

Date: 25/05/2024

GPCB ID: 41279

Ref: GRCD/GPCB/2024-25/07

To,

Gujarat Pollution Control Board Paryavaran Bhavan Sector 10-A, Gandhinagar – 382 010

Kind Attn: Unit Head (Bharuch)

Sub: Environmental Statement for the year FY 2023-24

Dear Sir,

We, M/s. Grasim Industries Ltd. (Chemical Division), located at Plot No. 1, Vilayat GIDC, Tal. Vagra, Dist. Bharuch hereby submit Environmental Statement for the year FY 2023-24.

The same has been uploaded on GPCB XGN.

We hope that the above is in order.

Thanking You Yours Faithfully, For, **M/s. Grasim Industries Limited (Chemical Division)**

Authorized Signatory

Grasim Industries Limited Unit : Chemical Division

Correspondence Plant & Address : 'Plant : Plot No. 1, G.I.D.C. Estate, Village : Vilayat, Tahsil : Vagra, Dist. Bharuch 392 012 (Gujarat), India. Ph. No. : 83470 08059 E-mail : grasimchem.vilayat@adityabirla.com Website : www.grasimchem.com CIN : L17124MP1947PLC000410 H.O. : Birla Aurora, 10th floor, Dr. Annie Besant Road, Worli, Mumbai - 400 030 Maharashtra, India.

Form – V (See Rule 14)

Environmental Statement for the financial year ending 31st March 2023

	<u>PART - A</u>					
(i)	Name and address of the owner/	:	Mr. H	Mr. Himanshu Kumar Shukla		
	occupier of the industry		M/s. Grasim Industries Ltd. (Chemical Division)			
	operation or process		Plot N	lo. 1, GIDC Vilayat, Tal. Vagra, Dist	. Bharuch	
(ii)	Industry Category -	•••				
	Primary - (STC Code)		Red			
	Secondary - (STC Code)					
(iii)	Production Capacity Units	•••	Sr.	Name of Products	Quantity (MT)	
			No.			
			1	Caustic Soda Lye	352432	
			2	Hydrogen	19486466 Nm3	
			3	Liquid Chlorine/ Sodium	32/6/8	
				Hypochlorite/ Hydro Chloric Acid	524040	
			4	Poly Aluminium Chloride	206163	
			5	Chlorinated Paraffin Wax	37664	
			6	Aluminium Chloride	15117	
			7	Stable Bleaching Powder	25864	
			8	Phosphoric Acid	4342	
			9	Calcium Chloride	9845	
			10	Power Generation	685673 MW	
			11	Aluminium Chloro Hydrate	5000	
				(Super Coagulant)	0000	
			12	Calcium Hypochlorite (High	5579	
				Strength Bleach Powder-HSBP)	0010	
			13	Methyl Chloride		
			14	Methylene Chloride	47039	
			15	Chloroform	11000	
			16	Carbon Tetra Chloride		
			17	Sodium Sulphate	358	
(iv)	Year of Establishment	:	March	1 2013		
(v)	Date of the last Environmental	:	26/06	/2023		
	Statement submitted					

*Submission of Environmental Statement is in accordance with the provisions of Rule-14 of the Environment (Protection) Amendment Rules, 1993 of the Environment (Protection) Act, 1986 (29 of 1986) published vide Notification dated 22-4-1993 G. S. R. 386 (E) in the Gazette of India – Extraordinary – Part – II Section-3 Subsection (i), No. 155 dated 28-4-1993 by the Ministry of Environment and Forests, Government of India; readwith the Notification dated 13-2-1993 G. S. R. 329 (E) of the Gazette of India – Extraordinary Part – II Section-3 Subsection (i) No. 120 dated 13-3-1993.

*Every person carrying on an industry, operation or process requiring Consent under Section-25 of the Water (Prevention & Control of Pollution) Act, 1974 (6 of 1974) or under Section-21 of the Air (Prevention & Control of

Pollution) Act, 1981 (14 of 1981) or both or authorization under the Hazardous wastes (Management and Handling) Rules, 1989 published under the Environment (Protection) Act, 1986 (29 of 1986) shall submit an Environmental Statement for the financial year ending the 31st March in Form V to the concerned State Pollution Control Board on or before the Thirtieth day of September every year, beginning 1993.

