

Ref.: S&E/E.8-1/23

Date: 16<sup>th</sup> June 2023

The Member Secretary  
Tamilnadu Pollution Control Board  
76, Mount Road  
Guindy  
Chennai – 600 032

Respected Sir,

**Sub: Environmental Statement for the year 2022 -2023 for Greenstar  
Fertilizers Limited Plants**

We are pleased to submit the Environmental Statement in Form-V pertaining to our Greenstar Fertilizer plants at Tuticorin for the year ending 31<sup>st</sup> March 2023.

Thanking you,  
For "Greenstar Fertilizers Limited"

*E. Balu 16/06/2023*  
**E. Balu**  
**Chief Operating Officer**

- cc.: 1. The District Environmental Engineer  
Tamilnadu Pollution Control Board  
C7 & C9, SIPCOT Industrial Complex  
Meelavittan, Tuticorin – 628 008
2. The Joint Chief Environmental Engineer  
Tamilnadu Pollution Control Board  
32, 33, A/3 Raja Rajeswari Nagar,  
Perumalpuram, Thirunelveli – 627007



## **Greenstar Fertilizers Limited**

CIN : U24100TN2010PLC077127

REGD OFFICE : "SPIC HOUSE", No. 88, Mount Road, Guindy, Chennai - 600 032, Tamilnadu, India.

FACTORY : Muthiahpuram Post, Tuticorin - 628 005, Tamilnadu, India.

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Web : www.greenstarfertilizers.com

**Greenstar****ENVIRONMENT (PROTECTION) ACT 1986****ENVIRONMENT (PROTECTION) SECOND AMENDMENT RULES,  
1992****FORM-V**

(See Rule 14)

**Environmental statement for the financial year  
ending 31<sup>st</sup> March, 2023****PART-A**

- i) Name and address of the owner / occupier of the industry, operation or process : S. Narayanan  
Whole Time Director  
2C,Block II, Ramaniyam Abbotsbury,  
42, C P Ramaswamy Road,  
Alwarpet, Chennai – 600018.  
M/s Greenstar Fertilizers Limited,  
SPIC Nagar, Tuticorin - 628 005.
- ii) Industry Category : Primary SIC No.2800  
(Chemicals and allied products)  
  
Secondary SIC No. 2874  
(Phosphatic Fertilizers)
- iii) Production Capacity (Reassessed capacity by MoEF)
- |                                |   |                   |
|--------------------------------|---|-------------------|
| a) Di-Ammonium Phosphate (DAP) | : | 9,00,000 MT/annum |
| b) Aluminium Fluoride          | : | 10,000 MT/annum   |
| c) Single Super Phosphate      | : | 350 MT/day        |
- iv) Year of establishment : Sulphuric Acid Plant :1975  
Phosphoric Acid Plant:1976  
DAP Plant Train I:1977  
DAP Plant Train II: 1983  
Aluminium Fluoride Plant : 1987  
SSP : 2010
- v) Date of the last environmental report submitted : 16.06.2022

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

ii)	Water consumption	:	Average M <sup>3</sup> /Day (Actual)
	Cooling	:	1542.5
	Process	:	262.9
	Domestic	:	170.0

Sl. No.	Name of Products	Water Consumption per unit of products (M <sup>3</sup> /MT)	
		During the Previous Financial year 2021 -2022	During the current Financial year 2022 -2023
1.	DAP	1.12	0.52
2.	Aluminium Fluoride	11.68	12.80
3.	SSP	0.14	0.15

## ii) Raw Material consumption

Sl. No.	Name of the Raw Material	Name of the Product	Consumption of raw material per unit of output	
			During the previous Financial year 2021 - 2022	During the current Financial year 2022 - 2023
1.	Sulphur	Sulphuric Acid	0.332	0.332
2.	Rock Phosphate	Phosphoric Acid	3.61	3.46
3.	Aluminium Hydroxide	AlF <sub>3</sub>	1.282	1.291
4.	Rock Phosphate	SSP	0.540	0.559



