सत्यमेव जयते

File No: IA-J-11011/251/2023-IA-II(I)
Government of India
Ministry of Environment, Forest and Climate Change
IA Division
****

Date **30/04/2025**

To,

GHARDA CHEMICALS LIMITED
GHARDA CHEMICALS LIMITED
Plot No. C-393 to C-396, Saykha GIDC Estate, Tal: Vagra, Dist.: Bharuch - 392140 (Gujarat), Saykha GIDC, BHARUCH, GUJARAT, 392140
neeraj.garg@gharda.com

Subject: **Establishment of Industrial Facility for manufacturing of the Agrochemicals & their Intermediates, Synthetic Organic Chemicals & their Intermediates, Chlor-alkali products, Petrochemical based processing products and Captive Co-generation Power Plant" at Plot No. D-II/4, Dahej II GIDC Industrial Estate, Village Suva, Taluka Vagra, Dist. Bharuch, Gujarat by M/s Gharda Chemicals Ltd -Grant of prior Environmental Clearance (EC) to the proposed project under the provision of the EIA Notification 2006 -regarding.**

Sir/Madam,

This is in reference to your application submitted to MoEF&CC vide proposal number IA/GJ/IND3/445352/2023 dated 09/05/2024 for grant of prior Environmental Clearance (EC) to the proposed project under the provision of the EIA Notification 2006 and as amended thereof.

2. The particulars of the proposal are as below :

(i) EC Identification No.	EC23A2001GJ5199671N
(ii) File No.	IA-J-11011/251/2023-IA-II(I)
(iii) Clearance Type	Fresh EC
(iv) Category	A
(v) Project/Activity Included Schedule No.	5(b) Pesticides industry and pesticide specific intermediates (excluding formulations),5(f) Synthetic organic chemicals industry ,1(d) Thermal Power Plants,4(d) Chlor-alkali industry,5(e) Petroleum products and petrochemical based processing such as production of carbon black and electrode grade graphite (processes other than cracking
(vi) Sector	Industrial Projects - 3
(vii) Name of Project	Establishment of Industrial Facility for

	manufacturing of the Agrochemicals & their Intermediates, Synthetic Organic Chemicals & their Intermediates, Chlor-alkali products, Petrochemical based processing products and Captive Co-generation Power Plant
(viii) Name of Company/Organization	GHARDA CHEMICALS LIMITED
(ix) Location of Project (District, State)	BHARUCH, GUJARAT
(x) Issuing Authority	MoEF&CC
(xi) Applicability of General Conditions as per EIA Notification, 2006	No

3. The Ministry of Environment Forest and Climate change has examined the proposal for seeking Environmental Clearance for ***"Establishment of Industrial Facility for manufacturing of the Agrochemicals & their Intermediates, Synthetic Organic Chemicals & their Intermediates, Chlor-alkali products, Petrochemical based processing products and Captive Co-generation Power Plant" at Plot No. D-II/4, Dahej II GIDC Industrial Estate, Village Suva, Taluka Vagra, Dist. Bharuch, Gujarat by M/s Gharda Chemicals Ltd".***

4. The Project falls under activities 5(b), 5(f), 4(d), 5(e) & 1(d). The major activity for the proposed project falls under activity 5(b) and hence the proposal is considered under Category 'A' as per EIA Notification 2006 and appraised at the central level.

5. ToR has been issued by Ministry vide letter No. J-11011/251/2023-IA-II(I) dated 22.07.2023. The proposal was earlier considered by EAC in its 80th and 93rd meetings held on 7th June, 2024 and 14th January 2025 respectively wherein it was deferred for want of additional information. Further, the proposal was placed in the 98th EAC meeting held on 7-8 April, 2025 wherein the Project Proponent and the accredited consultant namely M/s Perfact Enviro Solution Pvt. Ltd. Certificate Letter no. NABET/EIA/2225/RA 0284(Rev 01) valid up to 26.11.2025] made a detailed presentation on the salient features of the project and informed that:

6. The plot area of the project is 5,45,957.2 sqm (54.6 ha). The land is allotted to M/s Gharda Chemicals Limited by GIDC Ankleshwar vide office order no-GIDC/RM/ANK/TRF/FTO/DAH5/311 dated-15/07/2022.

Sr. No	**Plot No/ Survey No./ Gut no**	**Plot area (Sq.m)**	**Date of lease /sale deed / land transfer (if applicable)**	**Validity of lease /sale deed or possession certificate**	**Name of the lease/ sale deed or Allotment / possession certificate**
1	D-II/4, Dahej II GIDC Industrial Estate, Village Suva, Taluka Vagra, Dist. Bharuch, Gujarat	54.6 ha (5,45,957.2 sqm).	Date of Land Transfer Paper - 15/07/2022	NA	Name on Land Transfer office order by GIDC for transfer of land to Gharda Chemicals Ltd.
2			Date of Lease deed- 3/02/2023	Validity of lease- 99 years (computed 2nd September 2009)	Name on the lease Deed - lease Deed between GIDC Ankleshwar and Gharda Chemicals Pvt. Ltd.

Chronology of Land Transfer:

- The Industrial Plot No. D-II-4 measuring about 545957.17 Sq.mt. in Dahej-II estate was allotted to First Carbon Technologies Pvt Ltd by GIDC and the Agreement was executed on 30/03/2010.
- The Deed of Supplementary Agreement executed on 15/07/2022 between the, First Carbon technologies Pvt Ltd & Gharda Chemicals Limited.

● Lease deed executed on 3 February 2023 between GIDC Ankleshwar and Gharda chemicals limits on the basis of final office order by GIDC for transfer of land to Gharda Chemicals Ltd. vide order no. GIDC/RM/ANK/TRF/FTO/DAH5/311 dated 15/07/2022.

The break up of production capacity are as under:

Particulars	Unit	Capacity
EC PRODUCTS		
Agrochemicals & its intermediates (5b)	TPA	4,36,200
Synthetic Organic Chemicals, pigments, polymers) (5f)	TPA	1,43,700
R&D products (5b & 5f)	TPA	60,000
Chlor Alkali Industry (4d)	TPA	2,00,000
Petrochemical based processing products (5e)	TPA	20,000
Captive Cogeneration Power Plants 1(d)	MW	CPP- 20 MW coal based 4.6 MW based on waste heat recovery.
CO-PRODUCTS	TPA	58,50,875
NON-EC PRODUCTS		
Pesticide Formulations (Solid & Liquid) from own technical source or technical purchased from outside market	TPA	1,00,000

As the plant will be developed year wise, production distribution for Agrochemicals & their Intermediates 5(b), Synthetic Organic Chemicals & their Intermediate 5(f), R & D products (5b & 5f), Petrochemical based processing products 5(e), Chlor-Alkali Industry 4(d), Pesticide Formulations (Solid & Liquid) & CPP 1(d) is given below:

Year of production	% of total production	Total Products in TPA - (A+B+C)	Products- 5f & 5b, R&D products and Pesticide formulations (Non-EC) in TPA- (A)	Products- 5e in TPA- (B)	Products-4d TPA- (C)	Production- CPP in MW
First year	30	2,87,970	2,21,970	6,000	60,000	7.4 MW
Second year	50	4,79,950	3,69,950	10,000	1,00,000	12.3 MW
Third year	75	7,19,925	5,54,925	15,000	1,50,000	18.5 MW
Fourth year onwards	100	9,59,900	7,39,900	20,000	2,00,000	24.6 MW

The details of products and capacities are given at **Annexure-3.**

7. It is reported that there are no National Parks, Wildlife Sanctuaries, Biosphere Reserves, Tiger/Elephant Reserves, Wildlife Corridors etc. within 10 km distance from the project site. PP vide ADS reply dated 24.04.2025 informed that Narmada River (estuary where river meets the Gulf of Khambat) is located at a distance of 0.38 Km, in South direction. Lakhigam Reserved Forest is at 9.84 Km in West direction from the project site. There are two Schedule I species found in the buffer zone, i.e. Pavo cristatus (Indian Peafowl), Naja naja (Indian Cobra) Conservation Plan with a budget of around INR: 7.0 Lac has been submitted at the Office of Deputy Conservator of Forest, Social Forestry Division, Bharuch on 20.12.23 and to Chief Wildlife Warden on 02.03.24. The approval for the same has been obtained on 31.05.24

Details of project site proximity (in km) to sensitive areas:

Habitation: Suva village at 140 m towards SW
Bhaskar Academy School- 90 m towards N
School: Suva High School at 400 m, towards W
River/waterbody: pond near Suva-190 m towards SW
Hospital: Jolwa: 2.08 Km towards NNW
Forest: Lakhigam Reserved Forest, 9.80 Km towards W
Archaeological Survey of India (ASI) protected site: None within 15 km

8. Ambient air quality monitoring was carried out at 12 locations during October 2023 to December 2023 and the baseline

data indicates the ranges of concentrations as: PM10 (49.81µg/m3-73.36 µg/m3), PM2.5 (30.26 µg/m3- 45.93 µg/m3), SO2 (10.43µg/m3-15.56 µg/m3), NO2 (20.90 µg/m3-31.30 µg/m3), CO (0.60mg/m3-0.91 mg/m3), VOC (0.02mg/m3-0.03mg/m3), ozone (4.51µg/m3-6.76 µg/m3), ammonia (6.27µg/m3-9.39 µg/m3), chlorine (13.03 µg/m3-19.45 µg/m3), Hydrochloric acid (2.48µg/m3-3.70 µg/m3), Hydrogen sulfide (1.56 mg/m3 -2.34 mg/m3) are within the limits of National Ambient Air Quality Standards (NAAQS) for both core & buffer zone. Also, O3, BaP, C6H6, As, Ni, Br2, CH3Cl, Br2, DMA, MMA, HBr, Freon were found below detection limit. and AAQ modeling study for all point source emissions indicates that the maximum incremental GLCs after the proposed project would be PM10- 0.722 µg/m3 , PM2.5- 0.692 µg/m3 ,NOx- 1.42 µg/m3, SO2- 1.26 µg/m3, CO- 0.010 mg/m3, HCl- 0.08, TOC- 0.04 µg/m3, HF-0.04 µg/m3, Hg- 0.02 µg/m3 while maximum incremental GLCs for process emission would be HCl- 0.041 µg/m3, Cl2- 0.016 µg/m3, NH3- 0.02 µg/m3, NOx- 0.031µg/m3, SO2- 0.027µg/m3, H2S- 0.016 µg/m3, TVOC- 0.079 µg/m3, HBr- 0.039 µg/m3, Br2- 0.003 µg/m3, CH3Cl- 0.012 µg/m3. The resultant concentrations are within the National Ambient Air Quality Standards (NAAQS).

9. Total water requirement will be 19.75 MLD (5.84 MLD after 1st year, 9.77 MLD after 2nd Year, 14.79 MLD after 3rd year and 19.75 MLD after 4th year and onwards), this water requirement will be met by recovered water 6.63 MLD (1.98 MLD after 1st year,3.31 MLD after 2nd Year, 4.97MLD after 3rd year and 6.63 MLD after 4th year and onwards), and total treated water including STP 3.12 MLD (0.94 MLD after 1st year, 1.46 MLD after 2nd Year, 2.32 MLD after 3rd year and 3.12 MLD after 4th year and onwards). Out of Total water, Fresh water will be 10.0 MLD (2.92 MLD after 1st year, 5.0 MLD after 2nd Year, 7.50MLD after 3rd year and 10.0 MLD after 4th year and onwards). Agreement for supply of fresh water from GIDC has been issued vide agreement dated 15.07.22 and certificate no. IN-GJ26192255457520U.

10. Total wastewater generation will be 5.87 MLD (1.76 MLD after 1st year, 2.94 MLD after 2nd Year, 4.41 MLD after 3rd year and 5.87 MLD after 4th year and onwards). Domestic sewage of 0.10 MLD (0.03 MLD after 1st year, 0.05 MLD after 2nd Year, 0.08 MLD after 3rd year and 0.10 MLD after 4th year and onwards) will be treated in STP and the treated water obtained will be reused in gardening. Cooling tower blowdowns of 0.86 MLD (0.26 MLD after 1st year, 0.43 MLD after 2nd Year, 0.65 MLD after 3rd year and 0.86 MLD after 4th year and onwards) will be treated in RO. RO reject will be sent to MEE-1 & RO Permeate obtained will be reused in the cooling tower.
A high concentration stream of 2.11 MLD (0.63 MLD after 1st year, 1.06 MLD after 2nd Year, 1.58 MLD after 3rd year and 2.11 MLD after 4th year and onwards) including High COD/TDS wastewater from Process of agrochemical unit, synthetic organic chemical unit and petrochemical based processing unit & scrubbing wastewater will be treated in stripper followed by MEE Plant-1. Another 0.04 MLD (0.01 MLD after 1st year, 0.02 MLD after 2nd Year, 0.03 MLD after 3rd year and 0.04 MLD after 4th year and onwards) high COD-TDS wastewater stream from Process of Chlor Alkali products will be treated in stripper followed by MEE Plant-2. Partial MEE condensate of 1.08 MLD (0.35 MLD after 1st year, 0.25 MLD after 2nd Year, 0.50 MLD after 3rd year and 1.08 MLD after 4th year and onwards) from MEE Plant- 1 and complete MEE condensate of 0.03 MLD (0.009 MLD after 1st year, 0.015 MLD after 2nd Year, 0.023 MLD after 3rd year and 0.03 MLD after 4th year and onwards) from MEE Plant-2 will be reused in cooling and the remaining MEE condensate of 1.07 MLD (0.39 MLD after 1st year, 0.78MLD after 2nd Year, 1.17 MLD after 3rd year and 1.07 MLD after 4th year and onwards) from MEE Plant-1 will be sent to ETP for further treatment. MEE concentrates from both MEE Plants will be sent to ATFD.

Low concentration stream of 1.85 MLD (0.56 MLD after 1st year, 0.93 MLD after 2nd Year, 1.39 MLD after 3rd year and 1.85 MLD after 4th year and onwards) including R&D Lab, Low COD-TDS wastewater from process, waste water from vessel cleaning and Boiler blowdown, will be treated in ETP. Out of the total treated water obtained from ETP, 1.53 MLD (0.43 MLD after 1st year, 1.0 MLD after 2nd Year, 1.52 MLD after 3rd year and 1.53 MLD after 4th year and onwards) will be sent to RO plant for further treatment and the rest of 2.10 MLD (0.63 MLD after 1st year, 1.05 MLD after 2nd Year, 1.58 MLD after 3rd year and 2.10 MLD after 4th year and onwards) will be discharged to CETP.
The total capacity of treatment units will be STP- 0.12 MLD, RO Plant- 3.0 MLD, MEE Plant 1- 3.0 MLD, MEE Plant 2- 0.04 MLD & ETP- 5.2 MLD.

11. Total power requirement for the project will be 67.5 MW; to be met from Gujarat Urja Vikas Nigam & Inhouse CPP

comprising 62.5 MW & 5 MW will be procured by renewable energy (2.5 MW from solar energy and 2.5 MW from wind energy). DG sets of capacity of 6 x 1,000 kVA & 6 x 1,500 will be used as standby during power failure with maximum stack height of 30 m each for all the DG Sets.

12. Industrial Boilers of capacity 1 x 90 TPH, 1 x 20 TPH, 2 X 15 TPH with stack height of 78 m, 50 m, 45 m, 45 m resp. from ground level for controlling the particulate emissions within the statutory limit of 150 mg/Nm3 with APCS ESP and with lime addition up-to 5% and boiler of capacity 2 X 5 TPH with stack height of 33 m each and APCS pulse jet bag filter with lime addition up-to 5 %. CPP boiler of 90 TPH, 50 TPH, 30 TPH with APCS ESP with lime addition up-to 5 % will be installed with stack height of 78m, 66 m, & 62 m respectively from ground level. Thermic Fluid heater of capacity 1 X 10 LKcal/hr & 1 X 8 LKcal/hr will be installed for which Cyclone dust collector followed by wet scrubber with stack height of 35m & 32m respectively shall be provided to control emissions.

13. For CPP boilers, Coal will be used as Primary Fuel of 2,38,298 TPA & Briquettes blending up to 10% (32681 TPA) as per the availability. For industrial boilers, Briquettes will be used as primary fuel of 2,88,359 TPA & in case of its non-availability, Coal 2,10,262 TPA will be used. LDO-185.04 TPA will be used as fuel for thermic fluid heater & HSD-872.64 TPA will be used as fuel for DG set.