PART - B

Water & Raw Material Consumption

 Water Consumption m³/day Process: 4477 KL/Day (incl. Washing) Cooling: 9986 KL/Day (including Boiler) Domestic: 431 KL/Day

	Process water consumption per unit of product output			
Name of Products	During the previous financial year (2022-2023)	During the current financial year (2023-2024)		
	(1)	(2)		
Chlor Alkali Plant (Caustic Production)	4.8 KL/MT	4.29 KL/MT		
Poly Aluminium Chloride	0.1 KL/MT	0.18 KL/MT		
Chlorinated Paraffin Wax	2.1 KL/MT	0.78 KL/MT		
Stable Bleaching Powder	0.4 KL/MT	0.42 KL/MT		
Phosphoric Acid	5.7 KL/MT	6.32 KL/MT		
Power Generation	0.01 KL/KWh	0.01 KL/KWh		
Calcium Hypochlorite (High Strength Bleach Powder-HSBP)	7.4 KL/MT	5.56 KL/MT		
Chloromethanes plant (Methylene Chloride+Chloroform+Carbon Tetra Chloride)	1.3 KL/MT	1.57 KL/MT		

(ii) Raw Material Consumption

	Name of	Consumption raw material per unit of output (MT/ MT)		
Name of Raw Materials	Products	During the current financial year (2022-2023)	During the current financial year (2023-2024)	
Salt		1.59	1.56	
Na ₂ CO ₃		0.01	0.01	
BaCO₃	Countin Sodo	0.00	0.00	
SBS		0.00	0.00	
Alfa	Lye	0.17	0.00	
NaOH		0.04	0.03	
HCI		0.16	0.14	
Paraffin	Chlorinated	0.51	0.47	
Chlorine	Paraffin Wax	1.05	1.03	
Lime	Stable	0.73	0.74	
Chlorine Bleaching Powder		0.41	0.41	
Alumina Hydrate	Poly	0.13	0.13	
Hydrochloric Acid-100% basis	Aluminium Chloride	0.10	0.11	
Aluminium	Aluminium	0.21	0.27	
Cl ₂	Chloride	0.81	1.06	
Rock Phosphate		2.57	2.82	
Hydrochloric Acid (32%)	Dhaanharia	5.15	6.37	
Amyl Alcohol	Acid	0.03	0.04	
Hydrated Lime	Aciu	0.70	1.07	
Sodium Chlorate		0.00	0.00	
PAC Liq. (18%)	Aluminium	0.38	0.37	
Aluminium Ingot	Chloro Hydrate (Super	0.10	0.10	

	Nome of	Consumption raw material per unit of output (MT/ MT)		
Name of Raw Materials	Products	During the current financial year (2022-2023)	During the current financial year (2023-2024)	
	Coagulant)			
Chlorine (99.6% purity)	Calcium	0.84	0.93	
Lime (96% min.)	Hypochlorite	0.65	0.70	
Caustic (100% basis)	(High Strength Bleach Powder- HSBP)	0.55	0.56	
Chloromethanes plant (Methylene Chloride+Chloroform+Carbon	Liquid Chlorine	1.00	0.99	
Tetra Chloride)	Methanol	0.36	0.35	

PART - C

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

Pollutants	Quantity of pollutants discharged (mass/day)	Concentration of pollutants in discharges (mass/volume)	Percentage of variation from prescribed standards with reasons
(a) Water	Industrial: 1234 KL/Day	pH = 7.6 TSS = 43.47 mg/l COD = 161.35 mg/l BOD = 41.33 mg/l	Monitored parameters are well within the GPCB prescribed limit
(b) Air			
Flue gas stack (Monthly monitoring	results of 12 Months)		
Boiler 1 & 2		PM = 23.7 mg/Nm ³ SO _X = 35 ppm NO _X = 36 ppm	
Boiler 3 & 4		PM = 20.55 mg/Nm ³ SO _X = 33.11 ppm NO _X = 34.3 ppm	
D. G. Sets 1 (1875 kva)		PM = 23 mg/Nm ³ SO _X = 12 ppm NO _X = 27 ppm	
D. G. Sets 2 (1875 kva)		PM = 23 mg/Nm ³ SO _X = 14 ppm NO _X = 28 ppm	Monitored parameters are well within the GPCB prescribed limit
D. G. Sets 3 (1875 kva)		PM = 23 mg/Nm ³ SO _x = 12 ppm NO _x = 26 ppm	
D. G. Sets 4 (1875 kva)		PM = 24 mg/Nm ³ SO _x = 13 ppm NO _x = 29 ppm	
D. G. Sets 5 (750 KVA)	-	$PM = 22 mg/Nm^3$ $SO_X = 12 ppm$ $NO_X = 27 ppm$	
Stack attached to primary coal crusher – 1			
Stack attached to primary coal crusher - 2			
Process gas stack (Monthly monitor	pring results of 12 Months)		
Sodium Hypo Stack 1		$Cl_2 = 1.72 \text{ mg/Nm}^3$	
Sodium Hypo Stack 2		$Cl_2 = 1.94 \text{ mg/Nm}^3$	Monitored parameters are
HCI Stack 1		HCl = 5.43 mg/Nm ³	well within the GPCB
HCI Stack 2		HCl = 5.02 mg/Nm ³	prescribed limit
HCI Stack 3		HCI = 6.19 mg/Nm ³	

