.: MIDC/RO(ROS)/CHN/LMS-022/**1912001848** **Date:** 24-MAY-2019

Subject :- **CHINCHOLI INDUSTRIAL AREA**
Plot No.E-16
Request for grant of consent for transfer of...
Read :- Letter dated 26/04/2019

ORDER

Agreement To Lease dated the 17th day of July, 2014

Licensee
SHRI. LAXMIKANT SATYANARAYAN MANDHANIYA

Current Transfer No.1
M/S. OC SPECIALITIES PVT. LTD

By a above noted Agreement to Lease executed by the Maharashtra Industrial Development Corporation in favour of the Licensee, the Corporation in consideration of the stipulations and conditions on the part of the Licensee therein contained, agreed to grant in favour of the Licensee a Lease of the above plot of land bearing No.**E-16** admeasuring **4000** m2 the manner specified in the said Agreement.

The Licensee in pursuance of sub-clause (**m**) of clause 3 of the said Agreement represented to the Corporation for grant to him of a consent transfer and assignment of his interest under or the benefit of the said Agreement in favour of :**M/S.OC SPECIALITIES PVT. LTD,** (hereinafter called "the transferee/s") The Corporation has after due consideration of the said request of the Licensee decided to grant its consent to the transfer by the Licensee of the benefit of its interest under the said Agreement For Mfg. of **CEMENT PIPES**

The consent hereby granted is subject to :

(a) The payment to the Corporation by the Licensees of the sum of Rs. **110800 /- (Rs. One Lakh Ten Thousand Eight Hundred only)** towards **DIFFRENTIAL PREMIUM** paid of **Rs.110800/-**vide D.R.No. **1840** dated **17-MAY-2019** .

(b) The transferee/s shall be bound to perform and observe all the stipulations and conditions contained in the said Agreement dated **17-JUL-2014** as if the said Agreement has been executed by the transferee/s and shall be entitled to the grant of the Lease in his/their/its favour of the said plot of land and the factory building only after the completion of the factory building and works on the said plot of land on the production of a completion certificate from the Executive Engineer of the Corporation in accordance with clause 7 of the said Agreement such lease to be in the standard form perscribed by the Corporation and subject to the payment of the yearly rent reserved under the said Agreement.

(b) This consent is restricted to the transfer and assignment of the interest and benefits under the Agreement in favour of the transferee/s alone and for the project/s approved/permitted by the Corporation and in case the transferee/s propose/s to make any further transfer or assignment or parting wholly or partially with the possession of the said plot of land or any part thereof the transferee/s will have to make a fresh application for consent.

(d) This consent is valid subject to execution of supplemental agreement on stamp paper of Rs.100/-in the triplicate within one month from the date hereof otherwise the licensee/Transferee shall execute the lease in which the Original licensee shall be confirming party in the Execution of Lease.

Area Manager
MIDC, **SANGLI**

To,

SHRI. LAXMIKANT SATYANARAYAN MANDHANIYA
SURAJ 242,WEST MANGALWAR PETH,
SOLAPUR-413002

Copy with compliments to
M/S. OC SPECIALITIES PVT. LTD ,
PLOT NO.E-18, MIDC CHINCHOLI INDL.AREA
TAL.MOHOL DIST.SOLAPUR.

Copy with compliments to:
1. THE DY.ENGINEER SOLAPUR SUB-DN. MIDC, SOLAPUR

Copy f.w.cs. to:
1. THE JT. C.A.O., A & FD, MIDC, PUNE-19
2. THE EXECUTIVE ENGINEER, MIDC, SANGLI DN. SANGLI

Maharashtra Industrial Development Corporation

(A Government Of Maharashtra Undertaking)

Tel: 0233-2670594, 0233-2670554
Fax: 0233-2670556
E-mail: rosangli@midcindia.org

REGIONAL OFFICE,SANGLI
MIDC,. UDYOG BHAWAN 300/2,
VISHRAM BAUG, NEAR TATA.
PETROL PUMP,. SANGLI
SANGLI - 416415

By Regd. Post A.D. 18120035555

Letter No.: MIDC/RO(ROS)/CHN/LMS-951/ Date: ~~26-NOV-2018~~ 29 NOV 2018

Subject :- **CHINCHOLI INDUSTRIAL AREA**
Plot No.E-E-17
Request for grant of consent for transfer of...