14. Details of Process emissions including details of process stacks and incinerator (27 TPD) and its management:

Source	**Ht. of stack from ground (m)**	**Dia. (m)**	**Emission Concentration (mg/Nm3)**	**Emission load after APCS (kg/hr)**	**APCS**	**Stages of scrubber**	**Exit Flow rate in Nm3/hr)**
5(b) Agrochemicals							
Process Stack 1/ PS-01	32	0.1	Cl_2 - 5 SO_2-40 NO_2 - 50 H_2S - 5 NH_3-30 HCl-20 HF - 1.8 CH_3Cl - 20 HBr - 30 Br_2 - 2	SO2- 0.011 HCl- 0.005	Water scrubber followed by Caustic scrubber	2 stage	268
Process Stack 2/ PS-02	32	0.1		Cl2- 0.001	Caustic scrubber followed by venturi scrubber	2 stage	268
Process Stack 3/ PS-03	32	0.1		NH3- 0.008	Water Scrubber	2 stage	268
Process Stack 4/ PS-04	32	0.1		NH3- 0.008	Water Scrubber	2 stage	268
Process Stack 5/ PS-05	32	0.1		DMA MMA	Water Scrubber	2 stage	268
Process Stack 6/ PS-06	32	0.1		Br2- 0.01 HBr- 0.001	Caustic scrubber followed by venturi scrubber	2 stage	268
Process Stack 7/ PS-07	32	0.1		NOx- 0.013	Acid scrubber	2 stage	268
Process Stack 8/ PS-08	32	0.1		CH3Cl- 0.005	Caustic scrubber followed by venturi scrubber	2 stage	268
Process Stack 9/ PS-09	32	0.1		CH3Cl- 0.005	Caustic scrubber followed by venturi scrubber	2 stage	268
Process Stack 10/ PS-10	32	0.1		CH3Cl- 0.005	Caustic scrubber followed by venturi scrubber	2 stage	268
Process Stack 11/ PS-11	32	0.1		CO2	Caustic scrubber	2 stage	268
Process Stack 12/ PS-12	32	0.1		CO2	Caustic scrubber	2 stage	268
Process Stack 13/ PS-13	32	0.1		CO2	Caustic scrubber	2 stage	268
Process Stack 14/ PS-14	32	0.1		H2S- 0.001	Caustic scrubber	2 stage	268
Process Stack 15/ PS-15	32	0.1		H2S- 0.001	Caustic scrubber	2 stage	268
Process Stack 16/ PS-	32	0.1		H2S- 0.001	Caustic scrubber	2 stage	268

16							
Process Stack 17/ PS-17	32	0.1		H2	Flame arrestor followed by steam dilution	1 stage	268
Process Stack 18/ PS-18	32	0.1		Freon 22	Scrubber	2 stage	268
Process Stack 19/ PS-19	32	0.1		Cl2- 0.001, H2S-0.001	Caustic scrubber followed by venturi scrubber And Flame arrestor followed by steam dilution	2 stage	268
5(f) Synthetic Organic Chemicals							
Process Stack 20/ PS-20	32	0.1	HBr - 30 Br_2 - 2	Br2- 0.01 HBr- 0.001	Caustic scrubber followed by venturi scrubber	2 stage	268
Process Stack 21/ PS-21	32	0.1	SO_2-40 HCl- 20	SO2- 0.011 HCl- 0.005	Water scrubber followed by Caustic scrubber	2 stage	**268**
4(d) Chlor Alkali							
Process Stack 22/ PS-22	32	0.1	Cl_2 - 15 HCl- 35	H2	Flame arrestor followed by steam dilution	1 stage	268
Process Stack 23/ PS-23	32	0.1		Cl2- 0.001	Caustic scrubber followed by venturi scrubber	2 stage	268
Process Stack 24/ PS-24	32	0.1		HCl- 0.009	Water Scrubber	2 stage	268
5(e) Petrochemical based processing products							
Process Stack 25/ PS-25	32	0.1	VOC- 100	VOC- 0.03	Water Scrubber	2 stage	268
Incinerator 27 TPD							
Incinerator 27 TPD	50	1.25	PM- 1.00 SO2- 2.38 HCl- 0.43 NOx-1.02 HF- 0.04 CO- 0.03 TOC- 0.19	PM- 1.00 SO2- 2.38 HCl- 0.43 NOx-1.02 HF- 0.04 CO- 0.03 TOC- 0.19	Spray Cooler followed by Venturi Scrubber	2 stage	22519.6

15. Details of Solid waste/ Hazardous waste generation and its management:

1. **SOLID WASTE**						
Category	**Type of Waste**	**Quantity of generation- After First year**	**Quantity of generation- After Second year**	**Quantity of generation- After Third year**	**Quantity of generation- After Fourth year and onwards**	**Treatment/Disposal**
		TPA	**TPA**	**TPA**	**TPA**	
Biodegradable	Organic Waste	12.64	21.06	31.59	42.12	Composting
Non-Biodegradable	Recyclable Waste (Plastic, paper, wood, glass, etc)	29.48	49.14	73.71	98.28	Sale to authorized vendor

HAZARDOUS WASTE MANAGEMENT (PROCESS)							
Waste	**Category (as per HWM Rules, 2016) & amended as to date**	**Quantity of generation (TPA)- After First year**	**Quantity of generation (TPA)- After Second year**	**Quantity of generation (TPA)- After Third year**	**Quantity of generation (TPA)- After Fourth year**	**Primary Treatment/Disposal pathway**	**Secondary Treatment/Disposal pathway in case on Non-Availability of Primary pathway**
Agrochemicals & their intermediates unit							
Spent catalyst*	29.5	273	456	683	911	Incineration- at In-house incinerator	Incineration- at CHWTSDF
Date expired/ off spec pesticides*	29.3	8	13	20	26	Incineration- at In-house incinerator	Incineration- at CHWTSDF
Process residue *	29.1	14960	24934	37400	48197	Co-Processing/ Pre-Processing	Incineration- at In-house incinerator/CHWTSDF
Spent Sulphuric Acid#	29.6/ B-15	78186	130310	195464	260,619	To authorized end user having permission under Rule 9 of H&OW Rules, 2016	To CHWTSDF for landfilling after neutralisation
Calcium carbonate - palladium	29.1	374	623	934	1,245	End use-at authorized end user having permission under Rule 9 of H&OW Rules, 2016	To CHWTSDF for landfilling
CP as hazardous waste	29.1	5	9	14	18	End use-at authorized end user having permission under Rule 9 of H&OW Rules, 2017	To CHWTSDF for landfilling
DMSO alongwith Methane Thiol	29.1	233	389	583	777	End use-at authorized end user having permission under Rule 9 of H&OW Rules, 2019	NA
Hydrochloric acid	29.6	3716	6194	9291	12,388		
Methane sulfinic/sulfonic acid sodium salt	29.1	786	1310	1965	2,620		
Nitric acid	29.6	45	76	113	151		
Phosphoric acid	29.6	1454	2424	3636	4,848		
Phosphorous acid	29.6	131	218	327	436		
Processed chlorobutanone	29.1	667	1111	1667	2,222		
Sodium bicarboante	29.1	186	311	466	621		
Sodium carbonate	29.1	99	165	247	329		
Sodium chloride	29.1	4438	7397	11096	14,794		
Sodium sulfite	29.1	845	1408	2111	2,815		
Potassium chloride + Potassium fluoride	29.1	652	1087	1631	2,174		
Aluminium chloride	B-10	4319	7199	10799	14,398	End use-at authorized end user having permission	To CHWTSDF for landfilling
Cupric chloride	B-10	682	1137	1705	2,273		

HAZARDOUS WASTE MANAGEMENT (PROCESS)							
Waste	**Category (as per HWM Rules, 2016) & amended as to date**	**Quantity of generation (TPA)- After First year**	**Quantity of generation (TPA)- After Second year**	**Quantity of generation (TPA)- After Third year**	**Quantity of generation (TPA)- After Fourth year**	**Primary Treatment/Disposal pathway**	**Secondary Treatment/Disposal pathway in case on Non-Availability of Primary pathway**
						under Rule 9 of H&OW Rules, 2017	
Spent Carbon*	28.3	38	63	94	125	Co-Processing/ Pre-Processing	Incineration- at In-house incinerator/CHWTSDF
Petrochemical based processing unit							
Organic residue from petrochemical processes*	1.4	96	160	240	320	Co-Processing/ Pre-Processing	Incineration- at In-house incinerator/CHWTSDF
Chlor-alkali unit							
Brine sludge from chlor alkali processes	16.3	405	675	1013	1,350	To authorized end user having permission under Rule 9 of H&OW Rules, 2016	To CHWTSDF for landfilling
Waste from Utilities							
ETP Sludge#	35.3	2670	4454	6691	8,393	Landilling- at CHWTSDF	NA
Concentration/ Evaporation Residue (MEE Salt/ Solids) #	35.3	33293	56545	84330	111563	Landilling- at CHWTSDF	NA
Oily Waste from ETP*	35.4	90	150	225	300	Co-Processing/ Pre-Processing	Incineration- at In-house incinerator/CHWTSDF
Distillation Residues*	20.3	150	250	375	500	Co-Processing/ Pre-Processing	Incineration- at In-house incinerator/CHWTSDF
Spent solvent*	20.2	172	286	429	572	Co-Processing/ Pre-Processing	Incineration- at In-house incinerator/CHWTSDF
Ash from Incinerator#	37.2	356	594	891	1,188	Landilling- at CHWTSDF	NA
Oil Waste*	5.2	33	55	82	109	Co-Processing/ Pre-Processing	Incineration- at In-house incinerator/CHWTSDF
Used Oil*	5.1	59	99	149	198	Authorized recyclers having registration under Rule 9 of HWM from CPCB/ SPCB	Co-Processing/ Pre-Processing/Incineration- at In-house incinerator/CHWTSDF
Contaminated Discarded containers	33.1	900	1500	2250	3,000	Recycling- at authorized decontamination facility under Rule 9	Recycling- at authorized vendor after decontamination Sent back to manufacturer

HAZARDOUS WASTE MANAGEMENT (PROCESS)							
Waste	**Category (as per HWM Rules, 2016) & amended as to date**	**Quantity of generation (TPA)- After First year**	**Quantity of generation (TPA)- After Second year**	**Quantity of generation (TPA)- After Third year**	**Quantity of generation (TPA)- After Fourth year**	**Primary Treatment/Disposal pathway**	**Secondary Treatment/Disposal pathway in case on Non-Availability of Primary pathway**
Total		**150321**	**251602**	**376921**	**499480**		

#Application was submitted to Safe Enviro Private Limited (Detox, India), Surat, Gujarat for secured landfilling at CHWTSDF on 26.03.2024 & same has been accepted by above agency vide letter no. Ref:SEPL/PROP/2024/56(LSI) dated 29.03.24.

*Provisional membership certificate from Saurashtra Enviro Projects Private Limited (Detox,Group), Surat, Gujarat for co-processing at Co-processing facility or incineration at Inhouse Incinerator house has been issued dated 23.05.24

NON-HAZARDOUS WASTE MANAGEMENT (PROCESS)						
Process Waste	**Unit**	**Quantity of generation- After First year**	**Quantity of generation- After Second year**	**Quantity of generation- After Third year**	**Quantity of generation- After Fourth year and onwards**	**Treatment/Disposal**
STP Sludge	TPA	11	19	29	38	Use in gardening as manure
Bottom ash	TPA	1241	2070	3105	4140*	Will be sold to brick manufacturer or sold to cement manufacturer or sold to tiles manufacturer or sold for use in road construction
Fly ash (usage of coal)	TPA	4575	7626	11438	15251*	
Boiler ash (usage of agro briquettes)	TPA	8668	14447	21670	28893*	
Metallic scrap (damaged structures & pipelines)	TPA	1800	3000	4500	6,000	Authorized recyclers

* 15,251 TPA of Fly ash & 4,140 TPA of bottom ash will be generated from the primary usage of coal in CPP boilers and 28893 TPA of boiler ash will be generated from the primary usage of agro-briquette in industrial boilers

However, due to usage of coal in absence of agro briquette availability for industrial boilers, the afore-mentioned of fly ash generation will increase from 15,251 TPA to 28,708 TPA, bottom ash generation will increase from 4,140 TPA to 7504 TPA while boiler ash generation will decrease from 28893 TPA to 2941 TPA.

OTHER WASTE MANAGEMENT					
Type of Waste in TPA	**Quantity of generation- After First year**	**Quantity of generation- After Second year**	**Quantity of generation- After Third year**	**Quantity of generation- After Fourth year and onwards**	**Treatment / Disposal Method**
Battery waste	18	30	45	60	To manufacturer/ Authorized Recycler as per Battery Waste & Management Rules, 2023 & amended as to date
E-waste	3	5	8	10	To Authorized Recycler as per E-Waste (Management) Rules, 2016 & amended as to date
Biomedical waste	2	3	4	5	To CBMWDF as per Bio-Medical Waste Management Rules, 2016

16. Public hearing is exempted as per clause 7 (i) III stage (3)(i)(b) of EIA notification 2006 (as per OM J-

Plastic waste	14	23	34	45	To Authorized Recycler, Plastic Waste Management Rules, 2022 & amended as to date

11011/321/2016-IA. II(I) dated 27th April 2018) as the proposed project lies in the Dahej-II notified Industrial Estate of GIDC which is one of the industrial estate of Special Investment Region 'PCPIR', i.e. Petroleum, Chemicals & Petrochemicals Special Investment Region located at Dahej, Vagra, District- Bharuch comprising 5 GIDC industrial estates namely, Dahej-I, Dahej-II, Dahej- III, Vilayat and Saykha for which Public Hearing has already done on 30th July 2014 & Environmental Clearance has been granted to M/s Gujarat Industrial Development Corporation vide letter no. F.No. 21-49/2010-IA-III dated 14.09.2017.

17. Details/Status of approved Water Supply Permission: Agreement for supply of fresh water from GIDC has been issued vide agreement dated 15.07.22 and certificate no. IN-GJ26192255457520U.

18. Details/Status of approved Wildlife Conservation Plan: There are two Schedule I species found in the buffer zone, i.e. Pavo cristatus (Indian Peafowl), Naja naja (Indian Cobra) . Conservation Plan with a budget of around INR: 7.0 Lac has been submitted at the Office of Deputy Conservator of Forest, Social Forestry Division, Bharuch on 20.12.23 and to Chief Wildlife Warden on 02.03.24. The approval for the same has been obtained on 31.05.24.

19. Industrial facilities shall develop a total of 18.07 ha. green belt area (i.e. 33.09% of total plot area) out of total area of the project. Considering tree density @2,500 trees per ha of green belt Total 45,170 No of tree saplings (i.e. Considering an 80% survival rate 56,463 No. of Saplings) shall be planted.

20. It is reported that total Employment will be 3,100 nos. including construction & operation phases. 100 nos. (permanent) and 500 nos. (Temporary) will be employed during the construction phase, 1000 no. (permanent) and 1500 nos. (Temporary) will be employed during the operational phase of the unit. Industry proposes to allocate Rs 10.2 Cr @ of 0.51% towards CER.

21. The estimated project cost is Rs. 2,000 Crores. Total capital cost earmarked towards environmental pollution control measures is Rs. 760.40 Cr and the Recurring cost (operation and maintenance) will be about Rs. 137.70 Cr per annum. The project will be developed in a year wise manner. The breakup of capital and recurring cost earmarked for EMP is as follows:

A. Capital cost

S. N.	**Particulars**	**Cost in Cr. (Total after 1st year)**	**Cost in Cr. (Total after 2nd year)**	**Cost in Cr. (Total after 3rd year)**	**Cost in Cr. (Total after 4th year and onwards)**	**Basis for cost estimates**
1	Air management (including air Pollution Control Devices & stacks, water sprinkling)	7.9	13.1	19.7	26.2	APCS systems:(25 scrubber systems X 45 Lacs) = Rs. 1125 Lacs, (9 boiler stacks X average 150 Lacs) 1350 Lacs, (12 DG stacks X 5 Lacs) =Rs. 60 Lacs, (2 TFH X 5 Lacs) = 10 Lacs, (1 incineration x 75 Lacs) =Rs. 75 Lacs, total Rs. 2620 Lacs
2	Solid & Hazardous Waste management	1.5	2.5	3.8	5	Hazardous waste storage area =2000 sqm * Rs 25000 / sqm = Rs. 500 Lacs

3	Wastewater management	194.83	324.71	487.07	649.42	MEE cost @ Rs. 228 cr for 3.040 MLD (1 no. 3.00 MLD + 1 no. 0.04 MLD), ETP Cost @ Rs. 410.69 Cr. for 5.2 MLD, RO Cost @Rs. 10.0 cr for 3.0 MLD, STP cost @ Rs. 0.72 cr for 0.12 MLD
4	Noise management (enclosures etc)	1.5	2.5	3.8	5	Acoustic enclosures for 12 DGS + 2 TFH + 6 Blowers etc., = 20 nos. X 25 Lakh =Rs. 500 Lacs
5	Landscaping/Green Belt	0.5	0.8	1.2	1.35	Inside GB costing = 33% area under GB; Rs.240 per saplings, no. of trees saplings-56,463;
6	Rainwater harvesting	0.5	0.9	1.3	1.73	Roof top area 29,454 sqm considered as Rs. 590 per sqm
7	Social Activities (CER)	4.9	6.3	7.8	10.2	0.51% of the project cost (i.e.2000 Cr)
8	Safety (Fire, OHC, ECC)	18	30	45	60	● Fire hydrant system consisting of water reservoir, fire pumps, fire hydrant system covering all of the buildings, fire extinguishers, sprinkler system, CO2 flooding system for electrical panels and nitrogen injection fire protection system for transformers. ● Automatic Detection and Fire Alarm Systems including heat and smoke detectors ● Fire Tender, Static charge dissipating system, Personnel Protective Equipment (PPEs), SCBA, Occupational Health Centre (OHC), Ambulance, Emergency Control Center (ECC), Safety training center
9	Solar & wind energy harvesting	0.5	0.8	1.1	1.5	Wind energy 2.5 MW = Rs. 15 Lacs*2.5= Rs. 37.5 Lacs, Solar Energy 2.5 MW = Rs. 45 Lacs*2.5=Rs. 112.5 Lacs Total= Rs. 150 Lacs
	Total	**230.13**	**381.61**	**570.77**	**760.4**	

B. Recurring cost

S. No.	Particulars	Cost in Cr. (Total after 1st year)	Cost in Cr. (Total after 2nd year)	Cost in Cr. (Total after 3rd year)	Cost in Cr. (Total after 4th year and onwards)
1	Air management ((including air Pollution Control Devices & stacks, water sprinkling)	1.18	1.97	2.95	3.93
2	Solid Waste management	0.86	1.43	2.14	2.85
3	Noise management (enclosures etc.)	0.66	1.1	1.65	2.2
4	Wastewater management	37.01	61.68	92.52	123.36
5	Landscaping/plantation	0.44	0.73	1.09	1.13
6	Rainwater harvesting	0.15	0.24	0.36	0.49
7	Environment monitoring	0.09	0.15	0.22	0.29
8	Safety (Fire, OHC, ECC)	0.99	1.65	2.48	3.3
9	Solar & wind energy harvesting	0.05	0.08	0.11	0.15
	Total	**41.4**	**69**	**103.5**	**137.7**

22. PP vide ADS reply dated 24.03.2025 has submitted the following information:

1. PP reported that the project boundary has been overlaid on the Coastal Zone Management Plan prepared by National Centre for Sustainable Coastal Management (NCSCM) for the Forest & Environment Department, Gujarat as per Coastal Regulation Zone Notification, 2011. PP confirmed that project site is located at a distance of 400 m from CRZ boundary.

PP submitted an undertaking stating that the project site is located at a distance of 400 m from the CRZ boundary. The proposed project does not fall under the CRZ and thus there is no requirement of CRZ clearance.