Pollutants	Quantity of pollutants discharged (mass/day)	Concentration of pollutants in discharges (mass/volume)	Percentage of variation from prescribed standards with reasons
HCI Stack 4		HCl = 6.2 mg/Nm^3	
Poly Aluminium Chloride Powder		HCl = 5.95 mg/Nm ³	
1		Cl ₂ = 1.71 mg/Nm ³	
Poly Aluminium Chloride Powder		HCl = 6.33 mg/Nm ³	-
2		$Cl_2 = 1.49 \text{ mg/Nm}^3$	
Dah, Akuzziniuzz Oklarida Lizuid		$HCI = 6.56 \text{ mg/Nm}^3$	-
Poly Aluminium Chioriae Liquia		$Cl_2 = 1.7 \text{ mg/Nm}^3$	
Chloringted Deroffin		HCl = 6.02 mg/Nm ³	-
Chionnaled Parallin		$Cl_2 = 1.33 \text{ mg/Nm}^3$	
Aluminium Oblasida		$HCI = 6.47 \text{ mg/Nm}^3$	
Aluminium Chioride		$Cl_2 = 1.76 \text{ mg/Nm}^3$	
Stable Bleeshing Bourder		HCl = 6.57 mg/Nm ³	
Stable Bleaching Powder		Cl ₂ = 1.68 mg/Nm ³	
Dhaanharia Asid Dlant		HCI = 6.4 mg/Nm ³	
Phospholic Acia Plant		HF = 1.53 mg/Nm ³	
Calcium Chloride		HCI = 4.4 mg/Nm ³	
Vent attached to Reactor		H ₂ Gas	-
Vent attached to dryer-1 (HSBP)		PM = 21.9 mg/Nm ³	-
Vent attached to dryer-2 (HSBP)			-
Vent attached to reaction vessel-1			-
(HSBP)			
Vent attached to reaction vessel-2			
(HSBP)			
CMS Plant (Hydrochlorinator)		HCl = 5.96 mg/Nm ³	
CMS VRĆ			
Crude distillation - CMS Plant			
Heavies distillation - CMS Plant			

PART - D HAZARDOUS WASTES (As specified under Hazardous Waste (Management and Handling) Rules, 2016)

	Total Qua	intity (Kg)
Hazardous Wastes	During the current financial year (2022-2023)	During the current financial year (2023-2024)
(a) Process	Nil	Nil
(b) From pollution control facilities		
Chemical sludge from waste water treatment	38030 MT	7991 MT
Spent carbon	NIL	NIL
Used spent oil	6.99 KL	8 KL
Spent ion exchange resin	Nil	NIL
Discarded Container/	9 MT	267 MT
Bags/ Liners	248 MT	207 1011
Incinerable Waste	54 MT	47 MT
Spent Acid (HCI)	17019 MT	15416 MT
Spent Acid (Dilute Sulphuric Acid)	8034 MT	8830 MT
Bleaching Liquid (consists of 3% Hypo, 10% CaCl ₂ , 65%	20565 MT	34943 MT

to 75% water)		
Sodium Chloride (consists of 90% NaCl)	831 MT	NIL
Residue/Sludge & Filter cake	5217 MT	5289 MT

<u>PART - E</u> SOLID WASTES

	Total Quantity (Kg)			
Non-Hazardous Wastes	During the current financial year (2022-2023)	During the current financial year (2023-2024)		
(a) Process				
Fly Ash	49925 MT	76671 MT		
Phosphogypsum Sludge	-	12126 MT		
(b) From pollution control facilities	Nil	Nil		
(c) (1) Quantity recycled or re- utilised within the limit	Nil	Nil		
(2) Sold	Nil	Nil		
(3) Disposed	Nil	Nil		

<u> PART – F</u>

Please specify the characteristics (in terms of composition and quantum) of hazardous wastes as well as solid wastes and indicate disposal practice adopted for both these categories of wastes.

