

FORM - V

(See rule 14)

ENVIRONMENTAL STATEMENT FOR THE FINANCIAL YEAR ENDING 31st MARCH, 2019

PART : A

- (i) **Name and Address of the Owner / Occupier of the industry, operation or process.** **Mr. R. Mukundan**
Managing Director
Tata Chemicals Limited
Bombay House, 24, Homi Modi Street, 'Fort, Mumbai 400 001
- Name of Mithapur chemical complex Unit Head:** **Mr. N Kamath**
Vice President- Manufacturing
Address: Tata Chemicals Limited
Mithapur, Dist.- Devbhumi Dwarka, (Gujarat)- 361345
Contact No. 02892-665991/ 665992
- (ii) Industry Category : Soda Ash, Captive Power Plant, Chloro-caustic, Vacuum Salt and Cement
Primary- (STC Code)
Secondary- (SIC Code)

(iii) Production Capacity

S. No.	Product	CCA/CTE capacity
		Capacity/Year
1	Soda Ash	10,91,000 MT
2	Sodium Bi Carbonate (All grades)	1,50,000 MT
3	Vacuum Salt & Pure Salt	16,00,000 MT
4	Caustic Soda	36,000 MT
5	Liquid Chlorine	18,000 MT
6	33% Hydrochloric acid	64,800 MT
7	Bromine	3,600 MT
8	Hydrobromic acid	37 MT
9	Gypsum	134,892 MT
10	Clinker	8,25,000 MT
	Cement (OPC/PPC)	7,87,000 MT
11	Desalination water	2,160,498 M3
12	Steam	757 T/Hour
13	Power	85 MW

- (iv) Year of Establishment : 1939
(v) Date of last Environmental Statement submitted. : Vide Letter No. A/WG/440/2018
Dated September 1, 2018

PART : B Water and Raw Material Consumption

(i) **Water Consumption In M³ / Day**

Category	2017-18		2018-19	
	Fresh Water	Sea Water	Fresh Water	Sea Water
Process	Nil	17,608	Nil	17,714
Cooling	Nil	1,84,038	Nil	1,91,415
Domestic	Nil	300	Nil	300

Name of Products	Process water consumption per unit of product output.			
	During the previous financial year 2017-18		During the current financial year 2018-19	
	Sea Water	Fresh Water	Sea Water	Fresh Water
Soda Ash Plant (KL/MT)	52.75	Nil	54.66	Nil
Cement Plant (KL/MT)	0.53	Nil	0.68	Nil
Captive Power Plant in (KL/MWh)	3.71	Nil	3.84	Nil
RO Plant (KL/KL of Product Water)	3.06	Nil	3.17	Nil
Others (KL/MT)	6.62	Nil	6.27	Nil

(ii) **RAW MATERIALS CONSUMED**

Name of Raw Materials	Name of Products	Unit per Ton of Product	Consumption of raw material per unit of output	
			During the previous financial year 2017-18	During the current financial year 2018-19
Salt As Such	Soda Ash	Tons	2.045	2.086
Limestone		Tons	1.342	1.338
Coke + Coal		Tons	0.110	0.106
Ammonia		Kg	2.644	2.585
Sod. Sulphide		Kg	2.211	1.942
Soda Ash		Tons	0.052	0.054
Soda Ash	Sodium Bicarbonate	Tons	0.710	0.710
Brine (KL)	Vac. Salt	KL	4.849	5.059
Potassium Iodate (Kg)		Kg	0.066	0.065
Sulfuric Acid	Liquid Chlorine	Tons	0.034	0.024
Chlorine	Hydrochloric Acid	Tons	0.315	0.312
Hydrogen		Tons	0.009	0.009
Salt	Caustic Soda	Tons	1.669	1.674
HCl	Bromine	Tons	3.466	3.525
Liq. Chlorine		Tons	0.689	0.694
Caustic Soda		Tons	0.670	0.708
Limestone (Fines)	Clinker	Tons	1.143	1.372
Clay		Tons	0.051	0.069
Marl		Tons	0.068	0.134
Iron Sludge/ Tailing waste		Tons	0.034	0.003
ESF Cake		Tons	0.144	0.087
Gypsum for Cement		Tons	0.051	0.051
Fly Ash for Cement		Tons	0.026	0.032

PART C

Pollution Discharged to environment/ unit of output
(Parameters as specified in the consent issued)

(a) WATER

Industrial treated waste water.