2. A village named Suva is located adjacent to the project site. The following environmental safeguards were proposed to be adopted by PP:

- 1st level of protection: Fully automated system shall be provided through a provision of DCS (Distributed Control System) & interlocking system within the plant. Provision of adequate scrubbers will be there for emission control. In case of any leakage, it will initially be handled by the site engineer/ supervisor. Sensors & alarms for HCl, SO2, HC, H2S, Br2 and Cl2 will be installed at the storage sheds & manufacturing area.
- 2nd stage protection: If in any case, the magnitude of any hazardous emission reaches beyond the plant area, then detection shall be done through provision of secondary sensors and alarms for HCl, SO2, HC, H2S, Br2 and Cl2 at the project boundary wall.
- Emergency response team shall be formed to handle such situations and necessary actions for timely evacuation of the workers from the process area to the assembly points shall be taken.
- In case of power failure during an emergency, D.G. sets will be used for shutting down the affected plant and UPS will be installed for backup purpose.
- Additionally, mock drills will be conducted in the nearby schools, hospitals & Suva Village at least once in a year.
- Dense Green Belt shall be provided at the periphery of the site, i.e. 50 m – 250 m (No. of Tree Rows- 25 to 125 rows) towards the Suva village at W side and the school side at NNW, approx. 174 m (No. of Tree Rows- 37 rows) towards the school side at N and approx. 15 m-155 m (No. of Tree Rows- 7-77 rows) towards the nallah side at E.
- Location of bulk storage of chemicals is away from the sensitive areas - concerning safety, the bulk storage of chemicals is kept max away from the Suva village, the nearest School and Hospital.
- 100% collection and reuse of rainwater runoff is proposed during rainy days by the provision of rainwater collection ponds and a tank to avoid any contamination entering the nallah. A garland drain system shall be constructed around the site to divert rainwater effectively. Moreover, the contour of the plot is such that Suva village is on a higher elevation than the plot. The slope of the plot is towards the east side.

3. PP informed that the Chlore Alkali plant will use recycled KCl generated from the proposed pesticide unit to manufacture KOH, Chlorine and Hydrogen which shall then be used as raw materials for the manufacturing of pesticide products, i.e. for captive use. PP submitted an undertaking confirming that the unit does not intend to manufacture bulk drugs. Details of proper infrastructure to be developed for internal transfer as well as storage of feedstock and product are as follows:

- **KCl-** KCl will be stored in pallets in a storage area of 1820 sq.m. having 6 nos. of sheds (305 sq.m. each). Adequate KCl storage will be provided for 3 days, i.e. for approx. 749 TPD.
- **KOH -** It will be stored in MS storage tanks of 50 KL capacity.
- **Hydrogen gas-** Hydrogen gas generated will be stored in a surge tank of 2 KL*2 nos. tanks to be used in pesticide products. Partially it will be used to manufacture aq. HCl, which will be used as a raw material and aq. HCl will be stored in 50 KL * 2 nos. HDPE tanks in the Acid tank farm area.
- **Chlorine gas-** Chlorine gas generated will be stored in a surge tank of 5 KL*2 nos. tanks to be used in pesticide products. If required, Chlorine will be bottled in tonners & stored in a gas cylinder shed approved by the PESO authority.

4. PP submitted revised break-up of EMP, CER, capital and recurring cost after revision in plant layout plan.

5. PP informed the committee that awareness programs shall be carried out annually in the nearby villages about the use of hazardous chemicals in the industry and adoption of safety measures by providing safety booklets having visuals and verbal narratives in local languages. Along with that presentations will be prepared covering safety points covered in booklet, safety skits will be played in the local language, conduction of mock drills etc. as part of awareness programs in the nearby villages about the use of hazardous chemicals in the industry and adoption of safety measures. Also, mock drills will be done based on different scenarios and will be carried out once in a year to help the villagers as a precautionary measure in case of emergency in the industry and an offsite emergency plan will be prepared and submitted to the local authority.

6. PP agreed to provide proper sensor and hood with channelization system along with scrubbing system for chlorine

storage and usage area. A similar suitable system shall also be used for handling of Bromine and Carbon di-sulphide chemicals.

7. PP agreed to transport hazardous chemicals only through tanker mounted with GPS tracking system and comply with the MSIHC rules, 1989 (amended from time to time).

8. PP submitted revised layout plan after incorporating additional 3 assembly points in NW, E and SE direction of the project site towards the safest point in addition to the earlier proposed 2 assembly points in the NE and SSE direction of the project site.

9. PP informed that they shall install 3 no. silos of capacity 100 MT each for storage of fly ash, 1 no. of silo of 100 MT capacity for storage of bottom ash and 1 no. of silo of 100 MT capacity for storage of boiler ash.

10. PP agreed to follow CPCB guidelines during designing stage of captive incineration & same shall be followed during installation & operation stage. PP also proposed a captive incinerator facility of 1 x 27 TPD (Thermal capacity 4.5 Million Kcal/hr) for the plant. 864 TPA of LDO/LSHS (Premium) will be used as fuel for the same.

11. PP provided a document clearly stating categorization of the chemicals identified as hazardous as per MSIHC rules, 1989 and their respective way of disposal pathways are summarized below:
· Toxic liquids- Reactants like HCl, H2SO4, NaOH, KOH, etc. will be finally converted to products/ by-products. Hazardous waste will be sold to end users having permission under Rule 9 of the HW Rules or will be neutralized using Lime. Resultant salts carried out in effluent as suspended particles will be disposed of as ETP Sludge or as MEE Salt at TSDF.
12. PP confirmed that there is no generation of CS2 generated during the manufacturing process of Thiophanate Methyl. PP informed that Methyl chloroformate is treated with sodium thiocyanate in toluene followed by the addition of orthophenylene diamine & pyridine, as catalysts, to get Thiophanate –Methyl.

13. PP submitted revised the green belt to be developed inside the plot area by increasing it from 13.98 Ha (25.6% of the plot area) to 18.07 Ha (33.09 % of the total plot area). Total 45,170 no. of tree saplings (i.e. Considering an 80% survival rate 56,463 No. of Saplings) shall be planted @ 2,500 trees/ha of green belt area.

14. PP updated that layout to include storm water lines and a rainwater pond, overlaid with contour planes ensuring no water is discharged from the unit towards Suva Village. PP also informed that the Overall rainwater collection proposed annually is 269,981 KL which will be completely collected and reused. For one day storage of rainwater collection considering peak rainfall, one rainwater collection tank with dimensions 8m x 8m x 4m, having a total capacity of 256 cu. m. with continuous water pumping is proposed for the collection of rainwater and 2 nos. of ponds of 120 sqm and height of 7 m totaling to a capacity of 1680 cu. m. with continuous water pumping has been proposed. To avoid any leachate going to the groundwater, the pond will be covered with geomembranes before the collection of the rainwater. Appropriate treatment will be provided to rainwater that is collected before reuse. On an average 2.78 MLD (2,778 KLD) of rainwater will be collected & reused during rainy days in the industrial process, cooling, boiler makeup, scrubbing, vessel cleaning and R&D Labs.

15. PP submitted revised water balance after factoring in the updated green belt area.

16. PP submitted the handling and storage philosophy for major hazardous chemicals along with hazardous waste disposal pathways corresponding to the category of the waste.

17. PP submitted updated Environment Management Plan (EMP) in line with the revised parameters.

18. It was observed that one nallah/drain is passing nearby the project site. PP informed that the area between the plot boundary and the GIDC service road, a utility service corridor of 20m width is laid. Further to it, there is a GIDC service road of 45m width. Thus, after total 65m width, a seasonal natural stormwater drain passes (Eastward of the project site & Flow is from N to S) which ultimately joins the Narmada River. Following additional environmental safeguard points shall be taken into consideration to avoid any contamination going into the seasonal natural storm water drain passing near the project site:

● A designated green belt ranging from 15 m to 155 m in width shall be provided at the east side of the plot along the seasonal natural storm water drain shall be provided to prevent soil erosion and enhance ecological restoration.
● Measures like rainwater collection ponds and tanks shall be provided for rainwater runoff management to collect 100% of rainwater during rainy days. The stormwater drains across the plot shall be provided with a gate valve and a garland drain. Stormwater that is collected is given primary treatment & is reused completely. None of the rainwater runoff goes outside the plot. Only, in case of an emergency, rainwater will be pumped back to an additional storage tank of 500 KL capacity.
● A garland drain system shall be constructed around the site to divert rainwater effectively.

23. **Deliberations by the EAC:**
The following points were discussed in the meeting:

1. PP submitted an undertaking stating the following:

· Permanent hoardings containing messages related to safety measures to be followed by public, specific to Chlorine shall be installed in marketplaces, schools and other community areas in Suva village.
· Design of incinerator shall comply with CPCB guidelines and norms, which shall also be vetted by an authorized agency and an institute of National repute.
· MOU shall be done with various authorized agencies to properly utilize the hazardous wastes as per Rule 9 of HOWM 2016 (amended from time to time).
· Agreements shall be done with TSDF sites and their operator as per the quantum of the wastes generated.
· At any given point in time, only 50 technical products and their intermediates shall be produced among the complete list of technical products.
2. PP submitted detailed computation of the ash generation, storage and disposal frequency.

3. PP submitted the details of the design of the incinerator, incoming waste, minimum and maximum quantity, operating days and hours, auxiliary fuel addition and other details to justify the basic design and capacity.

4. PP submitted revised hazardous waste table is to be given, clearly showing in-house incineration and Rule 9 applicability for wastes along with the revised process and utility emissions considering stringent standards with APCS especially for Dioxin and Furan emission norms in incinerator stack emission. PP also submitted the revised process emissions with suitable control systems, showing the recovery of chemicals to avoid emissions into the atmosphere.

5. PP submitted provisional agreements executed for landfilling (Integrated Common Hazardous Waste Management Facility) with M/s. Safe enviro Pvt. Ltd. dated 07/04/2025, which corresponds to the first year's requirement, and whose quantity shall increase gradually as the production enhances with time.

6. PP submitted the Conservation Plan with a budget of around INR: 7.0 Lakh has been submitted at the Office of Deputy Conservator of Forest, Social Forestry Division, Bharuch on 20/12/23 and to Chief Wildlife Warden on 02/03/24. Revised Conservation Plan was submitted with the budget of INR: 70.20 Lakh to the chief wildlife warden, Gandhinagar dated 25/05/2024 vide letter no. GCL/DCF/DH/81/24 and approval for the same is obtained WLPC/T-2/365-67/2023-24 dated 31/05/2024.

7. PP submitted the document of GIDC showing the latitude and longitude of the additional green area within GIDC. GIDC allotted 10.92 ha of land to Gharda Chemicals Limited on 03/01/2023 vide letter no. GIDCEE/R &B/ DII/PB/267/1037 vide letter dated 03/01/2023. PP agreed to undertake development & maintenance of Plantation/gardens/landscaping at their own cost as per the terms and conditions contained in MOU signed with GIDC.

8. PP submitted a revised break-up of EMP budget.
The committee was satisfied with the response provided by PP on above information.

The EAC deliberated the Onsite and Offsite Emergency plans and also the various mitigation measures proposed during the implementation of the project and advised the PP to implement the provisions of the Rules and guidelines issued under the Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) Rules, 1989, The Public Liability Insurance Act, 1991 and the Chemical Accidents (Emergency Planning, Preparedness and Response) Rules, 1996, as amended from time to time.

The EAC deliberated on the proposal with due diligence in the process as notified under the provisions of the EIA Notification, 2006, as amended from time to time and accordingly made the recommendations to the proposal. The Experts Members of the EAC found the proposal in order and recommended for the grant of environmental clearance.

The EAC is of the view that its recommendation and grant of environmental clearance by the regulatory authority to the project/activity is strictly under the provisions of the EIA Notification 2006 and its subsequent amendments. It does not tantamount/construe to approvals/consent/permissions etc. required to be obtained or standards/conditions to be followed under any other Acts/ Rules/ Subordinate legislations, etc., as may be applicable to the project. The PP shall obtain necessary permission as mandated under the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981, as applicable from time to time, from the State Pollution Control Board, prior to construction & operation of the project.

24. Based on the proposal submitted by the PP and recommendations of the EAC, in its 98th EAC held on 07.04.2025 (Industry-3 Sector), the Ministry of Environment, Forest and Climate Change hereby accords Environmental Clearance for **"Establishment of Industrial Facility for manufacturing of the Agrochemicals & their Intermediates, Synthetic Organic Chemicals & their Intermediates, Chlor-alkali products, Petrochemical based processing products and Captive Co-generation Power Plant" at Plot No. D-II/4, Dahej II GIDC Industrial Estate, Village Suva, Taluka Vagra, Dist. Bharuch, Gujarat"** under the provisions of the EIA Notification 2006 and its subsequent amendments therein, subject to compliance of the Specific and General terms and conditions as mentioned at **Annexure-1**. The Ministry reserves the right to stipulate additional conditions, if found necessary at subsequent stages and the project proponent shall implement all the said conditions in a time bound manner. The Ministry may revoke or suspend the environmental clearance, if implementation of any of the above conditions is not found satisfactory.

25. The project proponent shall prominently advertise it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days indicating that the project has been accorded environment clearance and the details of MoEF&CC/SEIAA website where it is displayed.

26. The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the

same for 30 days from the date of receipt.

27. The project proponent shall have a well laid down environmental policy duly approved by the Board of Directors (in case of Company) or competent authority, duly prescribing standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest / wildlife norms / conditions.

28. Action plan for implementing EMP and environmental conditions along with responsibility matrix of the project proponent (during construction phase) and authorized entity mandated with compliance of conditions (during operational phase) shall be prepared. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Six monthly progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six-Monthly Compliance Report.

29. Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.

30. The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.

31. Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

32. The above conditions will be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, the Hazardous Waste (Management, Handling and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 read with subsequent amendments therein.

This issues with the approval of the Competent Authority.

Copy To

1. The Principal Secretary, Forests & Environment Department, Government of Gujarat, Sachivalaya, 8th Floor, Gandhi Nagar - 382 010 (Gujarat)
2. Deputy Director General of Forests (C) Ministry of Env., Forest and Climate Change, Integrated Regional Office, Gandhi Nagar, A-Wing – 407 & 409, Aranya Bhawan, Near CH-3 Circle, Sector-10A, Gandhi Nagar - 382010
3. The Chairman, Central Pollution Control Board Parivesh Bhavan, CBD-cum-Office Complex, East Arjun Nagar, Delhi -32
4. The Member Secretary, Gujarat State Pollution Control Board, Paryavaran Bhawan, Sector 10 A, Gandhi Nagar-382 043 (Gujarat)
5. The Member Secretary, Central Ground Water Authority, Jamnagar House, 18/11, Man Singh Road Area, New Delhi, Delhi 110001
6. The District Collector, District **Bharuch**, Gujarat.
7. Guard File/Monitoring File/Website/Record File/Parivesh portal.

Annexure 1

Specific EC Conditions for (Synthetic Organic Chemicals Industry)

1. Specific Conditions

S. No	EC Conditions
1.1	The company shall 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, and risk mitigation measures relating to the project shall be implemented.
1.2	5 fields ESP followed by wet scrubber along with stack height of 78 m, 66 m and 62m shall be provided to Coal (primary fuel)/ Biomass Briquette fired CPP Boiler (90 TPH; 50 TPH and 30 TPH) to control particulate emissions as per CPCB /SPCB norms. ESP followed by wet scrubber along with stack height of 78 m, 50 m, 45m, 45m, 33m and 33m shall be provided to Biomass Briquette (primary fuel)/ coal fired CPP Boiler (90 TPH; 20 TPH, 15 TPH, 15 TPH, 5TPH and 5 TPH) to control particulate emissions as per CPCB /SPCB norms. Stack height of 35m & 32 m shall be provided to LDO fired TFH (10 lakh Kcal /hr & 8 lakh Kcal/hr). DG set (35 KVA) as per CPCB/SPCB norms. Stack height of 30m shall be provided to DG set (6x1500 KVA; 6x 1000 KVA) as per CPCB/SPCB norms.
1.3	Two Stage Alkali Scrubber followed by Venturi scrubber along with adequate stack height shall be provided to control process emissions viz., hydrogen chloride, sulfur dioxide, Cl2, Br2, H2S, CH3Cl, hydrogen bromide etc. Two Stage water followed by acidic scrubber along with adequate stack height shall be provided to control process emissions viz., ammonia. Caustic scrubber along with adequate stack height shall be provided to control process emissions viz., CO2. Water scrubber along with adequate stack height shall be provided to control process emissions viz., VOC. The scrubbed water should be sent to ETP for further treatment. Efficiency of scrubber shall be monitored regularly and maintained properly. At no time, the emission levels shall go beyond the prescribed standards.
1.4	Fugitive emissions in the work zone environment, product, raw materials storage area etc. shall be regularly monitored. The emissions shall conform to the limits imposed by SPCB. Odour management plan shall be implemented.
1.5	The total fresh water requirement from GIDC water supply shall not exceed 10 MLD.
1.6	NOC from the Concerned Local authority shall be obtained before start of the construction of plant and drawing of the GIDC water supply for the project activities, State Pollution Control Board / Pollution Control Committees shall not issue the Consent to Operate (CTO) under Air (Prevention and Control of Pollution) Act and Water (Prevention and Control of Pollution) Act till the project proponent shall obtain such permission.
1.7	Total industrial wastewater generation from project shall not exceed 5.87 MLD. Industrial effluent shall be segregated into High TDS/COD and low TDS/COD effluent streams. High TDS/COD effluent stream shall be passed through stripper followed by single effect evaporator and ATFD. Condensate and low TDS/COD effluent stream shall be treated in the ETP comprising of primary,

