



# Natco Pharma Limited

Regd. Off. : 'NATCO HOUSE', Road No. 2, Banjara Hills, Hyderabad-500 034.  
Telangana, INDIA. Tel : +91 40 23547532, Fax : +91 40 23548243  
CIN : L24230TG1981PLC003201, www.natcopharma.co.in



*O/C*

05<sup>th</sup> August 2023

To  
The Environmental Engineer  
TSPCB, Regional Office – Hyderabad  
4<sup>th</sup> Floor, Spoorthi Bhavan, Opp: Metro Pillar No -1202,  
Hyderabad Collectorate Complex, Lakdikapool,  
**HYDERABAD 500 004**

Sir,

**Sub: Submission of Environmental Statement in Form-V for the Year 2022-23.**

We M/s. Natco Pharma Limited-Chemical Division are herewith submitting the Environmental Statement in Form-V for the year 2022-23 for your kind perusal.

Kindly acknowledge the receipt of the same.

Thanking you,

Yours faithfully

**For Natco Pharma Limited – Chemical Division**

(Ch. Srinivasa Rao)  
Sr. General Manager – EHS

**Enclosed:** Form-V with annexures

**Copy to:** Member Secretary, T.S.P.C.B., Paryavaran Bhavan, Sanathnagar,  
Hyderabad.



**Manufacturing Site :** Chemical Division (ISO 14001 : 2015 and ISO 45001 : 2018 Certified)  
Mekaguda (Village), Nandigama (Mandal), Rangareddy Dist., Telangana, India, Pin : 509 223.  
Tel : +91 8542 226600, 226601, 226602, 226603, 226604, Fax : +91 8542 226614



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Hyderabad.





# ENVIRONMENT STATEMENT – FORM - V

For the year 202 – 23



Submitted By



**M/s. NATCO PHARMA LIMITED  
(CHEMICAL DIVISION)**

**Mekaguda Village, Nandigama Mandal,  
Ranga Reddy District, Telangana State, India**

**PIN: 509 223**



Environmental Statement 2022 – 23  
Natco Pharma Limited-Chemical Division

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Environmental Statement 2022 – 23  
Natco Pharma Limited-Chemical Division

# PART - A



**Environmental Statement 2022 – 23**  
**Natco Pharma Limited-Chemical Division**

**FORM – V**  
**(See rule 14)**

**Environmental Statement for the year ending 31<sup>st</sup> March, 2023**

**PART – A**

i	Name and address of the owner / occupier of the Industry operation or process.	Mr. P.S.R.K. Prasad NATCO PHARMA LIMITED "NATCO HOUSE", Road No. 2, Banjara Hills, Hyderabad – 500 034.
ii	Industry Category	Red Category – Hazardous
iii	Production Capacity	At any given time a maximum of 15 products, 5 from Group–A, 5 from Group–B and 5 from Group–C shall be manufactured so that the total production capacity at any point of time shall not exceed 1782.67 kg/day (53.480 TPM)  List of products with capacities given below.
iv	Year of establishment	1993
v	Date of the last Environmental Statement submitted	September – 2022