Sr. no.	Type of Waste	Consented qty. for	Disposal practice
Hazardous Waste		disposal	
1.	Chemical sludge from waste water treatment	10005 MT/Year	Collection, storage, transportation & disposal at TSDF of BEIL
2.	Spent carbon	40.33 MT/Year	Collection, storage, transportation & disposal at TSDF of BEIL
3.	Used spent oil	130 KL/Year	Collection, storage, transportation & disposal by selling to registered re-refiners
4.	Spent ion exchange resin	5 MT/Year	Collection, storage, transportation & disposal at TSDF of BEIL
5.	Discarded Containers/	2500 Nos./Year	Collection storage,
	Bags/ Liners	550 MT/Year	transportation, reuse or disposal by selling to vendors
6.	Incinerable Waste	142 MT/Year	Collection, storage, transportation, disposal at CHWIF site
7.	Spent Acid (HCI)	142500 MT/Year	Collection, storage, transportation through pipeline and disposal by consuming in-house in manufacturing of Poly Aluminium Chloride and Phosphoric Acid and selling to end user.
8.	Spent Acid (Dilute Sulphuric Acid)	15500 MT/Year	Collection, storage, transportation through pipeline and disposal by selling to end user.
9.	Bleaching Liquid (consists of 3% Hypo, 10% CaCl ₂ , 65% to 75% water)	60000 MT/Year	Collection, storage, transportation and disposal by selling to end user.
10.	Sodium Chloride (consists of 90% NaCl)	6000 MT/Year	Collection, storage, transportation and disposal by selling to end user or TSDF site
11.	Residue/ sludge & filter cake	6066 MT/Year	Collection, storage, transportation & disposal at TSDF of BEIL
12.	Spent Catalyst	25 MT/Year	Collection, storage, transportation & disposal at TSDF site
13.	Aluminium Dross Waste	50 MT/Year	Collection, storage, transportation &

			disposal at TSDF site
14.	Batteries	100 Nos.	Collection, storage, disposal as per the Batteries Management and Handling Rules, 2010
15.	E-Waste	10 MT/Year	Collection, storage, disposal as per the E- Waste Management Rules 2016
16.	Insulating Material	25 MT/Year	Collection, storage, disposal by selling to authorized recycler.
Non-Hazardous W	aste		
17.	Fly Ash	111600 MT/Year	Collection, storage, transportation, disposal by selling to brick manufacturing as per fly ash notifications/rules.
18.	Phosphogypsum Sludge	30215 MT/Year	Collection, Storage, transportation and disposal in Environmentally sound manner as per the guidelines/directions of CPCB published from time to time.

<u> PART - G</u>

Impact of the pollution abatement measures taken on conservation of natural resources and on the cost of