S. No	EC Conditions
	secondary and tertiary treatment systems including RO. 1.53 MLD treated effluent shall be recycled/reused in the process and cooling make up. Remaining 2.1 MLD effluent shall be discharged into CETP, Dahej after achieving inlet norms prescribed by the CPCB/SPCB and final disposal pipeline. Automatic /online monitoring system (24 X 7 monitoring devices) for pH meter, flow meter and TOC analyzer shall be installed. Cyanide effluent stream shall be segregated and treated in the dedicated ETP and connected with DCS. ORP meter shall be installed in the ETP. Sewage shall be treated in the STP and treated sewage shall be used for horticulture purpose.
1.8	As proposed, the following adequate environmental safeguards shall be provided to address the environmental concerns arising out of proximity to village named Suva located adjacent to the project site: a) Fully automated system shall be provided through a provision of DCS (Distributed Control System) & interlocking system within the plant. Provision of adequate scrubbers will be there for emission control. In case of any leakage, it will initially be handled by the site engineer/ supervisor. Sensors & alarms for HCl, SO2, HC, H2S, Br2 and Cl2 will be installed at the storage sheds & manufacturing area. b) Secondary sensors and alarms for HCl, SO2, HC, H2S, Br2 and Cl2 shall be placed at the project boundary wall. c) Emergency response team shall be formed to handle such situations and necessary actions for timely evacuation of the workers from the process area to the assembly points shall be taken. d) In case of power failure during an emergency, D.G. sets will be used for shutting down the affected plant and UPS will be installed for backup purpose. e) Additionally, mock drills shall be conducted in the nearby schools, hospitals & Suva Village at least once in a year. f) Dense Green Belt shall be provided at the periphery of the site, i.e. 50 m – 250 m (No. of Tree Rows- 25 to 125 rows) towards the Suva village at W side and the school side at NNW, approx. 174 m (No. of Tree Rows- 37 rows) towards the school side at N and approx. 15 m-155 m (No. of Tree Rows- 7-77 rows) towards the nallah side at E. g) Location of bulk storage of chemicals shall be away from the sensitive areas - concerning safety, the bulk storage of chemicals should be kept maximum away from the Suva village, the nearest School and Hospital. h) 100% collection and reuse of rainwater runoff shall be done during rainy days by the provision of rainwater collection ponds and a tank to avoid any contamination entering the nallah. A garland drain system shall be constructed around the site to divert rainwater effectively. Moreover, the contour of the plot is such that Suva village is on a higher elevation than the plot. The slope of the plot should be towards the east side.
1.9	The PP shall develop greenbelt of at least 5-10 m width over an area of 18.07 ha (33 % of total plot area) within the project site mainly along the plant periphery, preferably within a year of the grant of EC. Dense Green Belt shall be provided at the periphery of the site, i.e. 50 m – 250 m thick (No. of Tree Rows- 25 to 125 rows) towards the Suva village at West side and the school side at NNW,

S. No	EC Conditions
	approx. 174 m (No. of Tree Rows- 37 rows) towards the school side at North and approx. 15 m-155 m (No. of Tree Rows- 7-77 rows) towards the nallah side at E. A total of 56463 nos. of trees shall be planted. Tree saplings selected for the plantation should be of sufficient height, preferably 6-ft shall be planted in greenbelt area. The budget earmarked for the plantation shall be kept in a separate account and should be audited annually. The PP shall annually submit the audited statement along with proof of activities viz. photographs (before & after with geo-location date & time), details of expert agency engaged, details of species planted, number of species planted, survival rate, density of plantation etc. to the Regional Office of MoEF&CC before 1st July of every year for the activities carried out during previous year.
1.10	Plantation of saplings shall be carried out as a part of tree plantation campaign "EK PED MAA ke NAAM" and details of the same to be uploaded in the Meri LiFE portal (https://merilife.nic.in) in respect to this Ministry's OM No. IA3-22/3/2024-IA.III(E-241594) dated 24th July 2024.
1.11	All the hazardous waste shall be managed and disposed as per the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016. Hazardous waste such as Distillation Residue and Off Specification Products shall be either sent to common incineration site or sent for coprocessing. Solid waste shall be segregated into dry and wet garbage at site in accordance to the Solid Waste Management Rules, 2016. Wet waste shall be converted into compost on site and used as manure for greenbelt development. Fly ash from coal as well as biomass shall be collected in dedicated silo and handed over to cement manufacturing unit/bricks manufacturing.
1.12	PP shall not produce or consume Ozone Depleting Substances without registration under Ozone Depleting Substances (Regulation and Control) Rules 2000 as amended from time to time.
1.13	Captive hazardous waste incinerator shall be designed according to the guidelines provided by the Central Pollution Control Board (CPCB). The incinerator shall meet specific performance standards and pollution control norms. Incinerated ash shall be sent to treatment storage disposal facility (TSDF)
1.14	Continuous online (24x7) monitoring system for stack emissions shall be installed for measurement of flue gas discharge and the pollutants concentration, and the data to be transmitted to the CPCB and SPCB servers. For online continuous monitoring of effluent, the unit shall install web camera with night vision capability and flow meters in the channel/drain carrying effluent within the premises.
1.15	Roof top rain water shall be collected in 2x 256 KL underground RCC storage tank. The rain water collected shall be reused within the plant after filtration as per requirement. Storm water from the open area shall be collected separately and stored in an underground RCC storage tank, which has shall be recycled/reused within the plant premises.
1.16	A separate Environmental Management Cell (having qualified persons with Environmental

S. No	EC Conditions
	Science/Environmental Engineering/specialization in the project area) equipped with full-fledged laboratory facilities shall be set up to carry out the Environmental Management and Monitoring functions. PP shall engage Environment officials. In addition to this one safety & health officer as per the qualification given in Factories Act 1948 shall be engaged within a month of grant of EC. PP should annually submit the audited statement of amount spent towards the engagement of qualified persons in EMC along with details of person engaged to the Regional Office of MoEF&CC before 1st July of every year for the activities carried out during previous year.
1.17	The company shall 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, and risk mitigation measures relating to the project shall be implemented. The budget proposed under EMP is Rs. 760.4 Crore (Capital cost) and Rs. 137 Crore per annum (Recurring cost) shall be kept in separate account and should be audited annually. The PP should submit the annual audited statement along with proof of implementation of activities proposed under EMP duly supported by photographs (before & after with geo-location date & time) and other document as applicable to the Regional Office of MoEF&CC before 1st July of every year for the activities carried out during previous year.
1.18	A dedicated hood alongwith suction device followed by 2 stage scrubber system of water and caustic based system shall be provided to capture emergency release of Chlorine at work place. Level Indicator Transmitters, Pressure Gauges, and Flow switches for accuracy, Auto control (PLC based) system with Audio-visual Alarm system, etc. has been proposed for proper management of Chlorine. Chlorine sensors shall be installed in the Chlorine storage area at lower level & also near the Chlorine handling areas shall be provided.
1.19	No banned chemicals shall be manufactured by the project proponent. No banned raw materials shall be used in the unit. The project proponent shall adhere to the notifications/guidelines of the Government in this regard.
1.20	The project proponent shall utilize modern technologies for capturing of carbon emitted and shall also develop carbon sink/carbon sequestration resources capable of capturing more than emitted. The implementation report shall be submitted to the IRO, MoEF&CC in this regard.
1.21	The project proponent shall comply with the environment norms for synthetic organic chemical as notified by the Ministry of Environment, Forest and Climate Change, vide GSR 608 (E), dated 21.7.2010 under the provisions of the Environment (Protection) Rules, 1986. The project proponent shall comply with the environment norms for 'Pesticide Industry' as notified by the Ministry of Environment, Forest and Climate Change, vide GSR 446 (E), dated 13.6.2011 under the provisions of the Environment (Protection) Rules, 1986.
1.22	All necessary precautions shall be taken to avoid accidents and action plan shall be implemented for avoiding accidents. The project proponent shall implement the onsite/offsite emergency plan/mock drill etc. and mitigation measures as prescribed under the rules and guidelines issued in the Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) Rules, 1989, as amended time

S. No	EC Conditions
	to time, and the Chemical Accidents (Emergency Planning, Preparedness and Response) Rules, 1996. The occupier of new as well as expansion projects shall be required to comply with the provisions of the MSHIC Rules, 1989 including notifying their activities or seeking site approval from the concerned authorities, to address operational safety aspects. In doing so, various schedule, particularly Schedule-5 of the said rules may be referred.
1.23	The volatile organic compounds (VOCs)/Fugitive emissions shall be controlled at 99.97 % with effective chillers/modern technology. Regular monitoring of VOCs shall be carried out.
1.24	The storage of toxic/hazardous raw material shall be bare minimum with respect to quantity and inventory. Quantity and days of storage shall be submitted to the Regional Office of Ministry and SPCB along with the compliance report.
1.25	Permanent hoardings containing messages related to safety measures specific to Chlorine shall be installed in marketplaces, schools and other community areas in Suva village.
1.26	The occupational health centre for surveillance of the worker's health shall be set up. The health data shall be used in deploying the duties of the workers. All workers & employees shall be provided with required safety kits/mask for personal protection. Training shall be imparted to all employees on safety and health aspects for handling chemicals. Safety and visual reality training shall be provided to employees. Action plan for mitigation measures shall be properly implemented based on the safety and risk assessment studies.
1.27	The 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) Solvents shall be stored in a separate space specified with all safety measures. (d) Proper earthing shall be provided in all the electrical equipment wherever solvent handling is done. (e) Entire plant shall be flame proof. The solvent storage tanks shall be provided with breather valve to prevent losses. (f) All the solvent storage tanks shall be connected with vent condensers with chilled brine circulation.
1.28	The PP shall undertake waste minimization measures as below (a) Metering and control of quantities of active ingredients to minimize waste; (b) Reuse of by-products from the process as raw materials or as raw material substitutes in other processes. (c) Use of automated filling to minimize spillage. (d) Use of Close Feed system into batch reactors. (e) Venting equipment through vapor recovery system. (f) Use of high pressure-hoses for equipment cleaning to reduce wastewater generation.
1.29	PP shall sensitize and create awareness among the people working within the project area as well as its surrounding area on the ban of Single Use Plastic in order to ensure the compliance of

S. No	EC Conditions
	Notification published by MOEFCC on 12th August, 2021. A report along with photographs on the measures taken shall also be included in the six-monthly compliance report being submitted to concerned authority.

Standard EC Conditions for (Synthetic organic chemicals industry)

1.

S. No	EC Conditions
1.1	No further expansion or modifications in the plant, other than mentioned in the EIA Notification, 2006 and its amendments, shall be carried out without prior approval of the Ministry of Environment, Forest and Climate Change/SEIAA, as applicable. 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/SEIAA, as applicable, to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any.
1.2	The Project proponent shall strictly comply with the rules and guidelines issued under the Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) Rules, 1989, as amended time to time, the Chemical Accidents (Emergency Planning, Preparedness and Response) Rules, 1996, and Hazardous and Other Wastes (Management and Trans-Boundary Movement) Rules, 2016 and other rules notified under various Acts.
1.3	The energy source for lighting purpose shall be preferably LED based, or advanced having preference in energy conservation and environment betterment.
1.4	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 the Environment (Protection) Act, 1986 Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time).
1.5	The company shall undertake all relevant measures for improving the socio-economic conditions of the surrounding area. The activities shall be undertaken by involving local villages and administration. The company shall undertake eco-developmental measures including community welfare measures in the project area for the overall improvement of the environment.
1.6	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.
1.7	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.
1.8	The project proponent shall also upload/submit six monthly reports on Parivesh Portal on the status of compliance of the stipulated Environmental Clearance conditions including results of monitored

S. No	EC Conditions
	data to the respective Integrated 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.
1.9	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 Integrated Regional Office of MoEF&CC by e-mail.
1.10	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 and at https://parivesh.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.
1.11	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.
1.12	This Environmental clearance is granted subject to final outcome of Hon'ble Supreme Court of India, Hon'ble High Court, Hon'ble NGT and any other Court of Law, if any, as may be applicable to this project.

Additional EC Conditions

N/A

Annexure 2

Details of the Project

S. No.	Particulars	Details
a.	Details of the Project	Establishment of Industrial Facility for manufacturing of the Agrochemicals & their Intermediates, Synthetic Organic Chemicals & their Intermediates, Chlor-alkali products, Petrochemical based processing products and Captive Co-generation Power Plant
b.	Latitude and Longitude of the project site	21.68568248228225,72.65705141173271 21.69724978410704,72.66489020748301

<table>
<tr><th>S. No.</th><th>Particulars</th><th>Details</th></tr>
<tr><td>c.</td><td>Land Requirement (in Ha) of the project or activity</td><td>
<table>
<tr><th>Nature of Land involved</th><th>Area in Ha</th></tr>
<tr><td>Non-Forest Land (A)</td><td>54.5957</td></tr>
<tr><td>Forest Land (B)</td><td>0</td></tr>
<tr><td>Total Land (A+B)</td><td>54.5957</td></tr>
</table>
</td></tr>
<tr><td>d.</td><td>Date of Public Consultation</td><td>Public consultation for the project was held on</td></tr>
<tr><td>e.</td><td>Rehabilitation and Resettlement (R&R) involvement</td><td>NO</td></tr>
<tr><td>f.</td><td>Project Cost (in lacs)</td><td>200000</td></tr>
<tr><td>g.</td><td>EMP Cost (in lacs)</td><td>75996</td></tr>
<tr><td>h.</td><td>Employment Details</td><td></td></tr>
</table>

Annexure-3

The details of products and capacities are as under:

Particulars	Unit	Capacity
EC PRODUCTS		
Agrochemicals & its intermediates (5b)	TPA	4,36,200
Synthetic Organic Chemicals, pigments, polymers) (5f)	TPA	1,43,700
R&D products (5b & 5f)	TPA	60,000
Chlor Alkali Industry (4d)	TPA	2,00,000
Petrochemical based processing products (5e)	TPA	20,000
Captive Cogeneration Power Plants 1(d)	MW	CPP- 20 MW coal based 4.6 MW based on waste heat recovery.
CO-PRODUCTS	TPA	58,50,875
NON-EC PRODUCTS		
Pesticide Formulations (Solid & Liquid) from own technical source or technical purchased from outside market	TPA	1,00,000

As the plant will be developed year wise, production distribution for Agrochemicals & their Intermediates 5(b), Synthetic Organic Chemicals & their Intermediate 5(f), R & D products (5b & 5f), Petrochemical based processing products 5(e), Chlor-Alkali Industry 4(d), Pesticide Formulations (Solid & Liquid) & CPP 1(d) is given below:

Year of production	**% of total production**	**Total Products in TPA - (A+B+C)**	**Products- 5f & 5b, R&D products and Pesticide formulations (Non-EC) in TPA- (A)**	**Products- 5e in TPA - (B)**	**Products- 4d TPA - (C)**	**Production- CPP in MW**
First year	30	2,87,970	2,21,970	6,000	60,000	7.4 MW
Second year	50	4,79,950	3,69,950	10,000	1,00,000	12.3 MW
Third year	75	7,19,925	5,54,925	15,000	1,50,000	18.5 MW
Fourth year onwards	100	9,59,900	7,39,900	20,000	2,00,000	24.6 MW

Product No.	Name of the Product	Product/ Intermediate/ Co-Product	Category	CAS NO.	End use	Production as per business-as-usual scenario, TPA	Production as peak pollution load scenario, TPA
1A	Bispyribac Sodium	Product	5b	125401-92-5	Herbicide	26000.00	4000.00
1B	Metolachlor & intermediates	Product	5b	51218-45-2	Herbicide		
1B-i	(2-Methyl-6-ethyl phenyl)-(2-Methoxy-1-methyl ethylidine) amine	Intermediate	5b	118604-68-5	Used as herbicide intermediates		
1B-ii	(2-Methyl-6-ethyl phenyl)-(2-Methoxy-1-methyl-ethyl) Amine	Intermediate	5b	51219-00-2			
1C	Metamitron & intermediates	Product	5b	41394-05-2	Herbicide		
1C-i	MM (Methyl S-(+)-Mandelate)	Intermediate	5f	21210-43-5	Chemical		
1C-ii	PGE (Methylphenyl glyoxylate)	Intermediate	5f	15206-55-0	Chemical		
1C-iii	PGH-ACH	Intermediate	5b	93-56-1	Used as herbicide intermediates		
1D	Salflufenacil	Product	5b	372137-35-4	Herbicide		
1E	Metazachlor & intermediates	Product	5b	67129-08-2	Herbicide		
1E-i	Azomethane	Intermediate	5f	503-28-6	Chemical		
1E-ii	Chloromethyl Acetanilide	Intermediate	5f	1131-01-7	Chemical		
1F	Diuron & intermediates	Product	5b	330-54-1	Herbicide		
1F-i	N Methyl-N-(3,4 Dichloro) Phenyl Carbamate	Intermediate	5b	1918-18-9	Used as herbicide intermediates and		

					also in other chemical industries		
1(CP)-i	Hydrochloric acid	Co-product	Non EC	7647-01-0	Chemical	16206.67	2493.33
1(CP)-ii	Sodium carbonate 30%	Co-product	Non EC	497-19-8	Chemical	78353.60	12054.40
1(CP)-iii	Ammonium hydroxide	Co-product	Non EC	1336-21-6	Chemical	14857.14	2285.71
1(CP)-iv	Ethanol	Co-product	5f	64-17-5	Chemical	6396.00	984.00
1(CP)-v	Methanol	Co-product	5f	67-56-1	Chemical	7755.80	1193.20
2A	Indaziflam & intermediates	Product	5b	950782-86-2	Herbicide	19300.00	4000.00
2A-i	1-(amino-(2,6-dimethyl-2,3-dihydro-1H-inden-1-yl)amino) methyl guanidine hydrochloride	Intermediate	5b	21770-81-0	Used as herbicide intermediates and also in other chemical industries		
2B	Topramezone	Product	5b	210631-68-8	Herbicide		
2C	Aclonifen & intermediates	Product	5b	74070-46-5	Herbicide		
2C-i	2,3,4-Trichloronitrobenzene	Intermediate	5f	17700-09-3	Used as herbicide intermediates and also in other chemical industries		
2C-ii	2,3-Dichloro-6-nitro aniline	Intermediate	5f	65078-77-5			
2D	Cyprosulfamide & intermediates	Product	5b	221667-31-8	Herbicide		
2D-i	p-Toluene sulfonyl chloride	Intermediate	5b	98-59-9	Used as herbicide intermed		
2D-ii	p-Toluene sulfonamide	Intermediate	5b	70-55-3			