Environmental Statement 2022 – 23  
Natco Pharma Limited-Chemical Division

**List of Products with capacities**  
(As per CFO Expansion Order: 200522472438, 21.07.2020)

Group	S. No.	Name of the Product	Capacity (TPM)	Remarks
A	1	Alendronate	3.00	Any 15 products (5 products from each group) on campaign products out of total 66 products at any part of time & R&D activity
	2	Citalopram Hydrobromide	3.00	
	3	Chloroquine Phosphate	5.10	
	4	Clozapine	3.00	
	5	Deferasirox	0.30	
	6	ErlotinibHCl	1.05	
	7	Escitalopram Oxalate	0.51	
	8	Geftinib	1.05	
	9	Glatiramer Acetate	0.21	
	10	Ibandronate Sodium	1.05	
	11	Imatinib Mesylate	2.10	
	12	LapatinibDitosylate Monohydrate	0.51	
	13	Macitentan	0.51	
	14	OndansetronHCl Dihydrate	1.05	
	15	Sertraline HCl	3.00	
	16	Sofosbuvir	2.10	
B	17	ACDMQ	2.10	
	18	Armodafinil	0.51	
	19	Benzyloxy aniline HCl	2.10	
	20	Bosentan Monohydrate	1.05	
	21	Dimethyl Fumarate	5.10	
	22	Lansoprazole	2.10	
	23	Lanthanum Carbonate Dihydrate	2.10	
	24	L-Biopterin	0.12	
	25	Ledipasvir	0.51	
	26	Minodronic Acid Hydrate	0.51	
	27	Omeprazole	3.00	
	28	Pantoprazole Sodium Monohydrate	2.10	
	29	Pazopanib Hydrochloride	1.05	
	30	SorafenibTosylate	1.05	
	31	Sumatriptan Succinate	0.51	



**Environmental Statement 2022 – 23**  
**Natco Pharma Limited-Chemical Division**

Group	S. No.	Name of the Product	Capacity (TPM)	Remarks
C	32	(1S, 2S, 3R, 5S)-Pinanedilol-L-Phenylalanine-L-leucine boronate Hydrochloride (Intermediate of Bortezomib)	0.06	Any 15 products (5 products from each group) on campaign products out of total 66 products at any part of time & R&D activity
	33	5-fluoro2-oxindole (Intermediate of Sunitinib)	0.15	
	34	Ambrisentan	0.12	
	35	AmifostineTrihydrate	0.12	
	36	Anastrozole	0.12	
	37	Apixaban	0.12	
	38	Argatroban Monohydrate	0.06	
	39	BCC / NRC-2694-A	1.05	
	40	[[2S)-2-[[4-Methyl-2-[[[(2S)-2-[(2-morpholinoacetyl) amino]-4-phenyl-utanoyl]amino]pentanoyl] amino]-3-phenyl-propanoic acid] (Intermediate of Carfilzomib Acid)	0.06	
	41	Dasatinib Monohydrate	0.30	
	42	Entecavir Monohydrate	0.06	
	43	Ethyl-4-[5-(Bis(2-Hydroxyethyl) amino)-1-Methyl-1H-benzo[d]imidazol-2-yl]Butanoate (Intermediate of BendamustineHCl)	0.30	
	44	[N-[3-Hydroxy-1,1-bis-Hydroxymethyl-3-(4-octyl-phenyl)-propyl]-acetamide] (Intermediate of Fingolimod)	0.12	
	45	GranisetronHCl	0.12	
	46	Letrozole	0.12	
47	Liraglutide Acetate	0.01		
48	N-(2-(diethylamino)ethyl)-5-formyl-2,4-dimethyl-1H-pyrrole-3-carboxamide (Intermediate of Sunitinib Malate)	0.30		
49	Nilotinib Hydrochloride Hydrate	0.06		
50	NRC/AN/019	0.12		
51	Plerixafor	0.01		
52	Pomalidomide	0.12		
53	Ponatinib	0.30		
54	Regorafenib	0.21		
55	Rizatriptan Benzoate	0.12		





**Environmental Statement 2022 – 23**  
**Natco Pharma Limited-Chemical Division**

Group	S. No.	Name of the Product	Capacity (TPM)	Remarks
C	56	SalmeterolXinafoate	0.12	Any 15 products (5 products from each group) on campaign products out of total 66 products at any part of time & R&D activity
	57	Sapropterin.2HCl	0.12	
	58	Teriflunomide	0.12	
	59	Tigecycline	0.12	
	60	1,1-Dimethylethyl(S)-4-formyl-2,2-dimethyl-3-oxazolidine-carboxylate (TRB / D-5)	0.12	
	61	Ethyl-2-bromo-2-(6-(methoxymethoxy)-7-methyl benzo [D][1,3]dioxol-4-yl) acetate (TRB / TMR)	0.12	
	62	(S)-1-Hydroxy-3-(3-hydroxy-4-methoxy-5-methylphenyl) propan-2-aminium chloride (TRB-5 / LT-VIII)	0.12	
	63	Tri HexyphenidylHCl	0.12	
	64	Zoledronic acid	0.06	
	65	Zolmitriptan	0.12	
	66	Schiff's Base	20.00	
	R&D Products		0.03	