	production					
AIR	Common flue gas stack is attached to boiler 1 & 2. ESP & low NO _X burners are attached with boiler as					
	air pollution control measures. Another common flue gas stack is attached to boiler 3 & 4. ESP & low					
	NO _x burners are attached with boiler as air pollution control measures. Another stacks are attached to 4					
	nos. of D. G. Sets having capacity of (1875 KVA × 4, 750 KVA × 3). As HSD is used as fuel adequate					
	stack height is provided. Two separate stacks are primary coal crusher-1 & primary coal crusher-2.					
	Separate Bag Filter is attached with both the stacks. One separate stacks are attached with Volatile					
	Reduction Chamber (VRC) Water and Caustic Scrubber are attached with VRC					
	Two separate process stacks are attached to Sodium Hypo stack 1 & Sodium Hypo Stack 2 Two					
	separate Alkali scrubbers are attached as air pollution control system. Four separate stacks are					
	attached to HCI stack 1 HCI stack 2 HCI stack 3 & HCI stack 4 Four separate Water scrubbers having					
	hubble can tray absorption system and three tower systems with Alkali scrubber are attached as air					
	nollution control system. Another stack is attached to Poly Aluminium Chloride Powder plant 3 stage					
	Water scrubber is attached as an air pollution control system. One stack is attached to Poly Aluminium					
	Chlorida Liquid plant. Water scrubbing system is attached as air pollution control system. Another					
	control de Liquid plant. Water scrubbling system is attached as all politition control system. Another scoparata stack is attached to Chlorinated Paraffin. Aluminium Chlorida & Stable Placebing Powder					
	Separate slock is alloched to Chiomitaled Faramin, Aluminium Chiome & Stable Diedching Fowder.					
	stephalate dikali scrubbing system is allached to each as all pollution control system. Another stack is					
	Another Steel is attached to Coloium Chlorida Dient. Water scrubber is attached as an air pollution system.					
	Another Stack is attached to Calcium Chloride Plant. Water Scrubber is attached as an air poliution					
	control system. Another vent is attached to Reactor in Auminium Chioro Hydrate Plant for H ₂ gas. Two					
	separate vents attached to Diver-1 & Diver-2 (IISBP Plant). Separate Day Filter is attached with both					
	the vents. Two separate vents attached to Reaction Vessel-1 & Reaction Vessel-2 (HSBP Plant).					
	Separate water/ Caustic Scrubber is attached with both the vents. Infee separate vents are attached to					
	Plant Condenser and quard condenser with cooling water circulation & chilled circulation are attached					
	Plant. Condenser and guard condenser with cooling water circulation & chilled circulation are attached					
	with all three vents.					
	No significant impact on natural resources.					
WATER	Industrial - Effluent is sent to ETP for primary, secondary & tertiary treatment. Then the treated effluent					
	is sent to disposal into GIDC Sewer Line - Dahej Vilayat Pipeline / common disposal system up to the					
	sea.					
	Domestic - Sewage is treated in STP and treated sewage is disposed on land for gardening purpose					
	within premises.					
	No significant impact on natural resources.					
HAZARDOUS &	Chemical sludge from waste water treatment, Spent Carbon, Residue / sludge & filter cake and Spent					
NON-	ion exchange resin - sent to ISDF site for secured land filling					
HAZARDOUS	Used spent oil - sent to GPCB approved registered recycler					
WASIE	Discarded Containers / Bags / Liners - reuse or disposal by selling to vendors					
	Incinerable Waste - disposal at CHWIF site					
	Spent Acid (HCI from CPW & CMS Plant) - disposal by consuming in-house in manufacturing of Poly					
	Aluminium Unioride & Phosphoric Acid and selling to end user					
	Spent Acid (Dilute Sulphuric Acid from Chlor-alkali & CMS plant) - disposal by selling to end user					
	Bleaching Liquid (consists of 3% Hypo, 10% CaCl ₂ , 65%-75% water) - disposal by selling to end user					
	Sodium Chloride (consists of 90% NaCl) - disposal by selling to end user or TSDF site					
	Fly Ash - disposal by selling to brick manufacturing as per fly ash notifications / rules.					
	No significant impact on natural resources.					

<u> PART - H</u>

Additional measures/ investment proposal for environmental protection including abatement of pollution/ prevention of pollution

Online continuous stack monitoring system is installed for HCl, Cl₂, PM, SO_X & NO_X. Online continuous effluent monitoring system is installed for pH, Flow & TSS. Online Remote Calibration has been carried out by CPCB. New facility is developed for brine sludge drying & installation of paddle dryer for further reduction in sludge.

<u> PART - I</u>

Any other particulars for improving the quality of the environment

We have started the "Sustainability Initiatives", in which teams are working on different subjects related to Environment i.e., Waste Minimization, Water Management, Energy & greenhouse gases etc. Each team has a leader, who is a member of Site Committee, which is chaired by senior authority of the site. Each year World Environment Day is celebrated by tree plantation inside the factory premises. Tree plantation has been carried out in nearby villages (Vilayat, Argama, Ankot, Rahad, Sarnar). Installation of rain water harvesting system has been done in nearby villages. We have also installed Solar panels in our premises.

Date: 10/06/2023

For, Grasim Industries Ltd. (Chemical Division)

Authorized Signatory