**PART - C**  
**Pollution Generated**  
 (Parameters as specified in the consent issued)

Sl. No.	Pollutants	Quantity of Pollutants discharged mass/day	Concentration of pollutants discharged in mass/volume	Percentage of variation from prescribed standards with reasons
I	<b><u>WATER:</u></b>	No Effluent Generation		
II	<b><u>AIR:</u></b>			
1)	Sulphuric Acid Plant: SO <sub>2</sub>	387.06 Kg/day	281.50 mg/Nm <sup>3</sup>	No deviation from prescribed standards. The Sulphuric Acid plant is converted to DCDA Process. No deviation from prescribed standards
	Acid Mist	6.28 Kg/day	4.57 mg/Nm <sup>3</sup>	
3)	Phosphoric Acid Plant:			No deviation from prescribed standards
	Fluoride -TCA III	5.89 Kg/day	1.49 mg/Nm <sup>3</sup>	
	Fluoride HH Off Gas Stack	2.46 Kg/day	1.84 mg/Nm <sup>3</sup>	
	RG Mill Particulate matter	18.00 Kg/day	41.67 mg/Nm <sup>3</sup>	No deviation from prescribed standards
4)	DAP Plants:			No deviation from prescribed standards No deviation from prescribed standards No deviation from prescribed standards
	Particulate Matter	114.96 Kg/day	22.81 mg/Nm <sup>3</sup>	
	Fluoride	5.32 Kg/day	1.07 mg/Nm <sup>3</sup>	
	Ammonia	180.08 Kg/day	35.48 mg/Nm <sup>3</sup>	No deviation from prescribed standards
5)	AlF <sub>3</sub> Plant			No deviation from prescribed standards No deviation from prescribed standards
	Particulate Matter	3.42 Kg/day	35.67 mg/Nm <sup>3</sup>	
	SO <sub>2</sub>	2.10 Kg/day	94.42 mg/Nm <sup>3</sup>	No deviation from prescribed standards
6)	SSP Particulate Matter	12.18 Kg/day	33.83 mg/Nm <sup>3</sup>	No deviation from prescribed standards
	Fluoride	0.29 Kg/day	0.81 mg/Nm <sup>3</sup>	No deviation from prescribed standards

**PART-D**  
(Hazardous Wastes)

(as specified under Hazardous Wastes (Management and Handling) Rules, 1989)

Sl. No.	Hazardous Wastes	Total Quantity (MT)			Closing Stock & Mode of collection/ Treatment & Disposal
		Quantity generated during 2021 - 22	Quantity generated during 2022 - 23	Characteristics	
1.	<b>Solid spent Catalyst: (Sulphuric Acid Plant)</b>				
	HW Category 17.2 Sulphuric Acid Plant Converter Catalyst	1.29	3.5	V <sub>2</sub> O <sub>5</sub> - 3% w/w	4.79
2.	HW Category 17.1 Process acidic residue, filter cake, dust	29.7	28.6	Solid	Nil
3.	Used or Spent oil HW Category : 5.1	7.03KL	7.82 KL	Oil	16.75 KL

**PART - E**

**BY PRODUCT**

S.No	BY PRODUCT	Total quantity (MT)	
		Generated during the previous financial year 2021 - 2022	Generated during the current financial year 2022 - 2023
1.	<b>From Process:</b> Phosphogypsum generated from Phosphoric Acid Plant	902700	1014180
	Gypsum Sold	914657	1032391
2.	<b>From Process:</b> Silica generated from Aluminium Fluoride Plant	4469	5308.8
	Silica sold	4809.6	5140.73
<b>SOLID WASTE : Nil</b>			

**PART - F**

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

As specified in PART D and PART E

We have become a member of Industrial Waste Management Association- membership No; 1459.

Hazardous waste authorization also obtained from TNPCB. Generated Hazardous waste is being disposed to authorized recyclers or to authorized TSDF.

**PART - G**

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

Greenstar Fertilizers Limited firmly believes that industrial productivity and environmental protection are to co-exist. With the strong environmental concern and commitment, Greenstar Fertilizers Limited has taken great strides in prevention of pollution and protection of the precious environment. The various pollution control and monitoring measures have been helpful to bring about an overall improvement of the quality of water, air and land in the vicinity. We have implemented several measures for waste minimization / pollution prevention.

- 1) An ambient air quality has been monitored online and it has been displayed at the factory gate entrance area which shows the pollutant data for the general public.
- 2) SA plant stack SO<sub>2</sub> online continuous monitoring is done and transmitted to care air center, TNPCB from May 2013. DAP I and II Plants Ammonia analyzers were lined up to care air center from February 2016.