**Environmental Statement 2022 – 23**  
**Natco Pharma Limited-Chemical Division**

**Manufactured Products and Quantity**

S. No.	Name of the Products manufactured for the year 2022 – 23		CFO Permitted Quantity (kg/Annum)
	Product Name	Total Quantity (kg/Annum)	
01	Anastrozole	252.509	1440.000
02	Apixaban	689.120	1440.000
03	Armodafinil	323.380	6120.000
04	Bosentan Monohydrate	55.600	12600.000
05	Citalopram Hydrobromide	291.560	36000.000
06	Erlotinib HCl	176.500	12600.000
07	Geftinib	120.450	12600.000
08	Glatiramer Acetate	79.370	2520.000
09	Granisetron Hydrochloride	3.600	1440.000
10	Ibandronate Sodium	280.020	12600.000
11	Imatinib Mesylate	7719.225	25200.000
12	Lansoprazole	88.020	25200.000
13	Lanthanum Carbonate Dihydrate	9106.000	25200.000
14	Lapatinib Ditosylate Monohydrate	510.910	6120.000
15	Letrozole	323.555	1440.000
16	Nilotinib Hydrochloride Monohydrate	124.130	720.000
17	Ondansetron Hydrochloride	840.050	12600.000
18	Regorafenib	62.600	2520.000
19	Rizatriptan Benzoate	207.890	1440.000
20	Salmeterol Xinafoate	23.372	1440.000
21	Sorafenib Tosylate	370.200	12600.000
22	Teriflunomide	32.470	1440.000
23	Tri Hexyphenidyl HCl	25.910	1440.000
24	Zoledronic acid	7.035	720.000
25	Zolmitriptan	78.150	1440.000
26	R & D Products	241.064	360.000



Environmental Statement 2022 – 23  
Natco Pharma Limited-Chemical Division

# PART - B



**Environmental Statement 2022 – 23**  
**Natco Pharma Limited-Chemical Division**

**PART – B**  
**Water and Raw Material Consumption**

**I. Water Consumption (m<sup>3</sup>/day):**

S. No.	Description	Average water consumption for the year 2022 – 23			Consented Quantity (m <sup>3</sup> /day)
		Fresh Water (m <sup>3</sup> /day)	Recycle Water (m <sup>3</sup> /day)	Total (m <sup>3</sup> /day)	
01	Process	72.6		72.6	165.0
02	DM Regeneration				10.0
03	Washings				80.0
04	QC and R&D				5.0
05	Boiler	75.5		75.5	120.0
06	Cooling Towers	127.7		127.7	480.0
07	Scrubbers	7.0		7.0	20.0
08	Domestic	62.0		62.0	75.0
09	Fire Hydrant System	0.4		0.4	5.0
10	Gardening	64.4		64.4	165.0
	<b>Total</b>	<b>409.6</b>		<b>409.6</b>	<b>1125.0</b> <b>(Fresh water :763 + Recycled water: 362)</b>