Pollutants	Quality of pollutants discharged (mass/day) TPD	Concentration of pollutants discharged (mass/volume)	Percentage of variation from prescribed standards with reasons
pH	-	8.1	Well Within Limits
Temperature in Deg C	-	28	Well Within Limits
Ammonical Nitrogen in mg/l	0.47	2.31	Well Within Limits
Total Suspended Solids in mg/l	21.5	107	Well Within Limits
Color in Units	-	10	Well Within Limits
Oil & Grease in mg/l	0.11	0.5	Well Within Limits
Bio Assay Test	-	Pass	Well Within Limits

Domestic treated waste water.

Pollutants	Quality of pollutants discharged (mass/day)	Concentrations of pollutants discharges (mass/volume)*	Percentage of variation from prescribed standards with reasons
BOD for 3 days at 27°C, mg/l	Recycled	5.6	Well Within Limits
Suspended Solids, mg/l	Recycled	8.7	Well Within Limits
pH	Recycled	7.4	Well Within Limits
Faecal Coliform, MPN/100ml	Recycled	879	Well Within Limits

* Domestic effluent is treated in the Town Sewage Treatment plant and recycled to town toilets as flush water and for gardening.

(b) AIR

Pollutants	Quality of pollutants discharged □		Concentrations of pollutants in discharges		Percentage of variation from prescribed standards with reasons
	Unit	mass/day	Unit	Mass/Volume	
Particulate Matter	TPD	1.78	mg/Nm3	15.4	Well Within Limits
Oxides of Sulphur	TPD	5.90	mg/Nm3	69.3	Well Within Limits

Oxides of Nitrogen	TPD	1.66	mg/Nm3	41.2	Well Within Limits
Chlorine	process vent		mg/nM3	0.5	Well Within Limits
Hydrochloric Acid	process vent		mg/nM3	1.4	Well Within Limits
Bromine	process vent		mg/nM3	0.7	Well Within Limits

PART : D

HAZARDOUS WASTE

Sr. No	Hazardous Waste	Unit	Total Quantity		Characterisation as per HW Rules
			2017-18	2018-19	
(a) From Process, (b) From pollution Control facilities					
					Schedule-I
1	Used/ Spent oil	KL	27.14	24.78	Cat 5.1
2	Waste/ Residue containing Oil	MT	1.8	1.2	Cat 5.2
3	Spent Ion Exchange Resin	MT	-	-	Cat 35.2
4	Barrels of Hazardous Waste	Nos	151	876	Cat 33.1
OTHER WASTE					
1	Used Lead Acid Batteries	Nos	31	54	
2	E-waste	MT	12.57	6.31	

PART: E

SOLID WASTES

Sr.No.	Solid Waste	Total Quantity in MT		
		2017-18	2018-19	
(a) From Process				
1	Under sized Lime Stone	5,47,429	4,00,361	
2	Milk of Lime Rejects	36,653	33,978	
3	Fly ash and boiler reject	1,30,408	1,24,430	
4	Effluent solids	1,82,275	1,75,743	
5	Static Salt Dissolver Wastes	41,455	44,531	
(b) From pollution Control facilities				
1	Solid waste generated from desulphurisation process of flue gas of power plant is included in fly ash reported as above			
C-1 Quantity recycled or re-utilized within the unit				
1	Under sized Lime Stone	5,47,429	4,00,361	
2	Milk of Lime Rejects	14,640	34,404	
3	Fly ash and boiler reject	92,785	62,132	
4	Effluent solids	99,364	1,01,642	
C-2 Quantity Sold		Nil	Nil	
C-3 Disposed				
1	Fly ash and boiler reject	21823	35368	To Brick Manufacturers
2	Effluent solids	3385	270	To Brick/ Blocks Manufacturers