2D-iii	p-Carboxy-benzene sulfonamide	Intermediate	5b	138-41-0	iates and also in other chemical industries		
2D-iv	Amid chloride	Intermediate	5b	816431-72-8			
2E	Anilophos & intermediates	Product	5b	64249-01-0	Herbicide		
2E-i	Ammonium DMTA [Ammonium Salt of Dimethyl DithioPhosphoric Acid]	Intermediate	5b	1066-97-3	Used as herbicide intermediates		
2E-ii	Anilide	Intermediate	5b	84012-61-3			
2F	Imazethapyr	Product	5b	81335-77-5	Herbicide		
2G	Glufosinate Ammonium & intermediates	Product	5b	77182-82-2	Herbicide		
2H	Pyroxsulam	Product	5b	422556-08-9	Herbicide		
2I	Metamifop & intermediates	Product	5b	256412-89-2	Herbicide		
2I-i	(R)-2-(4-(6-chloro-2-benzoxazolyloxy)phenoxy)propionic acid	Intermediate	5b	113158-40-0	Used as herbicide intermediates		
2I-ii	(R)-2-(4-(6-chloro-2-benzoxazolyloxy)phenoxy)propionic acid chloride	Intermediate	5b	113158-40-0			
2J	Oryzalin & intermediates	Product	5b	19044-88-3	Herbicide		
2J-i	4-Chloro-3,5-dinitrobenzene sulfonic acid	Intermediate	5b	88-91-5	Used as herbicide intermediates		
2J-ii	3,5-dinitro-4-(N,N-di n-propyl amine)benzene sodium sulfonate	Intermediate	5b	515-42-4			
2(CP)-i	Methanol	Co-product	5f	67-56-1	Chemical	4747.80	984.00
2(CP)-ii	Bromine	Co-product	Non EC	7726-95-6	Chemical	4810.44	996.98
2(CP)-iii	Sodium carbonate 30%	Co-product	Non EC	497-19-8	Chemical	39753.56	8239.08

2(CP)-iv	Ammonium Chloride	Co-product	Non EC	7446-70-0	Chemical	4564.22	945.95
2(CP)-v	Potassium Chloride	Co-product	Non EC	7447-40-7	Chemical	8537.88	1769.51
2(CP)-vii	Sulfur dioxide gas (compressed)	Co-product	Non EC	7446-09-5	Chemical	12130.63	2514.12
2(CP)-vii	Hydrochloric acid 30%	Co-product	Non EC	7647-01-0	Chemical	30871.70	6398.28
2(CP)-viii	Manganese dioxide	Co-product	Non EC	1313-13-9	Chemical	9978.14	2068.01
2(CP)-ix	Sodium sufide/sodium hydrosulfide	Co-product	Non EC	1313-82-2	Chemical	6023.72	1248.44
2(CP)-x	Diethyl-5-ethyl-pyridine-2,3-dicarboxylic acid (Diacid)	Co-product	5f	105151-39-1	Chemical	4554.80	944.00
2(CP)-xi	Ethanol	Co-product	5f	64-17-5	Chemical	8607.80	1784.00
3A	TCP Ester -2 & intermediates	Product	5b	1330 – 78 – 5	Herbicide	64900.00	15000.00
3A-i	Trichloroacetic acid	Intermediate	5f	76-02-8	Chemical		
3A-ii	Sodium salt of 3,5,6,Trichloro Pyridine 20% (NaTCPOL)	Intermediate	5b	37439-34-2	Used as herbicide intermediates and also in other chemical industries		
3A-iii	MCABC ester	Intermediate	5b	5330-17-6			
3B	TCP Ester-1 & intermediates	Product	5b	1330 – 78 – 5	Herbicide		
3B-i	Trichloroacetic acid	Intermediate	5f	76-02-8	Chemical		
3B-ii	Sodium salt of 3,5,6,Trichloro Pyridine 20% (NaTCPOL)	Intermediate	5b	37439-34-2	Used as herbicide intermediates and also in other chemical industries		
3B-iii	Triclopyr Acid (3,5,6-Trichloro-2-pyridinyloxy acetic acid)	Intermediate	5b	55335-06-3			

3C	Dicamba & intermediates	Product	5b	1918-00-9	Herbicide		
3C-i	Mono Chloro Benzene (MCB)	Intermediate	5f	108-90-7	Used as herbicide intermediates and also in other chemical industries		
3C-ii	Para Dichloro Benzene (PDCB)	Intermediate	5f	106-46-7			
3C-iii	2,5 Di Chloro Nitro Benzene (2,5 DCNB)	Intermediate	5f	89-61-2			
3C-iv	2,5 Dichloro Aniline (2,5 DCA)	Intermediate	5f	95-82-9			
3C-v	Nitrosyl Sulphate 25%	Intermediate	5f	7782-78-7			
3C-vi	2,5 Dichloro Phenol (2,5 DCP)	Intermediate	5f	583-78-8			
3C-vii	Dichloro Salicyclic Acid Potasium Salt (DCSA K2 salt)	Intermediate	5f	68938-80-7			
3C-viii	Methyl Chloride (MeCl)	Intermediate	5b	74-87-3			
3C-ix	Dicamba Ester	Intermediate	5b	6597-78-0	Used as herbicide intermediate		
3(CP)-i	Hydrochloric acid	Co-product	Non EC	7647-01-0	Chemical	239156.50	55275.00
3(CP)-ii	Sodium bisulfite	Co-product	Non EC	7631-90-5	Chemical	75413.80	17430.00
3(CP)-iii	Ammonium hydroxide	Co-product	Non EC	1336-21-6	Chemical	7268.80	1680.00
3(CP)-iv	Meta dichloro benzene	Co-product	5f	541-73-1	Chemical	704.60	162.85
3(CP)-v	Ortho dichloro benzene	Co-product	5f	95-50-1	Chemical	19317.74	4464.81
3(CP)-vii	TCB (Trichlorobenzene)	Co-product	5f	120-82-1	Chemical	763.32	176.42
3(CP)-vii	Potassium chloride	Co-product	Non EC	7447-40-7	Chemical	55154.36	12747.54
4A	Bromoxynil Octanoate & intermediates	Product	5b	1689-99-2	Herbicide	35400.00	2000.00
4A-i	P-hydroxy-benzonitrile	Intermediate	5f	767-00-0	Used as herbicide intermediates and also in other chemical		
4A-ii	2,6-dibromo4-cyanophenol	Intermediate	5f	1689-84-5			
4A-iii	Octanoyl chloride	Intermediate	5f	111-64-8			

					industries		
4B	Bromoxynil Heptanoate & intermediates	Product	5b	56634-95-8	Herbicide		
4B-i	P-hydroxy-benzonitrile	Intermediate	5f	767-00-0	Used as herbicide intermediates and also in other chemical industries		
4B-ii	2,6-dibromo4-cyanophenol	Intermediate	5f	1689-84-5			
4B-iii	Heptanoyl Chloride	Intermediate	5f	2528-61-2			
4C	Pinoxaden R1 & intermediates	Product	5b	243973-20-8	Herbicide		
4C-i	2,6-diethyl -4-methyl bromo-benzene (2,6-DE-4-Me-Br-Bz)	Intermediate	5f	314084-61-2	Used as herbicide intermediates and also in other chemical industries		
4C-ii	1-(2,6-diethyl -4-methyl phenyl_-malononitrile	Intermediate	5f	314020-53-6			
4C-iii	1-(2,6-Diethyl-4-methyl-phenyl)-malonamide	Intermediate	5b	314020-40-1			
4C-iv	N,N'-Diacetylhydrazine (DAH)	Intermediate	5f	3148-73-0			
4C-v	2,2'-Dichlorodiethyl ether (DCDEE)	Intermediate	5b	111-44-4			
4C-vi	4,5-Diacetyl-hexahydrooxadiazepine (DAODAP) preparation	Intermediate	5b	83598-13-4			
4C-vii	Hexahydro-oxadiazepine HCl (OXA.HCl)	Intermediate	5b	405281-14-3			
4C-viii	Pyrazole Oxadiazepine	Intermediate	5b	314020-44-5			
4D	Sulfentrazone & intermediates	Product	5b	122836-35-5	Herbicide		
4D-i	5-Methyl-2-phenyl-2,4-dihydro-[1,2,4]-triazol-3-one (PT)	Intermediate	5f	22863-24-7	Used as herbicide		

4D-ii	4-Difluoromethyl-5-Methyl-2-phenyl-2,4-dihydro-[1,2,4]-triazol-3-one (DFMPT)	Intermediate	5b	133840-80-9	intermediates and also in other chemical industries		
4D-iii	4-Difluoromethyl-5-Methyl-2-(2,4-dichlorophenyl)-2,4-dihydro-[1,2,4]-triazol-3-one (DCPT)	Intermediate	5b	111992-16-6			
4D-iv	4-Difluoromethyl-5-Methyl-2-(2,4-dichloro-5-nitrophenyl)-2,4-dihydro-[1,2,4]-triazol-3-one (DCNPT)	Intermediate	5b	111992-17-7			
4D-v	4-Difluoromethyl-5-Methyl-2-(5-Amino-2,4-dichlorophenyl)-2,4-dihydro-[1,2,4]-triazol-3-one (ADCPT)	Intermediate	5b	111992-18-8			
4E	Pinoxaden R2 & intermediates	Product	5b	243973-20-8	Herbicide		
4E-i	Heptylene-4-malononitrile	Intermediate	5f	33296-20-7	Used as herbicide intermediates and also in other chemical industries		
4E-ii	Methacrolein	Intermediate	5f	78-85-3			
4E-iii	2-(2,6-diethyl -4-methyl cyclohexene-1-ylidine)-malononitrile	Intermediate	5f	314020-53-6			
4E-iv	2-(2,6-diethyl -4-methyl phenyl) malononitrile	Intermediate	5f	314020-40-1			
4E-v	1-(2,6-Diethyl-4-methyl-phenyl)-malonamide	Intermediate	5f	314020-40-1			
4E-vi	N,N'-Diacetylhydrazine (DAH)	Intermediate	5f	3148-73-0			
4E-vii	2,2'-Dichlorodiethyl ether (DCDEE)	Intermediate	5b	111-44-4			
4E-viii	4,5-Diacetyl-hexahydrooxadiazepine (DAODAP)	Intermediate	5b	83598-13-4			
4E-ix	Hexahydro-oxadiazepine HCl (OXA.HCl)	Intermediate	5b	405281-14-3			

4E-x	Pyrazole Oxadiazepine	Intermediate	5b	314020-44-5			
4CP)-i	Ammonium hydroxide	Co-product	Non EC	1336-21-6	Chemical	11660.76	658.80
4(CP)-ii	Hydrochloric acid	Co-product	Non EC	7647-01-0	Chemical	36281.46	2049.80
4(CP)-iii	Sulfur dioxide gas (compressed)	Co-product	Non EC	7446 - 09 - 5	Chemical	7277.78	411.17
4(CP)-iv	2,6-DE-4-Me-Phenol	Co-product	5f	128-37-0	Chemical	8063.13	455.54
4(CP)-v	Bromine	Co-product	Non EC	7726-95-6	Chemical	22692.92	1282.09
4(CP)-vi	Methyl Acetate	Co-product	5f	79-20-9	Chemical	16571.80	936.26
4(CP)-vii	Ammonium Chloride	Co-product	Non EC	7446-70-0	Chemical	11386.66	643.31
4(CP)-viii	Sodium carbonate 30%	Co-product	Non EC	497-19-8	Chemical	27647.40	1562.00
4(CP)-ix	Potassium Chloride	Co-product	Non EC	7447-40-7	Chemical	15537.27	877.81
5A	Mesotrione (TSC Route) & intermediates	Product	5b	104206-82-8	Herbicide	22000.00	1000.00
5A-i	4-Methyl sulfonyl toluene (MST)	Intermediate	5f	3185-99-7	Used as herbicide intermediates and also in other chemical industries		
5A-ii	2-Nitro-4-methyl sulfonyl toluene	Intermediate	5f	1671-49-4			
5A-iii	2-Nitro-4-methylsulfonyl benzoic acid	Intermediate	5f	110964-79-9			
5A-iv	Methyl-2-Cyano-2-(4-(methyl sulfonyl)-2-Nitrophenyl) acetate (cyano NMSB)	Intermediate	5b	1939104-66-1			
5A-v	2-nitro -4-(methyl sulfony) benzoic acid (NMSBA)	Intermediate	5b	110964-79-9			
5A-vi	2-nitro -4-(methyl sulfony) benzoyl chloride (NMSBAc)	Intermediate	5f	110964-80-2			
5A-vii	1,3-Cyclohexane dione -sodium salt(1,3-CHD -Na salt) 24% solution	Intermediate	5f	504-02-9			
5A-viii	Mesotrione Enol Ester	Intermediate	5b	226944-49-6			

5B	Oxyfluorfen & intermediates	Product	5b	42874-03-3	Herbicide		
5B-i	2-Cl-4-TFMP 2-chloro 4-trifluoro methyl phenol	Intermediate	5f	35852-58-5	Used as herbicide intermediates and also in other chemical industries		
5B-ii	2,4-Difluoro nitrobenzene	Intermediate	5f	446-35-5			
5B-iii	2-Hydoxy-4-fluoro nitrobenzene	Intermediate	5f	446-36-6			
5B-iv	2-Ethoxy-4-Fluoro nitrobenzene	Intermediate	5f	28987-44-2			
5C	Sulcotrione & intermediates	Product	5b	99105-77-8	Herbicide		
5C-i	Methyl sulfonyl toluene (MST)	Intermediate	5f	3185-99-7	Used as herbicide intermediates and also in other chemical industries		
5C-ii	2-Chloro-4-Methyl sulfonyl toluene (CMST)	Intermediate	5f	1671-18-7			
5C-iii	Chloro-4-methyl sulfonyl benzoic acid (CMSBA)	Intermediate	5f	53250-83-2			
5C-iv	2 Chloro-4-Methyl sulfonyl benzoic acid chloride (CMSBAc)	Intermediate	5f	106904-10-3			
5C-v	1,3-Cyclohexanedione (1,3 CHD)	Intermediate	5f	504-02-9			
5C-vi	Sulcotrione Ester	Intermediate	5f	114911-83-0			
5D	Clodinafop Propargyl & intermediates	Product	5b	105512-06-9	Herbicide		
5D-i	(2R)-2-[4-(5-chloro-3-fluoropyridin-2-yl)oxyphenoxy]propanoic acid (FPDPA)	Intermediate	5b	114420-56-3	Used as herbicide intermediates and also in other chemical industries		
5D-ii	(R)(+)-2-[4-(5-chloro-3-fluoropyridin-2-yloxy)-phenoxy]-propionic acid chloride (FPDPAC)	Intermediate	5b	101053-90-1			
5(CP)-i	Sodium carbonate 30%	Co-product	Non EC	497-19-8	Chemical	74308.83	3377.67
5(CP)-ii	Hydrochloric acid 30%	Co-product	Non EC	7647-01-0	Chemical	24036.47	1092.57
5(CP)-iii	Ammonium nitrate 40%	Co-product	Non EC	6484-52-2	Chemical	18916.92	859.86

5(CP)-iv	Sulfur dioxide gas (compressed)	Co-product	Non EC	7446-09-5	Chemical	5852.00	266.00
5(CP)-v	Sodium bicarbonate 10%	Co-product	Non EC	144-55-8	Chemical	15897 6.31	7226.20
5(CP)-vi	Nitric acid	Co-product	Non EC	7697-37-2	Chemical	5378.38	244.47
5(CP)-vii	Methanol	Co-product	5f	67-56-1	Chemical	3023.00	137.41
5(CP)-viii	Potassium chloride	Co-product	Non EC	7447-40-7	Chemical	28773.63	1307.89
5(CP)-ix	2-Cl-5-TFMP	Co-product	5f	40889-91-6	Chemical	1320.00	60.00
5(CP)-x	Potassium fluoride	Co-product	Non EC	7789-23-3	Chemical	6906.03	313.91
5(CP)-xi	Potassium bicarbonate	Co-product	Non EC	298-14-6	Chemical	13116.40	596.20
5(CP)-xii	2-Fluoro-4-hydroxy nitrobenzene	Co-product	5f	446-34-4	Chemical	639.15	29.05
5(CP)-xiii	Sodium bisulfite	Co-product	Non EC	7631-90-5	Chemical	29942.00	1361.00
6A	Mesotrione (MCB Route) & intermediates	Product	5b	104206-82-8	Herbicide	19300.00	1500.00
6A-i	MCB sulfonyl Chloride	Intermediate	5f	98-60-2	Used as herbicide intermediates and also in other chemical industries		
6A-ii	1-Chloro-4-(methyl sulfonyl) benzene	Intermediate	5f	98-57-7			
6A-iii	1-Chloro-2-nitro4-(methyl sulfonyl) benzene (Chloro NMSB)	Intermediate	5f	97-07-4			
6A-iv	Methyl-2-Cyano-2-(4-(methyl sulfonyl)-2-Nitrophenyl) acetate (cyano NMSB)	Intermediate	5b	1939104-66-1			
6A-v	2-nitro -4-(methyl sulfony) benzoic acid (NMSBA)	Intermediate	5b	110964-79-9			
6A-vi	2-nitro -4-(methyl sulfony) benzoyl chloride (NMSBAc)	Intermediate	5b	110964-80-2			
6A-vii	1,3-Cyclohexane dione -sodium salt(1,3-CHD -Na salt) 24% solution	Intermediate	5f	504-02-9			
6A-viii	Mesotrione Enol Ester	Intermediate	5b	226944-49-6			