**Environmental Statement 2022 – 23**  
**Natco Pharma Limited-Chemical Division**

S. No.	Name of the Products manufactured for the year 2022 – 23	Process water consumption per unit of product output.	
		During the previous financial year 2021 – 22	During the current financial year 2022 – 23
01	Anastrozole	6.849 KL / kg of product.  Products are being manufactured on campaign basis	6.783 KL / kg of product.  Products are being manufactured on campaign basis
02	Apixaban		
03	Armodafinil		
04	Bosentan Monohydrate		
05	Citalopram Hydrobromide		
06	Erlotinib HCl		
07	Geftinib		
08	Glatiramer Acetate		
09	Granisetron Hydrochloride		
10	Ibandronate Sodium		
11	Imatinib Mesylate		
12	Lansoprazole		
13	Lanthanum Carbonate Dihydrate		
14	Lapatinib Ditosylate Monohydrate		
15	Letrozole		
16	Nilotinib Hydrochloride Monohydrate		
17	Ondansetron Hydrochloride		
18	Regorafenib		
19	Rizatriptan Benzoate		
20	Salmeterol Xinafoate		
21	Sorafenib Tosylate		
22	Teriflunomide		
23	Tri Hexyphenidyl HCl		
24	Zoledronic acid		
25	Zolmitriptan		
26	R & D Products		

**ii. Raw Material Consumption**

The industry has obtained consent for operation to manufacture 66 products in three groups A, B and C. Any given time a maximum of 15 products will be manufactured groups A, B and C. The details of raw materials consumed for the production during the year 2022-23 presented in **Annexure-1**.



Environmental Statement 2022 – 23  
Natco Pharma Limited-Chemical Division

# PART - C





**Environmental Statement 2022 – 23**  
**Natco Pharma Limited-Chemical Division**

**PART – C**

**(a) Pollution Discharged to environment / per unit of out put**  
**(Parameters as specified in the Consent issued)**

Pollutant	Average quantity of pollutants discharged mass / day (Recycled)	Concentrations of pollutants in discharges mass / volume (Recycled)	Percentage of variation from prescribed standards With reasons
<b>a) Water</b>	<b>Zero Liquid Discharge system</b>		
pH	--	7.80	The unit adopts Zero Liquid Discharge concept for wastewater treatment and Recycling. All the parameters are with in the acceptable limits for recycling.  Reports enclosed as Annexure-2
Total Dissolved Solids (TDS)	--	169.7 mg/L	
Total Suspended Solids (TSS)	--	1.0 mg/L	
Chemical Oxygen Demand (COD)	--	28.0 mg/L	
Biochemical Oxygen Demand (BOD@27°C)	--	4.4 mg/L	
Chlorides	--	51.7 mg/L	
Sulphates	--	18.7 mg/L	
Ammonical Nitrogen as NH <sub>3</sub> -N	--	14.3 mg/L	
Oil & Grease	--	<0.1 mg/L	
Hexavalent Chromium (as Cr <sup>+6</sup> )	--	<0.03 mg/L	
Total Chromium as Cr	--	<0.1 mg/L	
Lead as Pb	--	<0.1 mg/L	
Nickel as Ni	--	<0.1 mg/L	
Zinc as Zn	--	<0.1 mg/L	
Cyanide as CN	--	<0.02 mg/L	
Arsenic as As	--	<0.2 mg/L	
Mercury as Hg	--	<0.01 mg/L	
Silica as SiO <sub>2</sub>	--	2.6 mg/L	
Total Hardness as CaCO <sub>3</sub>	--	85.2 mg/L	



**Environmental Statement 2022 – 23**  
**Natco Pharma Limited-Chemical Division**

<b>Pollutant</b>	<b>Average concentrations of pollutants in discharges mass / volume</b>	<b>Percentage of variation from prescribed standards With reasons</b>
<b><u>b) Air</u></b>		
<b><u>AAQ</u></b>		
Particulate Matter (PM-10)- $\mu\text{g}/\text{m}^3$	33.4	All parametrs are within the permissible Limits  Reports enclosed as <b>Annexure-2</b>
Particulate Matter (PM-2.5)- $\mu\text{g}/\text{m}^3$	16.1	
Sulphur Dioxide ( $\text{SO}_2$ )- $\mu\text{g}/\text{m}^3$	10.5	
Oxides of Nitrogen ( $\text{NO}_2$ )- $\mu\text{g}/\text{m}^3$	BDL	
Ammonia ( $\text{NH}_3$ )- $\mu\text{g}/\text{m}^3$	3.4	
Carbon Monoxide (CO)- $\mu\text{g}/\text{m}^3$	BDL	
Ozone ( $\text{O}_3$ )- $\mu\text{g}/\text{m}^3$	21.6	
Lead (pb)- $\mu\text{g}/\text{m}^3$	BDL	
Nickel (Ni)- $\text{ng}/\text{m}^3$	BDL	
Arsenic (As)- $\text{ng}/\text{m}^3$	BDL	
Benzo (a) pyrene (BaP)-particulate phase only- ( $\text{ng}/\text{m}^3$ )	BDL	
Benzene ( $\text{C}_6\text{H}_6$ )- $\mu\text{g}/\text{m}^3$	BDL	