Read :- Letter dated 30/08/2018

ORDER

Agreement To Lease dated the 20th day of March, 2013

Licensee
SHRI RAJU BALBHIM SHINDE
Proprietor of M/S. OM CHEMICAL

Current Transfer No.1
M/S. OC SPECIALITY PRIVATE LIMITED

By a above noted Agreement to Lease executed by the Maharashtra Industrial Development Corporation in favour of the Licensee, the Corporation in consideration of the stipulations and conditions on the part of the Licensee therein contained, agreed to grant in favour of the Licensee a Lease of the above plot of land bearing No.**E-E-17** admeasuring **9100** m2 the manner specified in the said Agreement.

The Licensee in pursuance of sub-clause (m) of clause 3 of the said Agreement represented to the Corporation for grant to him of a consent transfer and assignment of his interest under or the benefit of the said Agreement in favour of :**M/S. OC SPECIALITY PRIVATE LIMITED,** (hereinafter called "the transferee/s").

The Corporation has after due consideration of the said request of the Licensee decided to grant its consent to the transfer by the Licensee of the benefit of his interest under the said Agreement For Mfg.of.**PAVERS CEMENT PIPE PRODUCTS.**

The consent hereby granted is subject to :

(a) The payment to the Corporation by the Licensees of the sum of Rs.**252100/- (Rs. Two Lakh Fifty Two Thousand One Hundred only)**towards **DIFFRENTIAL PREMIUM** paid of **Rs.252100/-** vide D.R.No. **604** dated **22-NOV-2018** .

(b) The transferee/s shall be bound to perform and observe all the stipulations and conditions contained in the said Agreement dated **20-MAR-2013** as if the said Agreement has been executed by the transferee/s and shall be entitled to the grant of the Lease in its favour of the said plot of land and the factory building only after the completion of the factory building and works on the said plot of land on the production of a completion certificate from the Executive Engineer of the Corporation in accordance with clause 7 of the said Agreement such lease to be in the stand[redacted]form perscribed by the Corporation and subject to the payment of the yearly rent reserved under the said Agreement.

(c) This consent is restricted to the transfer and assignment of the interest and benefits under the Agreement in favour of the transferee/s alone and for the project/s approved/permitted by the Corporation and in case the transferee/s propose/s to make any further transfer or assignment or parting wholly or partially with the possession of the said plot of land or any part thereof the transferee/s will have to make a fresh application for consent.

(d) This consent is valid subject to execution of supplemental agreement on stamp paper of Rs. 100/- in the triplicate within one month from the date hereof otherwise the licensee/Transferee shall execute the lease in which the Original licensee shall be confirming party in the Execution of Lease.

(e) The Transferee should start the production within 6 month from the date of transfer order.

(f) The Transferee should obtain MPCB's Consent before starting production.

Area Manager
MIDC, SANGLI

To,
SHRI RAJU BALBHIM SHINDE
Proprietor of M/S.OM CHEMICAL,
BLOCK NO.401,SHUBHAM SOCIETY,
PLOT NO.D-20,SECTOR-20,
AIROLI,NAVI MUMBAI-400701

MAHARASHTRA INDUSTRIAL DEVELOPMENT CORPORATION

Copy with compliments to
M/S. OC SPECIALITY PRIVATE LIMITED,
701, PARIJAT KUTIR NEAR MILLENIUM TOWERS
OPP. SARDAR PATEL PARK
LALLUBHAI PARK EXTN. ROAD
VILEPARLE (W)MUMBAI-400056

Copy submitted to
1) The Jt.C.A.O., A & FD, MIDC, Pune-19
2) The Executive Engineer, MIDC, Sangli Dn.Sangli.

Copy to
Dy. Engineer, Sub-Division, MIDC, Solapur.

OC SPECIALITIES PVT. LTD.

Date: 11/08/21

UNDERTAKING

I hereby give an 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.

Place : **Solapur**
Signature of the applicant :

Name	:	**Vikas Shah**
Designation	:	**Director**
Address	:	**OC Specialities Pvt. Ltd.** Plot No. E-16, E-17, E-18 & E-22, MIDC Chincholi, Tal.: Mohol, Dist.: Solapur, Maharashtra State.

NOTE:

1. The project 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. and the recommendations of the State Coastal Zone Management Authority. Simultaneous action shall also be taken to obtain the requisite clearance under the provision of the C.R.Z. Notification, 1991 for the activities to be located in the C.R.Z.

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 shoeing 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 the correspondence with the Ministry of Environment & Forests including submission of application for TOR / Environmental Clearance, subsequent clarification, 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.

205, The Summit (Chambers), W.E. Highway, Vile Parle East, Mumbai – 400057.
Phone:+91-22-26269200, Email:contact@ocspl.com