6B	Flumetsulam R1	Product	5b	98967-40-9	Herbicide		
6C	Penoxsulam & intermediates	Product	5b	219714-96-2	Herbicide		
6C-i	methyl 3-hydroxy-2-methoxyacrylate sodium salt	Intermediate	5f	104151-54-4	Used as herbicide intermediates and also in other chemical industries		
6C-ii	2,5-dimethoxy-4-hydroxy pyrimidine	Intermediate	5f	370103-23-4			
6C-iii	2,5-dimethoxy-4-chloropyrimidine	Intermediate	5f	370125-25-6			
6C-iv	4-Hydrazino-2,5-dimethoxypyrimidine	Intermediate	5f	381666-22-4			
6C-v	3-amino-5,8-dimethoxy[1,2,4]trazolo[4,3-c]pyrimidine	Intermediate	5f	381666-24-6			
6C-vi	5,8-dimethoxy[1,2,4]trazolo[4,3-c]pyrimidin-2-amine	Intermediate	5b	219715-62-5			
6C-vii	4-Nitro-2-Chloro Benzotrifluoride	Intermediate	5f	777-37-7			
6C-viii	4-Nitro-2-(trifluoromethyl) Aniline	Intermediate	5f	121-01-7			
6C-ix	2-Bromo-4-nitro-6-(trifluoromethyl) aniline	Intermediate	5f	400-66-8			
6C-x	N-(2-Bromo-4-Nitro-6-(trifluoromethyl) Phenyl acetamide	Intermediate	5f	85977-20-4			
6C-xi	N-(2-Fluoro-4-Nitro-6-(trifluoromethyl) Phenyl acetamide	Intermediate	5f	88288-14-6			
6C-xii	N-(2-Fluoro-4-amino-6-(trifluoromethyl) Phenyl acetamide	Intermediate	5f	88288-08-8			
6C-xiii	N-(2-Fluoro-6-(trifluoromethyl) Phenyl acetamide	Intermediate	5f	88288-08-8			
6C-xiv	2-Fluoro-6-(trifluoromethyl) aniline	Intermediate	5f	144851-61-6			

6C-xv	2-Fluoro-6-(trifluoromethyl) Benzene sulfonic acid	Intermediate	5f	NA			
6C-xvi	2-Fluoro-6-(trifluoromethyl) benzene sulfonyl chloride	Intermediate	5b	405264-04-2			
6D	Pyroxasulfone	Product	5b	447399-55-5	Herbicide		
6D-i	4-Chloromethyl-5-difluoromethoxy-1-methyl-3-trifluoromethyl-1H-pyrazole (Intermediate - I)	Intermediate	5b	656825-76-2	Used as herbicide intermediates and also in other chemical industries		
6D-ii	5,5-Dimethyl-4,5-dihydro isoxazol-3-ylcarbamimidothioate hydrobromide (Intermediate II)	Intermediate	5b	894809-59-7			
6E	Tembotrione & intermediates	Product	5b	335104-84-2	Herbicide		
6E-i	Methane thiol	Intermediate	5f	74-93-1	Used as herbicide intermediates and also in other chemical industries		
6E-ii	3-chloro-2-methy-1methyl phenyl sulfide(CMTT)	Intermediate	5f	82961-52-2			
6E-iii	2-chloro-3-methyl thio acetophenone(acyl CMTT)	Intermediate	5f	181997-71-7			
6E-iv	2-chloro-3-methyl -4-methyl sulfonyl acetophenone	Intermediate	5b	181997-72-8			
6E-v	2-chloro-3-methyl -4-methyl sulfonyl benzoic acid	Intermediate	5b	106904-09-0			
6E-vi	2-chloro-3-methyl -4-methyl sulfonyl benzoic acid methyl ester (CMMSBA Ester)	Intermediate	5b	120100-04-1			
6E-vii	Methyl-(2-chloro-3-bromomethyl-4-methyl sulfonyl benzoate (CBrMMSBA Ester)	Intermediate	5b	120100-44-9			
6E-viii	2-chloro-4-(methylsulfonyl)-3-[(2,2,2-trifluoroethoxy)methyl]	Intermediate	5b	120100-77-8			

	benzoic acid (CTFEMMSBA)						
6E-ix	2-chloro-4-(methylsulfonyl)-3-[(2,2,2-trifluoroethoxy)methyl] benzoyl chloride (CTFEMMSBAc)	Intermediate	5b	111872923-9			
6E-x	1,3-Cyclohexane dione -sodium salt(1,3-CHD -Na salt) 24% solution	Intermediate	5f	504-02-9			
6E-xi	Tembotrione enol ester	Intermediate	5f	263401-21-4			
6F	Sulfosulfuron & intermediates	Product	5b	141776-32-1	Herbicide		
6F-i	Imino Pyridyl Glycine (IPG)	Intermediate	5b	100-79-8	Used as herbicide intermediates and also in other chemical industries		
6F-ii	2-Chloro Imidazo (1,2a) Pyridine (CIP)	Intermediate	5b	766650			
6F-iii	(2-Chloro Imidazo (1,2-a) Pyridine-3-Sulfonamide (CIPSA stream-1)	Intermediate	5b	112566-17-3			
6F-iv	(2-Chloro Imidazo (1,2-a) Pyridine-3-Sulfonamide (CIPSA stream-2)	Intermediate	5b	112566-17-3			
6F-v	2-Ethly Thio Imidazo (1,2-a) Pyridine-3-Sulfonamide (EIPS)	Intermediate	5b	141776-47-8			
6F-vi	2-Ethly Sulfonyl Imidazo (1,2-a) Pyridine-3-Sulfonamide (EIPSO2)	Intermediate	5b	141776-47-8			
6F-vii	Carbamate	Intermediate	5b	302-11-4			
6(CP)-i	Hydrochloric acid	Co-product	Non EC	7647-01-0	Chemical	39418.65	3063.63
6(CP)-ii	Sodium bicarbonate 10%	Co-product	Non EC	144-55-8	Chemical	313214.30	24343.08
6(CP)-iii	Ammonium nitrate	Co-product	Non EC	6484-52-2	Chemical	16595.30	1289.79
6(CP)-iv	Sulfur dioxide gas (compressed)	Co-product	Non EC	7446 - 09 - 5	Chemical	4587.92	356.57

6(CP)-v	Methanol	Co-product	5f	67-56-1	Chemical	10556.08	820.42
6(CP)-vi	Acetic Acid	Co-product	5f	64-19-7	Chemical	4368.56	339.53
6(CP)-vii	Potassium bromide	Co-product	Non EC	7758-02-03	Chemical	8933.16	694.29
6(CP)-viii	Sodium bisulfite	Co-product	Non EC	7631-90-5	Chemical	23508.40	1827.08
6(CP)-ix	Ethyl formate	Co-product	5f	109-94-4	Chemical	9180.70	713.53
6(CP)-x	Bromine	Co-product	Non EC	7726-95-6	Chemical	28660.19	2227.48
6(CP)-xi	Isobutylene	Co-product	5f	115-11-7	Chemical	6812.69	529.48
6(CP)-xii	Phosphoric acid	Co-product	Non EC	7664-38-2	Chemical	10416.62	809.58
6(CP)-xiii	Aluminium chloride 25%	Co-product	Non EC	7446-70-0	Chemical	74640.97	5801.11
6(CP)-xiv	Chloroform	Co-product	5f	67-66-3	Chemical	13385.75	1040.34
6(CP)-xv	Sodium bromide	Co-product	Non EC	7647-15-6	Chemical	8077.05	627.75
6(CP)-xvi	Sodium carbonate	Co-product	Non EC	497-19-8	Chemical	49002.70	3808.50
7	Flumetsulam R2 & intermediates	Product	5b	98967-40-9	Herbicide	11300.00	1000.00
7-i	Hydrazine-1,3-bis(carbothioamide)	Intermediate	5b	142-46-1	Used as Insecticide intermediates and also in other chemical industries		
7-ii	3-Amino-5-mercapto-1,2,4-triazole	Intermediate	5b	16691-43-3			
7-iii	3-Amino-5-benzylmercapto-1,2,4-triazole	Intermediate	5b	3922-47-2			
7-iv	2-benzylthio-5-methyl-1,2,4-triazolo-[1,5-a]pyrimidine	Intermediate	5b	98165-61-8			
7-v	5-methyl-1,2,4-triazolo-[1,5-a]pyrimidine-2-sulfonyl chloride	Intermediate	5b	98165-60-7			
7-vi	2,6 Difluorobenzonitrile	Intermediate	5b	1897-52-5			
7-vii	2,6-Difluorobenzamide	Intermediate	5f	18063-03-1			
7-viii	2,6-Difluoroaniline	Intermediate	5b	5509-65-09			
7(CP)-i	Ammonium sulfate	Co-product	Non EC	7783-20-2	Chemical	14045.74	1242.99

7(CP)-ii	Sodium sulfide	Co-product	Non EC	1313-82-2	Chemical	5417.58	479.43
7(CP)-iii	Bromine	Co-product	Non EC	7726-95-6	Chemical	5550.62	491.21
7(CP)-iv	Benzyl chloride	Co-product	5f	100-44-7	Chemical	6483.51	573.76
7(CP)-v	Methanol generated	Co-product	5f	67-56-1	Chemical	4171.60	369.17
7(CP)-vi	Potassium chloride	Co-product	Non EC	7447-40-7	Chemical	7392.43	654.20
8A	Thiophanate methyl	Product	5b	23564-05-8	Fungicide	15300.00	1000.00
8B	Propiconazole	Product	5b	60207-90-1	Fungicide		
8B-i	2-(2,4-dichlorophenyl)-2-methyl-4-n-propyl-1,3- dioxolane (Ketal)	Intermediate	5b	83833-32-3	Used as Fungicide intermediates and also in other chemical industries		
8B-ii	2-(2,4-dichlorophenyl)-2-bromomethyl-4-n-propyl-1,3-dioxolane - Chemical name (Bromoketal)	Intermediate	5b	60207-89-8			
8C	Hexaconazole	Product	5b	79983-71-4	Fungicide		
8C-i	Valeryl chloride	Intermediate	5f	638-29-9	Chemical		
8C-ii	Valerophenone	Intermediate	5f	1009-14-9	Chemical		
8C-iii	Oxirane	Intermediate	5b	88374-07-6	Used as Fungicide intermediates		
8D	Metalaxyl and its intermediates	Product	5b	57837-19-1	Fungicide		
8D-i	methoxy acetyl chloride	Intermediate	5f	38870-89-2	Used as Fungicide intermediates and also in other chemical industries		
8D-ii	Methyl (2,6-Dimethyl Phenylamino) Propanoate distilled Alaninate	Intermediate	5b	52888-49-0			
8E	Chloranil	Product	5b	118-75-2	Fungicide		

8E-i	Tri Chlorophenol	Intermediate	5f	88-06-2	Chemical		
8(CP)-i	Hydrochloric acid 30%	Co-product	Non EC	7647-01-0	Chemical	8001.90	523.00
8(CP)-ii	Aluminium chloride	Co-product	Non EC	7446-70-0	Chemical	65422.80	4276.00
8(CP)-iii	Sodium sulfite solution	Co-product	Non EC	7757-83-7	Chemical	20073.60	1312.00
8(CP)-iv	Calcium Chloride Brine (35%)	Co-product	Non EC	10043-52-4	Chemical	20088.90	1313.00
8(CP)-v	Sodium bisulfite 25%	Co-product	Non EC	7631-90-5	Chemical	24954.30	1631.00
9A	Tricyclazole	Product	5b	41814-78-2	Fungicide	11300.00	2000.00
9B	Thifluzamide	Product	5b	130000-40-7	Fungicide		
9B-ii	2,6-Dibromo-4-Trifluoromethoxy aniline	Intermediate	5b	88149-49-9	Fungicide		
9C	Azoxystrobin	Product	5b	131860-33-8	Fungicide		
9C-i	3-(Methoxymethylene) benzofuran-2(3H)-one (MMB)	Intermediate	5b	40800-90-6	Used as Fungicide intermediates and also in other chemical industries		
9C-ii	3-(Methoxymethylene) benzofuran-2(3H)-one (MMB) intermediate	Intermediate	5b	175971-61-6			
9C-iii	2-((6-chloropyrimidin-4-yl)oxy) benzonitrile CPOB	Intermediate	5b	913846-53-4			
9C-iv	Dimethoxy azoxystrobin	Intermediate	5b	NA			
9(CP)-i	Hydrochloric acid	Co-product	Non EC	7647-01-0	Chemical	6124.60	1084.00
9(CP)-ii	Acetic acid	Co-product	5f	64-19-7	Chemical	6990.86	1237.32
9(CP)-iii	Methyl acetate	Co-product	5f	79-20-9	Chemical	8626.82	1526.87
9(CP)-iv	Sodium acetate	Co-product	5f	127-09-3	Chemical	2852.66	504.90
9(CP)-v	Sodium carbonate	Co-product	Non EC	497-19-8	Chemical	38114.90	6746.00
9(CP)-vi	Potassium chloride	Co-product	Non EC	7447-40-7	Chemical	9420.56	1667.36
10A	Pyraclostrobin	Product	5b	175013-18-0	Fungicide	8600.00	1500.00

10A-i	3-HP Na Salt	Intermediate	5b	76205-19-1	Used as Fungicide intermediates and also in other chemical industries		
10A-ii	1-(4-chlorophenyl)-3-[2-(nitrophenyl)-methoxy]-1H-pyrazole (PNBE)	Intermediate	5b	220368-29-6			
10A-iii	Preparation of Methyl 2-[1-(4-Chloro-phenyl)-1H-pyrazol-3-yl-oxymethyl]-phenyl}-methylcarbamate (PHABEC)	Intermediate	5b	NA			
10B	Trifloxystrobin & intermediates	Product	5b	141517-21-7	Fungicide		
10B-i	3-Bromo benzotrifluoride	Intermediate	5f	401-78-5	Used as Fungicide intermediates and also in other chemical industries		
10B-ii	3-(Trifluoromethyl) acetophenone (3-TFA)	Intermediate	5f	349-76-8			
10B-iii	3-(Trifluoromethyl) acetophenone Oxime	Intermediate	5f	99705-50-7			
10B-iv	Methyl-2-oxo-2-(o-tolyl) acetate (MOTA)	Intermediate	5f	34966-54-6			
10B-v	Methyl-2-(2'-bromoethylphenyl)-2-oxoacetate	Intermediate	5b	126534-57-4			
10B-vi	Methyl (E)-2-oxo-2-(2-((((1-(3 (trifluoromethyl) phenyl) ethylidene) amino) oxy) methyl) phenyl) acetate	Intermediate	5b	141493-05-2			
10B-vii	Methyl(Z)-2-(hydroxyimino)-2-(2-(((((E)-1-(3 (trifluoromethyl) phenyl) ethylidene)amino)oxy) methyl)phenyl acetate (Oxime Product)	Intermediate	5b	NA			
10(CP)-i	Sodium bicarbonate 30%	Co-product	Non EC	144-55-8	Chemical	9540.80	1664.09
10(CP)-ii	Methanol	Co-product	5f	67-56-1	Chemical	1375.86	239.98
10(CP)-iii	Calcium chloride 30%	Co-product	Non EC	10043-52-4	Chemical	29800.77	5197.81
10(CP)-iv	Calcium fluoride	Co-product	Non EC	7782-41-4	Chemical	1122.88	195.85

10(CP)-v	Hydrogen bromide 30%	Co-product	Non EC	10035-10-6	Chemical	23419.92	4084.87
10(CP)-vi	Benzotrifluoride (BTF)	Co-product	5f	98-08-8	Chemical	901.26	157.20
10(CP)-vii	Hydrochloric acid 30%	Co-product	Non EC	7647-01-0	Chemical	15997.65	2790.29
10(CP)-viii	Magnesium sulfate	Co-product	Non EC	7487-88-9	Chemical	9442.71	1646.99
10(CP)-ix	Bromine	Co-product	Non EC	7726-95-6	Chemical	3845.61	670.75
10(CP)-x	Succinimide	Co-product	5f	67-56-1	Chemical	2859.31	498.72
11A	Diflubenzuron	Product	5b	35367-38-5	Insecticide	24900.00	2500.00
11A-i	2,6-Diflubenzoamid (DFBA)	Intermediate	5f	18063-03-1	Used as Insecticide intermediates and also in other chemical industries		
11B	Diafenthiuron	Product	5b	80060-09-9	Insecticide		
11B-i	4-Bromo-2,6-di-isopropyl Aniline (BDA)	Intermediate	5f	135252-10-7	Used as Insecticide intermediates and also in other chemical industries		
11B-ii	4-Phenoxy-2,6-di-isopropyl Aniline (PDA)	Intermediate	5f	80058-93-1			
11B-iii	4-Phenoxy-2,6-di-isopropyl phenyl-isothiocyanate (PDP)	Intermediate	5f	28178-42-9			
11C	Acephate	Product	5b	30560-19-1	Insecticide		
11C-i	O,S-Dimethyl phosphoramidothioate	Intermediate	5b	10265-92-6	Insecticide		
11D	Thiamethoxam	Product	5b	153719-23-4	Insecticide		
11E	Novaluron	Product	5b	116714-46-6	Insecticide		

11F	Pyriproxyfen	Product	5b	95737-68-1	Insecticide		
11G	Cartap Hydrochloride	Product	5b	15263-52-2	Insecticide		
11G-i	N,N,-Di Methyl Alyl Amine Preparation	Intermediate	5f	2155-94-4	Used as Insecticide intermediates and also in other chemical industries		
11G-ii	2,3-Dichloro-N,N-Dimethyl Allyl amine hydrochloride (DCDMPA.HCl)	Intermediate	5f	50786-84-1			
11G-iii	Monosultap	Intermediate	5b	29547-00-0			
11(CP)-i	Hydrogen bromide	Co-product	Non EC	10035-10-6	Chemical	7206.38	723.53
11(CP)-ii	Hydrochloric acid	Co-product	Non EC	7647-01-0	Chemical	20750.00	2083.33
11(CP)-iii	Potassium bromide	Co-product	Non EC	7758-02-03	Chemical	9846.38	988.59
11(CP)-iv	Ammonium hydroxide 10%	Co-product	Non EC	1336-21-6	Chemical	3514.46	352.86
11(CP)-v	Acetic acid	Co-product	5f	64-19-7	Chemical	11279.70	1132.50
11(CP)-vi	Methyl chloride	Co-product	5f	74-87-3	Chemical	11205.00	1125.00
11(CP)-vii	Bisultap	Co-product	5f	52207-48-4	Chemical	21230.34	2131.56
12A	Carbendazim	Product	5b	10605-21-7	Insecticide	22900.00	1500.00
12A-i	Ortho Nitro Aniline	Intermediate	5b	88-74-4	Used as insecticide and other chemical intermediate		
12A-ii	12-oxo-Phytodienoic acid (OPDA)	Intermediate	5b	85551-10-6			
12A-iii	Cyno methyl carbamate (CMC)	Intermediate	5f	21729-98-6	Chemical		
12B	Temephos	Product	5b	3383-96-8	Insecticide		
12C	Buprofezin	Product	5b	69327-76-0	Insecticide		
12D	Imidacloprid & intermediates	Product	5b	138261-41-3	Insecticide		
12D-i	Nitro Guanidine	Intermediate	5f	556-88-7	Used as Insectici		