**Environmental Statement 2022 – 23**  
**Natco Pharma Limited-Chemical Division**

Pollutant	Average concentrations of pollutants in discharges mass / volume	Percentage of variation from prescribed standards With reasons
<b><u>Incinerator Stack Emissions</u></b>		
Particulate Matter (PM) mg/Nm <sup>3</sup>	As a part of environmentally sound engineering practice, Incinerable organic wastes sendig to cement industry for coprocessing and AFRF followed by Co processing at GGEPIL & TSDF Ramky. Hence onsite incinerator not using for disposal of incinerable hazardous wastes (Incienrator is in working codition. Can be operational at any point of time as and when required).	--
Sulphur Dioxide (SO <sub>2</sub> ) mg/Nm <sup>3</sup>		
Oxides of Nitrogen (NO <sub>x</sub> ) mg/Nm <sup>3</sup>		
Carbon Monoxide (CO) mg/Nm <sup>3</sup>		
HCl mg/Nm <sup>3</sup>		
Total Organic Compound (TOC) mg/Nm <sup>3</sup>		
HF mg/Nm <sup>3</sup>		
Carbon Dioxide (CO <sub>2</sub> ) mg/Nm <sup>3</sup>		
<b><u>Boiler Stack Emissions</u></b>		
Particulate Matter (PM)	58.1 mg/Nm <sup>3</sup>	Within the permissible limitss  Reports enclosed as <b>Annexure-2</b>
Sulphur Dioxide (SO <sub>2</sub> )	312.7 mg/Nm <sup>3</sup>	
Oxides of Nitrogen (NO <sub>x</sub> )	210.5 mg/Nm <sup>3</sup>	
<b><u>D.G. Sets Stack Emissions</u></b>		
Particulate Matter (PM)	52.5 mg/Nm <sup>3</sup>	Within the permissible limits  Reports enclosed as <b>Annexure-2</b>
Sulphur Dioxide (SO <sub>2</sub> )	127.8 mg/Nm <sup>3</sup>	
Oxides of Nitrogen (NO <sub>x</sub> )	155.0 mg/Nm <sup>3</sup>	
Non Methane Hydrocarbons	BDL	
Carbon Monoxide (CO)	39.9 mg/Nm <sup>3</sup>	



Environmental Statement 2022 – 23  
Natco Pharma Limited-Chemical Division

# PART - D



**Environmental Statement 2022 – 23**  
**Natco Pharma Limited-Chemical Division**

**PART – D**  
**Hazardous Wastes**

[As specified under Hazardous and Other Wastes (Management, Handling and Transboundary Movement) Rules, 2016 and amendments thereof]

