



RLC

GIL-CDR/ENV/2022-23/548

24.11.2022

To,  
Addl. Principal Chief Conservator of Forests (C),  
Regional Office (ECZ)  
Ministry of Environment, Forests & Climate Change  
2<sup>nd</sup> Floor, Headquarter- Jharkhand State Housing Board  
Harmu Chowk, Ranchi, Jharkhand - 834002

Sub: Submission of Six Monthly (April 2022 to September 2022) EC Compliance

Ref: MoEF EC letter no. J-11011/1213/2007-IA-II(I) Dated 11.02.2009

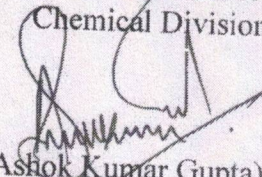
Dear Sir,

This has reference to the captioned subject and cited reference, we are herewith submitting six monthly Compliance report for the conditions stipulated in the Environment Clearance, for the period of April 2022 to September 2022 for your kind consideration.

Hope the above are in line with the statutory requirements.

Thanking you,

Yours faithfully,  
For Grasis Industries Limited,  
Chemical Division

  
(Ashok Kumar Gupta)  
Unit Head

Encl.: As above.

Copy to:

1. Regional Director, Regional Directorate (East), Central Pollution Control Board, Southern Conclave, Block 502, 5th and 6th Floors, 1582 Rajdanga Main Road, Kolkata - 700107 (W.B)
2. Member Secretary, Jharkhand State Pollution Control Board, T.A. Division Building, HEC Campus, Dhurwa, Ranchi - 834004 (Jharkhand)
3. Regional Officer, Jharkhand State Pollution Control Board, E-1, CTI Colony, Dhurwa, Ranchi-834004 (Jharkhand)

Grasis Industries Limited  
Chemical Division, Rehla  
Garhwa Road, Rehla 822 124  
Dist. Palamau, Jharkhand, India

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Email grasim.rehla@adityabirla.com

Regd. Office P.O. Birlagram, Nagda 456 331 (M.P.)





GIL-CDR/ENV/2022-23/548

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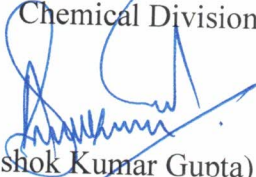
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3. Regional Officer, Jharkhand State Pollution Control Board, E-1, CTI Colony, Dhurwa, Ranchi- 834004 (Jharkahnd)

# **ENVIRONMENTAL CLEARANCE COMPLIANCE STATUS REPORT**

**April 2022 to September 2022**

**Six Monthly Compliance Status Report of  
Environmental Clearance for Expansion of Caustic  
Soda Lye Plant from 225 TPD to 550 TPD and CPP  
from 30 MW to 60 MW**

**(EC letter no. J-11011/1213/2007-IA-II(I) Dated 11.02.2009)**



**GRASIM INDUSTRIES LIMITED**

**CHEMICAL DIVISION REHLA**

**PALAMAU-822124 (JHARKHAND)**

**Email- [grasim.rehla@adityabirla.com](mailto:grasim.rehla@adityabirla.com)**

**Telephone- +91 6584 262211 / 221**



**A) Specific Conditions**

- (i) All the mercury cell operation shall be based on membrane cell and no mercury cell based operation shall be carried.**

**Compliance Status:**

- Mercury Cell based Caustic soda production was stopped in the year 2006. Membrane cell based technology is adopted for the production Caustic Soda.

- (ii) The company shall install Waste Air De-chlorination (WAD) system with Sodium bi-sulphite for neutralizing chlorine emissions as waste gases from cell house and brine recycle and saturation. Demister shall be provided in Hydrochloric Acid Plant vents. The vent gases from Sodium hydrochloride plant and HCL acid plant shall be controlled at source by effective absorption system so that Chlorine concentration in the vent gases shall not exceed 5 ppm.**

**Compliance Status:**

- Unit has installed Waste Air De-chlorination system to control the chlorine emission at source by effective absorption system and to arrest the concentration within the limit.
- Chlorine Concentration in the vent gases is maintained within the prescribed limit. NABL Accredited Laboratory Analysis report attached as *Annexure 1*.