12D-ii	N-(Nitro-imono) imidazolidine (NIIMDA)	Intermediate	5f	5465-96-3	de intermediates and also in other chemical industries		
12D-iii	2-Chloro-5-Methyl Pyridine (CMP)	Intermediate	5f	18368-64-4			
12D-iv	2 Chloro-5-Chloromethyl pyridine (CCMP)	Intermediate	5f	70258-18-3			
12E	Profenophos	Product	5b	41198-08-7	Insecticide		
12E-i	Bathocuproine (BCP): Diethyl Thiophosphoryl Chloride (DETC) 4-Bromo-2-chlorophenol (BCP)	Intermediate	5f	3964-56-5	Chemical		
12E-ii	Polycarbonate-I (PC) Phosphorothioic acid O-(4-bromo-2-chlorophenyl) O,O-diethyl ester	Intermediate	5f	60731-55-7	Chemical		
12F	Fipronil & intermediates	Product	5b	120068-37-3	Insecticide		
12F-i	Trichloro methyl sulfenyl chloride (CCl3SCl)	Intermediate	5f	594-42-3	Used as Fungicide intermediates and also in other chemical industries		
12F-ii	Thiophosgene (CSCl2) (TPG)	Intermediate	5f	463-71-8			
12F-iii	O- Chloro benzyl Trifluro methyl suphide (OCBTMS)	Intermediate	5f	251926-48-4			
12F-iv	Trifluoromethanesulfonyl chloride (CF3SOCl)	Intermediate	5f	20621-29-8			
12F-v	Aminopyrazole (APR)	Intermediate	5f	120068-79-3			
12G	Ethiprole R1	Product	5b	121587-01-9	Insecticide		
12G-i	Diethyl disulfide	Intermediate	5f	110-81-6	Used as Insecticide intermediates and also in other chemical		
12G-ii	Ethyl thiopyrazole	Intermediate	5f	120068-56-6			

					industries		
12(CP)-i	Ammonium Sulphate	Co-product	Non EC	7783-20-2	Chemical	15755.20	1032.00
12(CP)-ii	Dimethyl amine	Co-product	5f	124-40-3	Chemical	16321.40	1069.09
12(CP)-iii	Benzyl Chloride	Co-product	5f	100-44-7	Chemical	14681.88	961.70
12(CP)-iv	Acetic Acid	Co-product	5f	64-19-7	Chemical	8699.82	569.86
12(CP)-v	Hydrochloric acid 30%	Co-product	Non EC	7647-01-0	Chemical	13742.20	900.14
13A	Chlorpyriphos intermediates	Product	5b	2921-88-2	Insecticide	61900.00	15000.00
13A-i	Sodium salt of 3,5,6,Trichloro Pyridine 20% (NaTCPOL)	Intermediate	5b	37439-34-2	Used as Insecticide intermediates and also in other chemical industries		
13A-ii	Diethylthiophosphoryl Chloride (DETC)	Intermediate	5f	3964-56-5	Chemical		
13B	Ethiprole R2	Product	5b	121587-01-9	Insecticide		
13B-i	Diethyl Disulphide	Intermediate	5f	110-81-6	Used as Insecticide intermediates and also in other chemical industries		
13B-ii	Ethyl thiopyrazole	Intermediate	5f	120068-56-6			
13C	Clothianidin & intermediates	Product	5b	210880-92-5	Insecticide		
13C-i	2,3-Dichloro propene	Intermediate	5b	78-88-6	Used as Insecticide intermediates and also in other		
13C-ii	2-chloro allyl isothio cyanate	Intermediate	5f	14214-31-4			
13C-iii	2-chloro-5-chloromethyl thiazole	Intermediate	5f	105827-91-6			

13C-iv	Nitro guanidine	Intermediate	5f	556-88-7	chemical industries		
13C-v	N-Methyl Nitro guanidine	Intermediate	5f	4245-76-5			
13C-vi	1, 5-Dimethyl-2-nitroimino1, 3, 5-triaza cyclohexane (DMNITCH)	Intermediate	5f	136516-16-0			
13C-vii	(E)-1-(2-chloro-5-thiazolylmethyl)-3,5-dimethyl-N-Nitro -1,3,5-Triazine-2-imine	Intermediate	5f	-			
13D	Methyl Chlorpyriphos	Product	5b	5598-13-0	Insecticide		
13D-i	Sodium salt of 3,5,6,Trichloro Pyridine 20% (NaTCPOL)	Intermediate	5b	37439-34-2	Used as herbicide intermediates and also in other chemical industries		
13D-ii	Di-Methyl Thiophosphoryl Chloride (DMTC)	Intermediate	5f	2524-03-0	Chemical		
13E	Acetamiprid	Product	5b	135410-20-7	Insecticide		
13E-i	Methyl-N-cyanoacetamidate (NCMA)	Intermediate	5f	5652-84-6	Used as Insecticide intermediates and also in other chemical industries		
13E-ii	2-chloro-5(methylaminomethyl) pyridine (CMPMA)	Intermediate	5f	120739-62-0			
13F	Quinalphos	Product	5b	13593-03-8	Insecticide		
13F-i	Sodium-monochloroacetic acid (NA-MCA)	Intermediate	5b	6926-62-3	Insecticide Intermediate		
13F-ii	Dihydroxy Aunaxalino (DQ)	Intermediate	5b	59564-59-9			
13F-iii	Sodium quinoxalin-2-olate (NA - 2 - HQ)	Intermediate	5b	57381-25-6			

13F-iv	2-Quinoxalinol (2-HQ)	Intermediate	5b	1196-57-2			
13(CP)-i	Hydrochloric acid 30%	Co-product	Non EC	7647-01-0	Chemical	173360.24	42009.75
13(CP)-ii	Sulfur	Co-product	Non EC	59564-59-9	Chemical	9164.30	2220.75
13(CP)-iii	Sulfur dioxide gas (compressed)	Co-product	Non EC	7446 - 09 - 5	Chemical	35564.52	8618.22
13(CP)-iv	Ammonia solution 20%	Co-product	Non EC	1336-21-6	Chemical	28442.06	6892.26
13(CP)-v	Potassium chloride 25%	Co-product	Non EC	7447-40-7	Chemical	414316.63	100399.83
13(CP)-vi	N,N- bis (dichloromethyl) methyl amine	Co-product	5f	51-75-2	Chemical	31692.80	7680.00
13(CP)-vii	Sodium carbonate	Co-product	Non EC	497-19-8	Chemical	397893.20	96420.00
13(CP)-viii	Ammonium sulfate	Co-product	Non EC	7783-20-2	Chemical	8859.75	2146.95
13(CP)-ix	Methanol	Co-product	5f	67-56-1	Chemical	103992.00	25200.00
14A	Ethiprole R3	Product	5b	121587-01-9	Insecticide	46700.00	2000.00
14A-i	APR DISULPHIDE	Intermediate	5f	130755-46-3	Used as Insecticide intermediates and also in other chemical industries		
14A-ii	ETHYL THIOPYRAZOLE	Intermediate	5f	120068-56-6			
14B	Cyantraniliprole	Product	5b	736994-63-1	Insecticide		
14B-i	Diisopropyl maleate	Intermediate	5f	108-31-6	Used as Insecticide intermediates and also in other chemical industries		
14B-ii	3-Chloro-2-hydrazinopyridine (CHPy)	Intermediate	5f	22841-92-5			
14B-iii	Isopropyl 2-(3-chloropyridin-2-yl)-5-oxo-pyrazolidine-3-carboxylate (DHPE)	Intermediate	5f	1055071-81-2			
14B-iv	Isopropyl 3-bromo-1-(3-chloro-2-pyridinyl)-4,5-dihydro-1H-pyrazole-5-carboxylate (Br-DHPE)	Intermediate	5f	1055072-00-8			

14B-v	Isopropyl 3-bromo-1-(3-chloro-2-pyridinyl)-1H-pyrazole-5-carboxylate (BPE)	Intermediate	5f	1045077-27-7			
14B-vi	8-Methylisatoic anhydride	Intermediate	5f	66176-17-8			
14B-vii	2-Amino-N,3-dimethylbenzamide (ADMBz)	Intermediate	5f	870997-57-2			
14B-viii	2-Amino-5-bromo-N,3-dimethylbenzamide (ABDMBz)	Intermediate	5f	890707-30-9			
14B-ix	2- Amino-5-cyano-N,3-Dimethylbenzamide	Intermediate	5f	890707-29-6			
14C	Chlorantraniliprole R2 & intermediates	Product	5b	500008-45-7	Insecticide		
14C-i	3-Chloro-2-hydrazinopyridine (CHP)	Intermediate	5f	22841-92-5	Used as Insecticide intermediates and also in other chemical industries		
14C-ii	Ethyl 2-(3-chloropyridin-2-yl)-5-oxo-pyrazolidine-3-carboxylate (DHPy)	Intermediate	5b	500011-88-1			
14C-iii	Ethyl 3-bromo-1-(3-chloro-2-pyridinyl)-4,5-dihydro-1H-pyrazole-5-carboxylate (DHBrPy)	Intermediate	5b	500011-91-6			
14C-iv	Ethyl 3-bromo-1-(3-chloro-2-pyridinyl)-1H-pyrazole-5-carboxylate (BrPy)	Intermediate	5b	500011-92-7			
14C-v	3-bromo-1-(3-chloro-2-pyridinyl)-1H-pyrazole-5-carboxylic acid (Inter-B)	Intermediate	5b	500011-86-9			
14C-vi	Isonitroso	Intermediate	5b	1132-03-2			
14C-vii	7-Methylisatin	Intermediate	5f	1127-59-9			
14C-viii	5-Chloro-7-methylisatin	Intermediate	5b	14389-06-1			
14C-ix	2-Amino-5-chloro-3-methylbenzoic acid (ACMBA)	Intermediate	5b	20776-67-4			
14D	Chlorantraniliprole R1 & intermediates	Product	5b	500008-45-7	Insecticide		
14D-i	2,3-Dichloropyridine (DCP)	Intermediate	5f	2402-77-9	Used as Insecticide intermediates and also in other chemical		
14D-ii	3-Chloro-2-hydrazinopyridine (CHP)	Intermediate	5f	22841-92-5			
14D-iii	Ethyl 2-(3-chloropyridin-2-yl)-5-oxo-pyrazolidine-3-carboxylate (DHPy)	Intermediate	5b	500011-88-1			

14D-iv	Ethyl 3-bromo-1-(3-chloro-2-pyridinyl)-4,5-dihydro-1H-pyrazole-5-carboxylate (DHBrPy)	Intermediate	5b	500011-91-6	industries		
14D-v	Ethyl 3-bromo-1-(3-chloro-2-pyridinyl)-1H-pyrazole-5-carboxylate (BrPy)	Intermediate	5b	500011-92-7			
14D-vi	3-bromo-1-(3-chloro-2-pyridinyl)-1H-pyrazole-5-carboxylic acid (Inter-B)	Intermediate	5b	500011-86-9			
14D-vii	Isonitroso	Intermediate	5b	1132-03-2			
14D-viii	7-Methylisatin	Intermediate	5f	1127-59-9			
14D-ix	5-Chloro-7-methylisatin	Intermediate	5b	14389-06-1			
14D-x	6-Chloro-8-methylisatoic anhydride	Intermediate	5f	120374-68-7			
14(CP)-i	Bromine	Co-product	Non EC	7726-95-6	Chemical	39609.25	1696.33
14(CP)-ii	Ethiprole sulfone	Co-product	5f	120068-68-0	Chemical	1260.90	54.00
14(CP)-iii	Potassium bisulfate	Co-product	Non EC	7646-93-7	Chemical	36548.73	1565.26
14(CP)-iv	Hydrochloric acid	Co-product	Non EC	7647-01-0	Chemical	18376.14	786.99
14(CP)-v	Sodium carbonate	Co-product	Non EC	497-19-8	Chemical	386442.50	16550.00
14(CP)-vi	IPA generated	Co-product	5f	67-63-0	Chemical	7191.80	308.00
14(CP)-vii	Phosphoric Acid 85%	Co-product	Non EC	7664-38-2	Chemical	5148.93	220.51
14(CP)-viii	Ammonium sulfate	Co-product	Non EC	7783-20-2	Chemical	36302.71	1554.72
14(CP)-ix	Sulfur dioxide gas (compressed)	Co-product	Non EC	7446 - 09 - 5	Chemical	16142.59	691.33
14(CP)-x	Methane sulfonyl chloride	Co-product	5f	124-63-0	Chemical	20793.67	890.52
14(CP)-xi	Ethanol	Co-product	5f	64-17-5	Chemical	22854.41	978.78
14(CP)-xii	Methanol	Co-product	5f	67-56-1	Chemical	3835.94	164.28
15A	Indoxacarb	Product	5b	173584-44-6	Insecticide	11300.00	800.00
15A-i	5-Chloro Indanone (5-CI)	Intermediate	5f	42348-86-7	Chemical		
15A-ii	5 Chloro Indanone Ester (5-CIE)	Intermediate	5f	65738-56-9	Chemical		
15A-iii	5 Chloro Indanone Hydoxy Ester (5-CIHE)	Intermediate	5f	144172-24-7	Chemical		

15A-iv	Urea Derivative	Intermediate	5f	144172-25-8	Chemical		
15A-v	Oxadizine	Intermediate	5f	200568-74-7	Chemical		
15B	Tetrachlorantraniliprole & intermediates	Product	5b	1104384-14-6	Insecticide		
15(CP)-i	Hydrochloric acid	Co-product	Non EC	7647-01-0	Chemical	34860.50	2468.00
15(CP)-ii	Sulfur dioxide gas (compressed)	Co-product	Non EC	7446-09-5	Chemical	18339.90	1298.40
15(CP)-iii	Aluminium chloride	Co-product	Non EC	7446-70-0	Chemical	175777.67	12444.44
15(CP)-iv	Phenol	Co-product	5f	108-95-2	Chemical	6282.80	444.80
15(CP)-v	Methanol	Co-product	5f	67-56-1	Chemical	3644.45	258.01
15(CP)-vi	T-butanol	Co-product	5f	75-65-0	Chemical	3989.66	282.45
16A	Bifenthrin	Product	5b	82657-04-3	Pyrethroid	7700.00	2000.00
16A-i	Bifenthrin Chloride	Co-product	5b	84541-46-8	Pyrethroid		
16B	Lambda Cyhalothrin	Product	5b	91465-08-6	Pyrethroid		
16B-i	Lambda Cyhalothric Acid chloride (λ-CHAc)	Intermediate	5b	393870-46-7	Used as Insecticide intermediates and also in other chemical industries		
16C	Fenvalerate	Product	5b	51630-58-1	Pyrethroid		
16(CP)-i	Sulfur dioxide gas (compressed)	Co-product	Non EC	7446-09-5	Chemical	1237.39	321.40
16(CP)-ii	Hydrochloric acid	Co-product	Non EC	7647-01-0	Chemical	2148.30	558.00
17A	Permethrin	Product	5b	52645-53-1	Pyrethroid	16600.00	2000.00
17A-i	Tetra Chloro Butyro Nitrile (TBN)	Intermediate	5f	41797-95-9	Used as Insecticide intermediates and also in other chemical industries		
17A-ii	Tetra chloro Butyric Acid (TBA)	Intermediate	5f	4387-77-3			
17A-iii	Tetra chloro Butyric Acid Chloride (TBAC)	Intermediate	5f	68121-36-8			
17A-iv	2-Chloro Butanone	Intermediate	5f	68697-08-5			
17A-v	Cypermethric Acid (CMA)	Intermediate	5b	59042-49-8			
17A-vi	Cypermethric Acid Chloride (CMAC)	Intermediate	5b	52314-67-7			
17B	Cypermethrin	Product	5b	52315-07-8	Pyrethroid		

17B-i	Tetra Chloro Butyro Nitrile (TBN)	Intermediate	5f	41797-95-9	Used as Insecticide intermediates and also in other chemical industries		
17B-ii	Tetra chloro Butyric Acid (TBA)	Intermediate	5f	4387-77-3			
17B-iii	Tetra chloro Butyric Acid Chloride (TBAC)	Intermediate	5f	68121-36-8			
17B-iv	2-Chloro Butanone	Intermediate	5f	68697-08-5			
17B-v	Cypermethric Acid (CMA)	Intermediate	5b	59042-49-8			
17B-vi	Cypermethric Acid Chloride (CMAC)	Intermediate	5b	52314-67-7			
17C	Alphamethrin	Product	5b	67375-30-80	Pyrethroid		
17C-i	Tetra Chloro Butyro Nitrile (TBN)	Intermediate	5f	41797-95-9	Used as Insecticide intermediates and also in other chemical industries		
17C-ii	Tetra chloro Butyric Acid (TBA)	Intermediate	5f	4387-77-3			
17C-iii	Tetra chloro Butyric Acid Chloride (TBAC)	Intermediate	5f	68121-36-8			
17C-iv	2-Chloro Butanone	Intermediate	5f	68697-08-5			
17C-v	Cypermethric Acid (CMA)	Intermediate	5b	59042-49-8			
17C-vi	Cypermethric Acid Chloride (CMAC)	Intermediate	5b	52314-67-7			
17C-vii	Cypermethrin	Intermediate	5b	52315-07-8	Pyrethroid		
17(CP)-i	Ammonium chloride 11%	Co-product	Non EC	12125-02-9	Chemical	60026.96	7232.16
17(CP)-ii	Sodium bisulfite 30%	Co-product	Non EC	7631-90-5	Chemical	29531.96	3558.07
17(CP)-iii	Hydrochloric acid 30%	Co-product	Non EC	7647-01-0	Chemical	23828.68	2870.93
17(CP)-iv	Sulfur dioxide gas (compressed)	Co-product	Non EC	7446-09-5	Chemical	5472.49	659.34
18	Deltamethrin	Product	5b	41797-95-9	Pyrethroid	8500.00	500.00
18-i	Tetra Chloro Butyro Nitrile (TBN)	Intermediate	5f	41797-95-9	Used as Insecticide intermediates and also in other chemical industries		
18-ii	Tetra chloro Butyric Acid (TBA)	Intermediate	5f	4387-77-3			
18-iii	Tetra chloro Butyric Acid Chloride (TBAC)	Intermediate	5f	68121-36-8			
18-iv	2-Chloro Butanone	Intermediate	5f	68697-08-5			
18-v	Cypermethric Acid (CMA)	Intermediate	5b	59042-49-8			
18-vi	Cypermethric Acid Sodium Salt (NaCMA)	Intermediate	5b	52314-67-7			
18-vii	RR Cypermethric acid (RR-CMA)	Intermediate	5b	55667-40-8	Synthetic Organic Chemical intermediates		