Hazardous Waste	Total Quantity (Tons)		
	During the Previous Financial year 2021-22	During the current financial year 2022-23	Consent quantity as per CFO Order No. 200522472438, dated 21.07.2020
<b>Generation</b>			
<b>a) From Process</b>			
Spent Carbon	17.097	11.326 (With moisture content)	216.000
Process Organic Residue	79.524	90.058	2062.800
Distillation Residues	137.742	157.991	180.000
Inorganic & Evaporation Salts (Process & Non-Process)	1070.253	938.735	5158.800
Spent Hydrobromic Acid	18.537	6.000	428.400
Spent Succinamide	19.073	16.978	126.000
Gypsum	66.420	24.590	455.000
Spent Raney Nickel Catalyst	4.343	--	36.500
Spent Solvents	4783.202	4760.437	66600.000 KL
Recovered Spent Solvents	3994.189	2850.703	63000.000 KL
Spent Mixed Solvents	395.998	365.017	2880.000 KL
Waste Oils & Grease	2.830 KL (With moisture content)	4.600 KL (With moisture content)	10.000 KL
Misc. Waste (Spill Control waste)	--	0.090	60 TPA
Rejects (Off specification / date expired / rejected raw materials / chemicals / intermediates / APIs)	7.545	1.988	72.000
Used Insulation waste	23.000	13.700	25.200
E-Waste	0.920	1.290	3.600
<b>b) From Pollution Control Facilities</b>			
ETP Sludge	212.070	391.200	1800.000



**Environmental Statement 2022 – 23**  
**Natco Pharma Limited-Chemical Division**

Hazardous Waste	Total Quantity (Tons)		
	During the Previous Financial year 2021-22	During the current Financial year 2022-23	Consent quantity as per CFO Order No. 200522472438, dated 21.07.2020
<b>Disposal</b>			
<b>a) From Process</b>			
Spent carbon (AFRF-HWMP).	19.050	9.860	
Process Organic Residue (Cement Industry)	87.313	96.939	
Distillation Residues (Cement Industry & GGEPIL-AFRF).	129.550	143.410	
Distillation Residues (AFRF-HWMP)	--	5.670	
Inorganic & Evaporation Salts (Process & Non-Process) to HWMP-TSDF	1003.680	503.713	
Inorganic & Evaporation Salts (Process & Non-Process) to GGEPIL-AFRF	50.622	314.730	
Inorganic & Evaporation Salts (Process & Non-Process) to EWMS-AFRF	--	161.880	
Spent Hydrobromic Acid (Recyclers)	21.070	6.340	
Spent Succinamide (Manufacturer)	10.680	26.920	
Gypsum (Cement Industry)	72.010	--	
Spent Raney Nickel Catalyst (Recyclers)	4.343	--	
Recovered Spent Solvents (Recyclers)	3017.895	2843.100	--
Recovered Spent Solvents (re-used in process)	1065.426	1058.646	
Spent Mixed Solvents (Cement Industry).	374.848	372.762	
Spent Solvents (Taken for Recovery at SRP)	4783.202	4760.437	
Waste Oils & Grease (Recycler)	2.640	2.810	
Misc. Waste-Spill Control waste (HWMP-TSDF)	--	0.090	
Rejects (Off specification / date expired / rejected raw materials / chemicals /	6.355	3.178	
Used Insulation waste to TSDF (HWMP-TSDF)	17.800	15.450	
E-Waste (M/s. Enviro Care Center)	0.970	1.310	
<b>b) From Pollution Control Facilities</b>			
ETP sludge (HWMP-TSDF)	145.860	--	
ETP sludge (GGEPIL-AFRF)	66.900	88.830	
ETP sludge (EWMS-AFRF)	--	282.660	





**Environmental Statement 2022 – 23**  
**Natco Pharma Limited-Chemical Division**

Bio-Medical waste	Total Quantity (Tons)	
	During the Previous Financial year 2021-22	During the current financial year 2022-23
<b>Generation</b>		
Yellow Category – MBL waste	2788.0 kgs	3039.9 kgs
Yellow Category – Soiled Waste (Occupational Health Center waste)	58.960 kgs	54.115 kgs
Yellow Category – Expired & Discarded Medicines (OHC)	43.650 kgs	5.700 kgs
White Category – Needles (Occupational Health Center waste)	52.010 kgs	56.120 kgs
Blue Category – Glassware & Sharps (Occupational Health Center waste)	101.975 kgs	99.165 kgs
Red Category – Plastic Waste (Occupational Health Center waste)	184.015 kgs	122.075 kgs