- (iii) The Company shall install Chlorine gas detectors to detect leakage of Chlorine at liquid Chlorine storage tanks, Sodium hypo plant, HCL synthesis unit and Electrolysis area. The Company shall install on-line analyzer in HCL plant and hypo stack with recording facility.**

**Compliance Status:**

- Unit has installed chlorine gas detector at different locations of plant including liquid chlorine storage, Sodium hypo plant, HCL synthesis and electrolysis area.
- OCEMS having connectivity with JSPCB and CPCB server is installed in HCL and Sodium Hypo stack.

- (iv) Cyclone & ESP to the CFBC boiler of power plant with inter locking facility, Dust extractor & bag filter to coal handling plant and pneumatic & closed ash collection & conveying system shall be provided in power plant for control of particulate emission below 100mg/Nm<sup>3</sup>.**

**Compliance Status:**

- Unit has an appropriate arrangements of interlocking system & efficient Air pollution control devices at different source type for controlling the particulate emission below the prescribed standards.
- NABL Accredited Laboratory Analysis report attached as *Annexure 1*.

- (v) The company shall provide the monitoring arrangement with vents and regular monitoring shall be carried out and reports submitted to Jharkhand SPCB, CPCB and Ministry's Regional Office at Ranchi.**

**Compliance Status:**

- Unit has provided the monitoring arrangement with all stacks and vents and the regular monitoring report is being submitted to nodal agencies. Apart from that GIL has also installed Online Continuous Monitoring system with the connectivity to JSPCB and CPCB server.



- (vi) Fugitive emissions in the work zone environment, product and raw materials storage area shall be regularly monitored. The emissions shall conform to the limits imposed by Jharkhand SPCB

**Compliance Status:**

- Fugitive emission monitoring is being done regularly, and the emissions are within specified limit as prescribed by SPCB.
- Fugitive emission report is attached in *Annexure 1*.

- (vii) The water requirement and waste water generation shall not exceed 9888 KLD and 840 KLD respectively.

**Compliance Status:**

- The average water requirement between April 2022 to September 2022 was 7059 KLD against 9888 KLD and average waste water generation between April 2022 to September 2022 was 748 KLD (inclusive CT Blowdown) against 840 KLD. All waste Water generated from plant is being treated through ETP & RO plant and RO reject is being treated through MEE+ATFD plant.

Month	Initial Meter Reading	Final Meter Reading	Water Drawl Month (KL)	Water Drawl (KLD)
Apr-22	998551	225052	226501	7550
May-22	225052	448290	223238	7201
Jun-22	448290	634630	186340	6211
Jul-22	634630	851323	216693	6990
Aug-22	851323	80635	229312	7397
Sep-22	80635	290720	210085	7003
Average Water Drawl (KLD)				7059

- (viii) The company shall install full-fledged effluent treatment plant to treat the waste water generated from the plant including RO system to recycle or reuse all the treated wastewater.

**Compliance Status:**

- Unit has installed centralized ETP with additional facility (i.e. MEE and ATFD) for achieving zero liquid discharge to treat the waste water, And the same was informed to JSPCB vide letter no. GIL-CDR/UH/ENV/2019-20/4019 Dated 29th September 2019.

- (ix) Green belt shall be developed in 24.62 ha out of total 81.94 ha to mitigate the effects of fugitive emissions all around the plant. The development of green belt shall be as per the Central Pollution Control Board guidelines.

**Compliance Status:**

- Unit already have a green belt area of 24.62 ha & above. Aside, unit is continuously identifying the places & planting the sapling within & nearby the premises to develop the denser green belt. Green Belt plan drawing submitted to MOEF Ranchi vide our letter no. GIL- CDR/ ENV/ MOEF/ 18-19/3233 Dated 10th July 2018

- (x) The fly ash generated from the power plant shall be handled pneumatically and disposed of in accordance with the provisions of Fly Ash Notification, 2003.