18-viii	Di Bromo Cypermethric Acid (DBCMA)	Intermediate	5b	63597-73-9	Used as Pyrethroid intermediates and also in other chemical industries		
18-ix	Di Bromo Cypermethric Acid Methyl ester (DB Ester)	Intermediate	5b	61775-87-9			
18-x	Di Bromo Cypermethric Acid Chloride (DBCMAC)	Intermediate	5b	55710-82-2			
18(CP)-i	Ammonium chloride	Co-product	Non EC	12125-02-9	Chemical	24031.12	1413.60
18(CP)-ii	Sodium bisulfite	Co-product	Non EC	7631-90-5	Chemical	6964.70	409.69
18(CP)-iii	Sulfur dioxide gas (compressed)	Co-product	Non EC	7446-09-5	Chemical	4951.77	291.28
18(CP)-iv	Hydrochloric acid	Co-product	Non EC	7647-01-0	Chemical	20507.27	1206.31
18(CP)-v	Bromobenzene	Co-product	5f	108-86-1	Chemical	28662.88	1686.05
18(CP)-vi	Dibromobenzene	Co-product	5f	583-53-9	Chemical	3825.75	225.04
18(CP)-vii	SSCMAC	Co-product	5f	128241-41-8	Chemical	7583.06	446.06
18(CP)-viii	Methanol	Co-product	5f	67-56-1	Chemical	650.57	38.27
19	Mepiquat Chloride	Product	5b	24307-26-4	Plant Growth Regulator	2300.00	2300.00
20	Vanillin	Product	5f	121-33-5	Food intermediate	7900.00	2000.00
20-i	Oxalic acid	Intermediate	5f	6153-56-6	Chemical		
20-ii	Glyoxalic acid (GOA)	Intermediate	5f	298-12-4	Chemical		
20-iii	2-methoxyphenol (GUA)	Intermediate	5f	90-05-1	Chemical		
20-iv	2-hydroxy-2-(4-hydroxy-3-methoxyphenyl)acetic acid (MHPGA)	Intermediate	5f	55-10-7	Chemical		
20(CP)-i	Oxygen (compressed)	Co-product	Non EC	7782-44-7	Chemical	1419.62	413.31
20(CP)-ii	Sodium bicarbonate	Co-product	Non EC	144-55-8	Chemical	20827.27	6063.64
21	Oxyclozanide	Product	5f	2277-92-1	Flukicide	1100.00	250.00
22	Potassium hydroxide	Product	4d	1310-58-3	Chlor-Alkali product	200000.00	75000.00
22(CP)-i	Chlorine gas	Co-product	Non EC	7782-50-5	Chemical	64200.00	24075.00
22(CP)-iI	Hydrogen gas	Co-product	Non EC	1333-74-0	Chemical	1800.00	675.00
22(CP)-iII	Hydrochloric acid	Co-product	Non EC	7647-01-0	Chemical	220400.00	82650.00

23 A	Ethylene glycol R1	Product	5e	107-21-1	Petrochemical based processing products	20000.00	20000.00
23 B	Ethylene glycol R2	Product	5e	107-21-1	Petrochemical based processing products		
23 B-i	Ethylene Carbonate	Intermediate	5f	96-49-1	Chemical		
23 C	2- Ethoxy ethanol	Product	5e	110-80-5	Petrochemical based processing products		
23 D	2 Butoxy ethanol	Product	5e	111-76-2	Petrochemical based processing products		
23 E	2 Phenoxy ethanol	Product	5e	122-99-6	Petrochemical based processing products		
23(CP)-i	Diethylene glycol	Co-product	5f	111-46-6	Chemical	520.00	520.00
23(CP)-iII	Triethylene glycol	Co-product	5f	112-27-6	Chemical	240.00	240.00
23(CP)-iii	Poly ethylene glycol	Co-product	5f	25322-68-3	Chemical	200.00	200.00
24A	Triflic acid	Product	5f	1493-13-6	Chemical Intermediate	11300.00	2500.00
24B	Oxalic acid	Product	5f	6153-56-6	Chemical Intermediate		
24C	Glyoxalic acid	Product	5f	298-12-4	Chemical Intermediate		
24C-i	Oxalic acid	Intermediate	5f	6153-56-6	Chemical		
24D	Ethyl chloride	Product	5f	75-00-3	Chemical Intermediate		
24(CP)-i	Hydrochloric acid	Co-product	Non EC	7647-01-0	Chemical	65635.41	14521.11
24(CP)-ii	1-Chloro-2-(chloromethyl) benzene	Co-product	5f	611-19-8	Chemical	12507.46	2767.14

24(CP)-iii	Sulfur dioxide	Co-product	Non EC	7446-09-5	Chemical	4870.30	1077.50
24(CP)-iv	Oxygen compressed	Co-product	Non EC	7782-44-7	Chemical	2847.96	630.08
25A	Meta Phenoxy Benzoyl Alcohol (MPBA)	Product	5f	13826-35-2	Chemical Intermediate	22500.00	2500.00
25B	Meta Phenoxy Benzoyl Acetal (MPB Acetal)	Product	5f	62373-79-9	Chemical Intermediate		
25B-i	Meta Bromo Benzaldehyde (MBB)	Intermediate	5f	3132-99-8	Chemical Intermediate		
25B-ii	Preparation of Meta bromo benzaldehyde acetal (MBBA)	Intermediate	5f	75148-49-1	Chemical Intermediate		
25(CP)-i	Hydrochloric acid	Co-product	Non EC	7647-01-0	Chemical	13547.25	1505.25
25(CP)-ii	Aluminum chloride	Co-product	Non EC	7446-70-0	Chemical	72900.00	8100.00
25(CP)-iii	Meta Chloro Benzaldehyde	Co-product	5f	587-04-2	Chemical	236.93	26.33
25(CP)-iv	Potassium chloride solution	Co-product	Non EC	7447-40-7	Chemical	36495.00	4055.00
26A	Phase Transfer catalyst (PTC)	Product	5f	63393-96-4, 775304-57-9	Chemical Intermediate	11300.00	11300.00
26B	Pyrazol	Product	5f	288-13-1	Chemical Intermediate		
26(CP)-i	Ammonium sulfate	Co-product	Non EC	7783-20-2	Chemical	14803.00	14803.00
26(CP)-ii	Sodium sulfite	Co-product	Non EC	7757-83-7	Chemical	22035.00	22035.00
26(CP)-iii	Sodium bisulfite 30%	Co-product	Non EC	7631-90-5	Chemical	90739.00	90739.00
27	Meta Phenoxy Benzaldehyde	Product	5f	39515-51-0	Chemical Intermediate	23300.00	2500.00
27-i	Meta Bromo Benzaldehyde (MBB)	Intermediate	5f	3132-99-8	Chemical Intermediate		
27-ii	Meta bromo benzaldehyde acetal (MBBA)	Intermediate	5f	75148-49-1	Chemical Intermediate		
27(CP)-i	Hydrochloric acid	Co-product	Non EC	7647-01-0	Chemical	17285.03	1854.62
27(CP)-ii	Meta Chloro Benzaldehyde	Co-product	5f	587-04-2	Chemical	302.29	32.44
27(CP)-iii	Potassium chloride solution	Co-product	Non EC	7447-40-7	Chemical	46600.00	5000.00

28A	Alpha Naphthoxy N N Diethyl Propionamide (ANDPA)	Product	5f	15299-99-7	Chemical Intermediate	3000.00	200.00
28A-i	Chloro Propionic Acid chloride	Intermediate	5f	625-36-5	Chemical		
28A-ii	N,N Dichloro Ethylsulfonylanilino)propanoic acid (N,N, DCEPA)	Intermediate	5f	NA	Chemical		
28B	5 Amino salicylic acid (5 - ASA)	Product	5f	89-57-6	Chemical Intermediate		
28B-i	Salicyclic Acid (SA) dye	Intermediate	5f	69-72-7	Chemical		
28(CP)-i	Sulfur dioxide gas (compressed)	Co-product	Non EC	7446-09-5	Chemical	370.14	24.68
29	Cypermethric Acid Chloride (CMAC)	Product	5f	52314-67-7	Chemical Intermediate	15000.00	4000.00
29-i	Tetra Chloro Butyro Nitrile (TBN)	Intermediate	5f	41797-95-9	Chemical		
29-ii	Tetra chloro Butyric Acid (TBA)	Intermediate	5f	4387-77-3	Chemical		
29-iii	Tetra chloro Butyric Acid (TBA)	Intermediate	5f	4387-77-3	Chemical		
29-iv	2-Chloro Butanone	Intermediate	5f	68697-08-5	Chemical		
29-v	Cypermethric Acid (CMA)	Intermediate	5f	59042-49-8	Chemical		
29(CP)-i	Ammonium chloride 11%	Co-product	Non EC	12125-02-9	Chemical	62996.94	16799.18
29(CP)-ii	Sodium bisulfite 30%	Co-product	Non EC	7631-90-5	Chemical	30985.86	8262.90
29(CP)-iii	Sulfur dioxide gas (compressed)	Co-product	Non EC	7446-09-5	Chemical	5741.91	1531.18
29(CP)-iv	Hydrochloric acid 30%	Co-product	Non EC	7647-01-0	Chemical	25011.80	6669.81
30A	Poly phenylene sulfate	Product	5f	26125-40-6	Polymer	4600.00	250.00
30B	Poly aryl ketone (PAEK) acid	Product	5f	55088-54-5	Polymer		
30B-i	CMDPE (4-chloro-4'-methyl diphenyl ether)	Intermediate	5f	7005-72-3	Polymer		
30B-ii	MPPB (4-methyl-4'phenoxyphenxoy benzene)	Intermediate	5f	1706-12-3	Polymer		
30C	Chlorohydroxy Benzophenone (CHBP)	Product	5f	42019-78-3	Polymer		
30D	Sodium Salt of 4-Chloro-4'-hydroxy Benzonephenone (NaCHBP)	Product	5f	12028 72-85-2	Polymer		
30D-i	4-Chlorobenzyl chloride (PCBC)	Product	5f	104 83 6	Chemical		
30D-ii	1-Bromo-3-chloropropane (CHBP)	Product	5f	109-70-6	Chemical		

30E	DPSO2	Product	5f	127-63-9	Polymer		
30(CP)-i	Oxygen (compressed)	Co-product	Non EC	7782-44-7	Chemical	759.00	41.25
30(CP)-ii	Aluminium chloride	Co-product	Non EC	7446-70-0	Chemical	19481.00	1058.75
30(CP)-iii	Sodium bisulfite	Co-product	Non EC	7631-90-5	Chemical	9496.55	516.12
30(CP)-iv	Calcium chloride (Brine)	Co-product	Non EC	10043-52-4	Chemical	4491.14	244.08
31A	Polyetherketoneketone -PEKK 100-0	Product	5f	29658-26-2	Polymer	9200.00	400.00
31B	Polyetherketoneketone-PEKK 80-20	Product	5f	74970-25-5	Polymer		
31C	Polyetherketoneketone - PEKK 70-30	Product	5f	74970-25-5	Polymer		
31D	Polyetherketoneketone - PEKK 60-40	Product	5f	74970-25-5	Polymer		
31E	1,4 Bis -(4-phenoxy-benzoyl)Benzene (EKKE monomer)	Product	5f	54299-17-1	Polymer		
31F	ABPBI	Product	5f	25928-81-8	Polymer		
31G	Polyetherimide (PEI)	Product	5f	61128-46-9	Polymer		
31(CP)-i	Hydrochloric acid	Co-product	Non EC	7647-01-0	Chemical	42671.90	1855.30
31(CP)-ii	Aluminum chloride	Co-product	Non EC	7446-70-0	Chemical	50020.40	2174.80
31(CP)-iii	Sodium bisulfite	Co-product	Non EC	7631-90-5	Chemical	51907.74	2256.86
32	Poly Ether Ketone (PEK)	Product	5f	27380-27-4	Polymer	5000.00	1000.00
32-i	p- Chloro Benzyl Chloride (PCBC)	Intermediate	5f	104 83 6	Polymer		
32-ii	p- 4-Chloro-4′-hydroxybenzophenone (PCHB)	Intermediate	5f	42019-78-3	Polymer		
33	Sulfonated Polyetherketoneketone (SPEKK)	Product	5f	2217 635-74-8	Polymer	5000.00	250.00
33(CP)-i	Sodium sulfate	Co-product	Non EC	7757-82-6	Chemical	128445.00	6422.25
33(CP)-ii	Calcium sulfate	Co-product	Non EC	7778-18-9	Chemical	36555.00	1827.75
34	Polyetherketoneketone (PEKK)	Product	5f	74970-25-5	Polymer	10000.00	500.00
34-i	Terephthaloyl chloride	Intermediate	5f	100-20-9	Polymer		
34(CP)-i	Sodium bisulfite	Co-product	Non EC	7631-90-5	Chemical	29000.00	1450.00
34(CP)-ii	Calcium chloride brine	Co-product	Non EC	10043-52-4	Chemical	23760.00	1188.00
35A	Polymethyl mathacryalte PMMA	Product	5f	9011-14-7	Polymer	5000.00	500.00
35B	Co Polymer of Methyl Styrene & Acrylonitrile	Product	5f	9003-54-7	Polymer		
35C	Poly ether sulfone	Product	5f	25667-42-9	Polymer		
35D	Poly sulfone	Product	5f	25135-51-7	Polymer		

35E	Polymer : Poly ether nitrile	Product	5f	113506-36-8	Polymer		
35E-i	POLY ETHER NITRILE (C)	Intermediate	5f	113506-36-8	Polymer		
35(CP)-i	Sodium carbonate	Co-product	Non EC	497-19-8	Chemical	6185.00	618.50
36A	PIGMENT RED 168 (PR-168)	Product	5f	4378-61-4	Pigment	5000.00	150.00
36A-i	DINAH Acid - Dry (1,1,Binaphthyl-8,8-Dicarboxylic Acid)	Intermediate	5f	29878-91-9	Pigment & Intermediate		
36B	PIGMENT RED (PR-254)	Product	5f	84632-65-5	Pigment		
36C	PIGMENT RED (PR-255)	Product	5f	120500-90-5	Pigment		
36D	PY-138	Product	5f	30125-47-4	Pigment		
36D-i	8-Chloro quinaldine	Intermediate	5f	3033-82-7	Pigment & Intermediate		
36D-ii	8-Amino Quinaldine	Intermediate	5f	18978-78-4	Pigment & Intermediate		
36E	Pigment Yellow-139 (PY-139)	Product	5f	36888-99-0	Pigment		
36F	Fluorescent yellow	Product	5f	68427-35-0	Pigment		
36F-i	TCBBIZ (FLUORESCENT YELLOW PIGMENT)	Intermediate	5f	40382-92-1	Pigment & Intermediate		
36(CP)-i	Cupric chloride	Co-product	Non EC	7447-39-4	Chemical	4830.84	144.93
36(CP)-ii	Hydrogen bromide	Co-product	Non EC	10035-10-6	Chemical	3880.00	116.40
36(CP)-iii	Tertiary butyl alcohol	Co-product	5f	75-65-0	Chemical	3000.00	90.00
36(CP)-iv	Sodium sulfite	Co-product	Non EC	7757-83-7	Chemical	12923.40	387.70
36(CP)-v	Ammonium acetate	Co-product	5f	631-61-8	Chemical	2125.00	63.75
37A	PIGMENT YELLOW 154 (PY-154)	Product	5f	68134-22-5	Pigment	2300.00	150.00
37B	PIGMENT YELLOW 151 (PY-151)	Product	5f	31837-42-0	Pigment		
37C	PIGMENT RED-122 (PR-122)	Product	5f	980-26-7	Pigment		
37C-i	2,5 Di (p-toluidino) terephtalic acid (DTTPA)	Intermediate	5f	10291-28-8	Pigment & Intermediate		
37D	PIGMENT VIOLET 19 (PV-19)	Product	5f	1047-16-1	Pigment		
37D-i	2,5 Dianalino terephthalic acid (DATPA)	Intermediate	5f	10109-95-2	Pigment &		

					Intermediate		
37(CP)-i	Methanol	Co-product	5f	67-56-1	Chemical	545.10	35.55
38	PIGMENT VIOLET 23 (PV-23)	Product	5f	6358-30-1	Pigment	2200.00	150.00
38-i	Carbazole	Intermediate	5b	86-74-8	Intermediate for pigment		
38-ii	Ethyl Carbazole	Intermediate	5f	86-28-2	Intermediate for pigment		
38-iii	Nitro Ethyl Carbazole	Intermediate	5f	86-20-4	Intermediate for pigment		
38-iv	Amino Ethyl carbazole (Reaction mass)	Intermediate	5f	132-32-1	Intermediate for pigment		
38-v	Chloranil	Intermediate	5b	118-75-2	Fungicide		
38(CP)-i	Ammonium hydroxide	Co-product	Non EC	1336-21-6	Chemical	1543.08	105.21
38(CP)-ii	Sodium sulfate	Co-product	Non EC	7757-82-6	Chemical	3124.00	213.00
38(CP)-iii	Sulfur dioxide compressed	Co-product	Non EC	7446 - 09 - 5	Chemical	537.29	36.63
38(CP)-iv	Hydrochloric acid	Co-product	Non EC	7647-01-0	Chemical	8094.89	551.92
39	Pesticide Liquid & Solid Formulations	Product	Non-EC	NA	–	100000.00	100000.00
40	Products from R&D activities	Product	5b and 5f	NA	-	60000.00	10000.00

Note : At any given point of time, only 50 technical products and their intermediates will be manufactured.

Signature Not Verified

Digitally Signed by : Mr A N Singh
Member Secretary, MoEFCC (EC)

Date: 30/04/2025