- 3) Startup scrubber commissioned and lined up with SO<sub>2</sub> Stack to reduce SO<sub>2</sub> emission to environment.
- 4) Bio mass used in stand by steam generation unit (biomass boiler) as a conservation of Fossil fuels.
- 5) Major part of treated effluent from SPIC is reused in Greenstar Plant to conserve raw water.
- 6) Ambient HF was monitored through online analyzer and the connectivity was lined up to care air center, TNPCB from August 2018.
- 7) HF Analyzers were installed in DAP and PA Plant Stacks and Data is being transmitted to Care air Centre, TNPCB since December 2019.
- 8) Installed Remote calibration facility for SA plant SO<sub>2</sub> Analyzer from July 2020 onwards.
- 9) We have obtained ISO 45001 and ISO 14001.
- 10) PM analyzers were installed in RG Mill Stack and Data is being transmitted to Care air Centre, TNPCB since November 2020.
- 11) HF analyzer was installed in SSP plant stack and Data is being transmitted to Care air Centre, TNPCB since February 2021.
- 12) PM analyzers were installed in DAP- I, DAP- II and SSP Plant Stacks and Data is being transmitted to Care air Centre, TNPCB since January 2021.
- 13) HF analyzer was installed in DAP II plant and data is being transmitted to Care air Centre, TNPCB since 21.10.2021.
- 14) 835 MT of Plastic Waste was recycled through PRO as part of EPR Obligation for 2022-23.
- 15) AIF3 plant effluents are reused in DAP plants for scrubbing.
- 16) 70% of captive solar power production is used in Greenstar Fertilizers Limited.
- 17) Dilution air was hooked up in sulphuric acid plant to improve SO<sub>2</sub> conversion thus reducing stack loss.

Overall cost towards APC measures and statutory requirements towards environment protection was Rs.153.772 lakhs. The break-up details is given:

		<u>Rs.in Lakhs</u>
Direct	Chemicals for APC Measures	14.675
Indirect	Salary and Statutory Fees	139.097
Total Cost of chemicals and statutory requirements		Rs.153.772 Lakhs

PART - H

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

- 1) We are maintaining the green belt more than 34.73% of all over area inside factory and nearby township. Totally 2016 trees have been planted in the year 2022 - 23.  
  
Cost incurred for green belt development for the year 2022 - 2023 is 3 lakhs.
- 2) We have incorporated the dry mode of gypsum conveying system instead of gypsum slurry mode to impervious gypsum dyke.
- 3) As per CPCB guidelines, Gypsum pond is converted into impervious lined pond at cost of 12crores.



## PART - I

Miscellaneous

Any other particulars in respect of environment protection and abatement of pollution till March 2023.

- 1) Green Belt Development Programme is continuously carried out to improve the quality of the environment. 2016 trees were planted during the year 2022-2023.
- 2) WORLD ENVIRONMENT DAY CELEBRATIONS:  
Environment Quiz and Essay, Environment Day Pledge, World Environment Day 2023 theme given by UNEP, "Beat Plastic Pollution" was circulated in intranet for the benefit of employees.  
**Plantation of New Saplings:**  
World Environment day was celebrated on June 5<sup>th</sup> and 165 saplings were planted and about 2016 trees were planted during the year 2022-2023.
- 3) World Water Day was celebrated on March 22<sup>nd</sup> and 110 tree saplings were planted around premises. World Earth Day was celebrated on April 22<sup>nd</sup> and 15 tree saplings were planted on that day.
- 4) Regular refresher training programme is conducted for employees on Safety and Environment. "Environment management in Greenstar Fertilizers Limited" is one of the topic in the above training Programme.
- 5) Monitoring of stack emission and ambient air and water quality is being done regularly.
- 6) Maintenance department is carrying out regular checking and scheduled maintenance of all the pollution control devices.
- 7) Production & Administration departments taking care of housekeeping.
- 8) Dedicated Horticulture section is taking care of tree plantation and green belt development. Every year we are growing new trees.
- 9) Part of treated effluent water generated from SPIC Ltd., is being used for Green Belt development inside the Factory premises.
- 10) Environment Monitoring were carried out around the Phosphogypsum stack by CVR labs and the reports were submitted to TNPCB.
- 11) Conventional Bulbs were replaced with LED bulbs across factory as a part of energy reduction.

Signature

*(E. Balu)*  
16/06/2023

Name and address of the person  
submitting the Environmental statement  
report

E. Balu  
Chief Operating Officer

On behalf of  
Name and Address of the Unit

M/s Greenstar Fertilizers Limited  
SPIC Nagar, Tuticorin 628 005.