**Compliance Status:**

- Fly Ash is being handled & disposed of in accordance with the provisions of Fly Ash Notification Rules 2016 and as amended.

✓



- Annual implementation report of FY 2021-22 has been submitted to JSPCB vide our letter no. GIL-CDR/ENV/2022-23/048 Dated 20th April 2022.

**(xi) The hazardous wastes generated from the plant shall be disposed of in accordance with the Hazardous Waste (Management and Handling) Rules 1989 and as amended.**

**Compliance Status:**

- Hazardous Waste generated from plant is being disposed at authorized CHW-TSDF in Jharkhand as per Hazardous & other Waste Rules, 2016 and as amended.
- Details of Hazardous Waste Disposal & Recycling is attached as *Annexure 2*.

**(xii) During transfer of materials, spillages shall be avoided and garland drains be constructed to avoid mixing of accidental spillages with domestic waste and storm drains.**

**Compliance Status:**

- Unit is being maintained with adequate measures, to avoid any spillage and to comply the stipulated condition.

**(xiii) Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.**

**Compliance Status:**

- Occupational Health surveillance of the workers are being done timely & the records are being maintained as per the Factories Act.

**(xiv) Training shall be imparted to all employees on safety and health aspects of chemicals handling. As informed to the Ministry, OHSAS 18001 shall be continued. Pre-employment and routine periodical medical examinations for all employees shall be undertaken on regular basis. Training to all employees on handling of chemicals shall be imparted.**

**Compliance Status:**

- Regular Trainings are being delivered to the employees and workers on various aspects of safety & health and handling of chemicals.
- Pre-employment and routine periodical medical examinations for all employees are being done on regular basis and the records are being maintained.

**(xv) Usage of PPEs by all employees/ workers shall be ensured**

**Compliance Status:**

- Usage of PPE's by all employees/ workers are being ensured and strictly followed.

**(xvi) The company shall strictly follow all the recommendations mentioned in the charter on Corporate Responsibility for Environmental Protection (CREP) for Caustic Soda plant.**

**Compliance Status:**

- Unit has followed & implemented the recommendations mentioned in the CREP for caustic soda plant.

**(xvii) The company shall comply with all the commitments made during public hearing held on 28th August, 2008.**

**Compliance Status:**



- Unit has ensured and complied the Commitments made during public hearing held on 28<sup>th</sup> August 2008.

(xviii) Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, Safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.

**Compliance Status:**

- Unit has Complied the stipulated condition.

**B) General Conditions**

(i) The project authorities shall strictly adhere to the stipulations of the SPCB/State government or any statutory body.

**Compliance Status:**

- We are abiding by all the compliance conditions made by SPCB/state government or any statutory body.

(ii) No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment and Forests. 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 to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any.

**Compliance Status:**

- Agreed & it is being complied. No further expansion beyond the existing capacity in the plant will be carried out without prior approval from statutory body.

(iii) At no time, the emissions shall exceed the prescribed limits. In the event of failure of any pollution control system adopted by the unit, the unit shall be immediately put out of operation and shall not be restarted until the desired efficiency has been achieved.

**Compliance Status:**

- Agreed & it is being complied. Site is already equipped with the Air pollution control systems. All processes and flue gas stacks are monitored through online monitoring system, which is connected to JSPCB and CPCB server.

(iv) The gaseous emissions (SO<sub>2</sub>, NO<sub>x</sub>, HCL, CO) and particulate matter along with RSPM levels from various process units shall conform to the standards prescribed by the concerned authorities from time to time. At no time, the emission levels shall go beyond the stipulated standards. In the event of failure of pollution control system(s) adopted by the unit, the respective unit shall not be restarted until the control measures are rectified to achieve the desired efficiency.

**Compliance Status:**

- Gaseous emission and particulate matter along with RSPM levels from various process units are within prescribed limits and are also been monitored through online monitoring system.