Bio-Medical waste	Total Quantity (Tons)	
	During the Previous Financial year 2021-22	During the current financial year 2022-23
<b>Disposal</b>		
Yellow Category – MBL waste	2805.0 kgs	3044.9 kgs
Yellow Category – Soiled Waste (Occupational Health Center waste)	59.080 kgs	54.255 kgs
Yellow Category – Expired & Discarded Medicines (OHC)	43.650 kgs	5.700 kgs
White Category – Needles (Occupational Health Center waste)	52.070 kgs	56.240 kgs
Blue Category – Glassware & Sharps (Occupational Health Center waste)	102.315 kgs	99.375 kgs
Red Category – Plastic Waste (Occupational Health Center waste)	184.415 kgs	122.325 kgs



**Environmental Statement 2022 – 23**  
**Natco Pharma Limited-Chemical Division**

**PART - E**



**Environmental Statement 2022 – 23**  
**Natco Pharma Limited-Chemical Division**

**PART – E**

**Solid Wastes**

Source of solid waste	During the Previous Financial year 2021-22	During the current Financial year 2022-23	Consent quantity as per CFO Order No. 200522472438, dated 21.07.2020
	Quantity (Tons)		
<b>a) From process</b>			
Detoxified Containers / Liner drums, HDPE Carboys, Fiber drums and PP Bags	13351 Nos. (14.031 Tons)	9821 Nos. (11.745 Tons)	18000 Nos.
Used Thermo Cole waste	1.570	1.540	7.200
HDPE & PP Scrap	27.380	37.860	72.000
Brown Shippers waste	8.310	10.690	--
Shredded Paper waste	1.570	2.236	--
<b>b) Form pollution control facility</b>	Nil		
<b>Others</b>	Nil		
<b>c)</b>	Nil	Nil	
<b>1) Quantity recycled or re-utilized within the unit.</b>			
<b>2) Sold</b>	Nil	Nil	
<b>3) Disposed</b>			
Detoxified Containers / Liner drums, HDPE Carboys, Fiber drums and PP Bags	7519 Nos. (13.338 Tons)	4206 Nos. (10.789 Tons)	--
Used Thermo Cole waste (AFRF)	1.750	1.540	
HDPE & PP Scrap (AFRF)	31.700	37.860	
PP Bags (Used for evaporation packing)	5930 Nos. (0.890)	5540 Nos. (0.830)	
Brown Shippers waste	8.310	10.290	
Shredded Paper waste	1.570	2.180	



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# **PART – F**



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**PART – F**

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

**HAZARDOUS WASTE:**

The total amount of hazardous waste generated during the year 2022-23 is 4877.643 Tons. Hazardous wastes segregated based on the characteristics of the wastes such as Spent Carbon, Distillation Residue, Process Organic Residue, Spent Mixed Solvents, ETP Sludge, Spent Hydrobromic Acid, Spent Succinamide, Gypsum, Spent Raney Nickel Catalyst, Recovered Spent Solvents, Waste Oil, Rejects, Insulation Waste, Bio-Medical Waste, E-Waste and Inorganic & Evaporation Salts.

Spent Carbon collected in HDPE bags from process, stored in covered shed and then disposed to AFRF-HWMP for pre-processing.

Rejects and Process Organic Residue collected in HDPE bags from process, stored in covered shed and then disposed to cement plants for co-processing.

Distillation Residue collected in HDPE drums, stored in covered shed and then disposed to cement plants for co-processing / GGEPIL & HWMP for pre-processing followed by co-processing in cement kilns.

Spent Mixed Solvents collected in HDPE drums, stored in covered shed and then disposed to cement plants for co-processing.

Evaporation Salt generated from ATFD, collected in HDPE Bags, stored in covered shed and disposed to TSDF for secured landfill / GGEPIL & EWMS for pre-processing followed by co-processing in cement kilns.