PART : F

Please specify the Characterisations (in terms of composition and quantum) of Hazardous Waste as well as Solid wastes and indicate disposal practice adopted for both these categories of wastes

As mentioned in Part - D

PART : G

Impact of Pollution abatement Measures taken on Conservation of Natural Resources and on the cost of production:

1. Tata Chemicals is certified for ISO 14001-2015 .
2. Lime stone fines,Lime stone dust, Fly ash , Soda ash effluent solids are used as Raw materials for making Cement which significantly reduced the dependence on fresh natural resources i.e lime stone from mines
3. Use of Clean fuels (low ash and low sulfur coal) to meet the Sulphur Dioxide norms in the boilers where presently there is no use of any Desulphurization (dry lime stone dust) facility
4. Use of Petcoke (synthetic fuels) to reduce the dependence on Natural resource of fresh coal and Lignite
5. Operation of the RO plant. RO water supplemented ground water and TCL has stopped withdrawal of ground water since 2007.

6. TCL is submitting its GHG emissions as per Carbon disclosure project
7. TCL is publishing sustainability Report as per GRI guidelines.
8. TCL is publishing Business Responsibility Report as per SEBI guidelines.

PART : H

Additional measures / Investment Proposal for Environment Protection including Abatement of Pollution/ prevention of pollution

1. Enhancement of efficiencies of pollution control devices like ESPs and Bag Filters
2. Utilisation of Effluent Solids in cement manufacturing and Greenbelt development
3. Increase Green cover by growing plantations and increase Carbon Dioxide sequestration
4. Sustained zero dependence on Ground water and lake water
5. Promote awareness among employees for more reuse, recycle, reduce and replace where ever possible
6. Upgradation of air pollution control devices as per revised emission norms.

PART : I

Any other particulars for improving the quality of the environment

1 Environmental Management System

- Company is certified for ISO 14001-2015 (Environmental Management System) and ISO OHSAS 18001 (Health and Safety Management System) : 2007. Environment Cell has a full-fledged Environmental Laboratory and skilled man power.
- Continual improvements have been done with ISO 14001 Environment Management System.

2 Environmental Expenditures: Reported as per GRI - G4, EN-31 Indicator

GRI 4	Environmental Expenditures	(in Rupees)
EN 31	Waste disposal and treatment cost	26,32,93,238
EN 31	Treatment cost for air emissions - Stack monitoring, filters, agents etc.	99,76,37,464
EN 31	Operation and Maintenance, material and services, and related personnel costs for running ETP and STP	3,18,01,084
EN 31	Other environmental costs	6,62,81,842
		1,35,90,13,628

3 Environment audit

- Environment audit for Financial Year 2018-19 completed by Schedule-I Auditor approved by GPCB.

4 Environment Events

- Organised Environment awareness events like World Environment day ; World Ozone Day and World Earth day and involving participation of employees, members of community and representatives from local Government agencies and GPCB
- Various training programmes for employees were organised during the financial year.

5 CSR Activities:

Various CSR activities conducted in surrounding community by Tata Chemicals Society for Rural Development (TCSRDR) Details are available on TCSRDR website www.tcsrdr.org.

6 Online Monitoring System

- TCL has installed Online emission monitoring as per CPCB guidelines

7 Recognitions

- Tata Chemicals ranked #1 Company for Sustainability & CSR (Responsible Business Ranking 2018)

7 Sustainability Initiatives

- Company's sustainability initiatives are available on web portal <http://sustainability.tatachemicals.com>