✓



- NABL accredited laboratory analysis report attached as *Annexure 1*.

- (v) **The locations of ambient air quality monitoring stations shall be reviewed in consultation with the State Pollution Control Board (SPCB) and additional stations shall be installed, if required, in the downwind direction as well as where maximum ground level concentrations are anticipated.**

**Compliance Status:**

- Locations of the Ambient Air Quality Monitoring Station were reviewed and based on the GLC study, unit has installed the CAAQMS at 04 locations and all the stations are well connected with JSPCB server.

- (vi) **Dedicated scrubbers and stacks of appropriate height as per the Central Pollution Control Board guidelines shall be provided to control the emissions from various vents. The scrubbed water shall be sent to ETP for further treatment.**

**Compliance Status:**

- Stack height is appropriate as per the guideline and Dedicated Scrubbers are there in HCL and Sodium Hypo to Control HCL Mist & Chlorine.

- (vii) **All the storage tanks will be under negative pressure to avoid any leakages. Breather valves, N2 blanketing and secondary condensers with brine chilling system shall be provided for all the storage tanks to minimize vapour losses. All liquid raw materials shall be stored in storage Tanks and Drums.**

**Compliance Status:**

- Stipulated conditions are being complied, as the storage tanks are well maintained under negative pressure to avoid any leakages. Even other adequate measures are in its place to minimize vapour losses.

- (viii) **The company shall undertake following Waste Minimization measures.**

- **Metering and control of quantities of active ingredients to minimize waste**
- **Reuse of by-products from the process as raw material substitutes in other processes**
- **Use of automated filling to minimize spillage**
- **Use of "Closed Feed" system into batch reactors.**
- **Venting equipment through vapour recovery system**
- **Use of high pressure hoses for equipment cleaning to reduce waste water generation**

**Compliance Status:**

- GIL has taken following measures to reduce waste:
  - a) Site is using washed / super washed salt to minimize waste
  - b) Site is using Chlorine by-product in production of Stable Bleaching Powder as well as Anhydrous Aluminium Chloride
  - c) All products are filled through this methodology like Stable Bleaching Powder, Anhydrous Aluminium Chloride and Caustic Flakes.
  - d) Products are made though this methodology to avoid waste
  - e) Appropriate Venting equipments are provided.
  - f) Site is continuously working on this methodology to reduce the waste water generation during equipment cleaning

- (ix) **The project authorities shall strictly comply with the rules and guidelines under Manufacture, Storage and Import of Hazardous Chemicals Rules- 1989 as**



amended in October, 1994 and January, 2000 and Hazardous Waste (Management and Handling Rules, 1989, as amended from time to time. Authorization from the SPCB shall be obtained for collection, treatment, storage, and disposal of hazardous waste.

**Compliance Status:**

- We are abiding by all the rules & guidelines of the conditions stipulated. Unit has a valid authorization (No. JSPCB/HO/RNC/HWM-11254322/2022/09 Dated 30/03/2022) from JSPCB for Generation, Storage, Transportation, Utilisation and Disposal of Hazardous Waste.
- (x) **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 Environment (Protection) Act, 1986 Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time).**

**Compliance Status:**

- Noise level in and around the plant area are being monitored periodically and the level is within prescribed limit. NABL Accredited Laboratory Analysis report attached as *Annexure 1*.
  - Aside Personal Protective Equipment's have been provided to the employees to avoid any accompanied noise hazards. Also facilities like acoustic hoods, silencers, enclosures etc have been provided to reduce noise at source.
- (xi) **The company shall develop rain water harvesting structures to harvest the run-off water for recharge of ground water and to reduce requirement of the fresh water.**

**Compliance Status:**

- Unit has followed the rain water harvesting methodology and installed the system at several locations for water conservation, as per the approved plan by Central Ground Water Department, Ranchi vide Letter No. G.W.D- 252/Ranchi Dated 28.05.2012.
- (xii) **The company shall undertake eco-developmental measures including community welfare measures in the project area for the overall improvement of the environment. The eco-development plan should be submitted to the SPCB within three months of receipt of this letter for approval.**