Inorganic Salts collected in HDPE bags from production blocks and ETP Sludge collected in HDPE bags from ETP (Paddle Dryer), stored in covered shed, and then disposed to GGEPIL & EWMS for pre-processing.

Insulation waste and Spill Control waste collected in HDPE bags from production blocks, stored in covered shed and then disposed to HWMP (TSDF).

Spent Succinamide collected in HDPE bags, Spent Hydrobromic Acid, Recovered Spent Solvents and Waste Oil collected in drums and disposed to Authorised Recyclers.

Gypsum collected from Gypsum plant, stored in covered platform and disposed to cement companies as raw material.

Bio-Medical waste collected in colour coding bags and disposed to authorised CBMWDF.

E-Waste collected from IT and Maintenance and disposed to authorised recyclers.



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**2. SOLID WASTE (NON-HAZARDOUS):**

Generation of Non-hazardous solid wastes are in the form of fly ash, packaging material, paper & paperboard waste etc. Fly ash is being disposed to brick manufacturers. Packing materials after detoxification sent to outside agencies for recycling. The Paper and paperboard waste sent to ITC Limited through Nish Elgha Technologies Pvt.Ltd authorised agency for recycling.





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# PART - G



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**PART – G**

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

Installed two additional new IP cameras and connected to TSPCB server (total 5 IP camera installed and connected to TSPCB server) showing the boiler chimneys & ETP area and the plant premises as advised by the TSPCB.

Roof top rainwater collection system implemented and utilizing the roof top rainwater to boilers.

Installed water efficient fixtures low flow aerated type at all washing areas (toilets, canteen & employees change rooms) to conserve water.

Installed 3.40 MW solar power plant for captive consumption, which in turn will reduce the grid power consumption. Hence, the proportionate quantity of GHG emissions (generated during the generation of grid power from fossil fuels) minimized.

Solar power purchase agreement made with the renewable energy generators. Achieved 35% of plant power demand meeting from renewable energy sources (from onsite solar power plant & through solar power purchase agreements).

Wastewater treated in ZLD plant and recycled to reduce the freshwater consumption.

Spent sulphuric acid segregated and converted into gypsum and sold as a raw material to cement industries.

Spent catalysts segregated and sent back to manufacturers for reprocessing.



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# PART - H



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**PART – H**

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

“Eco Forest” a new afforestation project launched by Natco – Mekaguda unit using “Miyawaki concept” invented and named after Japanese botanist Akira Miyawaki a unique technique to grow multi-layered dense forests with native species.

“Eco Forest is developed in an area of about 3000 sq.mts area with 7600 plants of 45 varieties of native species within the premises and another 500 sq.mts area with 1800 plants with 45 varieties of native species along the south side boundary towards the village and 2000 plants newly planted in 2022-23 inside the plant at greenbelt area.

Under this concept, number of native species planted in this area close to each other (at 60 cm distance between plants). The plant growth is 10 times faster and the resulting plantation is 30 times denser than usual. This will lead to co-existence of plants and in fact each plant draws from the other vital nutrients and they grow to become strong and healthy and becomes maintenance-free after the first two years. A substantial decrease in noise and dust control and more Carbon-dioxide absorption as compared to conventional forest.



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*Greenbelt area (12 month old)*







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*Newly developed Greenbelt area in 2022-23*





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# **PART - I**





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**PART – I**

**The proposed projects for improving the quality of the Environment:**

Proposed to use high-pressure jet pumps with special nozzle instead of conventional equipment for cleaning of process equipment at all production blocks after validating the revised cleaning protocols and after obtaining the approvals from QA.

Continue to reduce the (ETP dried sludge & Evaporation salt) quantity of wastes disposed to secured landfills by disposing the wastes to authorised Pre-processing facilities for pre-processing followed by co-processing instead of sending to secured landfill (TSDF).

Working with recyclers / pre-processors to utilize the insulation waste.

Working with technical experts & technologies to improve the RO plants recovery rates.

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