**Compliance Status:**

- Complied, Eco Developmental plan was Submitted Vide our letter no.- ABCIL/GM(O)/JSPCB/2009-10/2104A Dated – 02.05.2009.
  - Socio economic development or community welfare activities are regularly undertaken in and around the area. The development activities undertaken in the surrounding community are need based and are in the field of health care, drinking water, Training & education like on agricultural practices, self-employment, etc. (Photographs attached as *Annexure- 3*)
- (xiii) **The project proponent shall also comply with all the environmental protection measures and safeguards proposed in the EIA/EMP report.**

**Compliance Status:**

- All the environmental protection measures & safeguards such as ETP, APCEs, Hazardous Waste proper handling, transfer and disposal are being complied in accordance with the EIA/EMP report. (Photographs attached as *Annexure- 3*)



- (xiv) A separate Environmental Management Cell equipped with full-fledged laboratory facilities shall be set up to carry out the Environmental Management and Monitoring functions.

**Compliance Status:**

- A separate Environmental Management Cell is constituted for the purpose of safeguarding environment, also the unit has a well-equipped & full-fledged laboratory facility to carry out the monitoring activities.

- (xv) The project authorities shall earmark separate funds to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds so provided shall not be diverted for any other purpose.

**Compliance Status:**

- Site has earmarked the separate funds for the environmental management activities. The fund is being spent on Waste Management, Air Pollution Control, Zero Waste Water Discharge and others including Greenery development, Online Monitoring, etc.

- (xvi) The implementation of the project vis-a-vis environmental action plans shall be monitored by the concerned Regional Office of the Ministry/SPCB / CPCB. A six monthly compliance status report shall be submitted to monitoring agencies and shall be posted on the website of the Company.

**Compliance Status:**

- Six Monthly Compliance status report is being submitted to monitoring agencies and the same is being uploaded on the company website.
- Compliance report for the period Oct'21 to Mar'22 is submitted vide letter no. GIL-CDR/ENV/2022-23/110 Dated 25/05/2022

- (xvii) 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 at <http://envfor.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.

**Compliance Status:**

- Complied.





(xviii) 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.

**Compliance Status:**

- Complied, as the project has been already completed and the consent to operate has been issued by Jharkhand State Pollution Control Board.





# ENVIRONMENTAL LABORATORIES &

PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA  
HATIA, RANCHI-834003 (JHARKHAND)  
GST NO:- 20AAECE9713D1Z4

ENGINEERING SERVICES PVT. LTD.

Email: [info@elespl.co.in](mailto:info@elespl.co.in), [eles.ranchi@gmail.com](mailto:eles.ranchi@gmail.com)

Phone no : 0651-2290103

Website : [www.elespl.co.in](http://www.elespl.co.in)



TC-8839

CIN: U74999JH2018PTC011125

## TEST REPORT

Test Report No. : ELES/RNC/2022/2162	Report Release Date : 08.11.2022
Service Order No. : 4400014050	Service Order Date : 18.07.2022
ULR No. : TC883922000001174F	

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Grasim Industries Ltd.	Sample Ref. No.	: ELES/RNC/2022/AA/3207
Address	: Chemical Division Rehla Grasim Industries Ltd. Chemical Division Rehla, Dist- Palamu.	Location	: Hospital Roof Top
Plant Status	: Operational	Sampling Date	: 20.09.2022 to 21.09.2022
Period of Analysis	: 01.10.2022 to 30.10.2022	Sample Received Date	: 01.10.2022
		Type of Sample	: Ambient Air
		Sampling Procedure	: ELES/DOC/SMPL/02
		Sample Drawn By	: ELES Pvt. Ltd.
		Sample Condition	: Sealed & Preserved

## METEOROLOGICAL INFORMATION

1	Average Temperature (°C) : 29	2	Barometric Pressure (mmHg) : 745
3	Relative Humidity (%) : 68	4	Weather Condition : Clear
5	Longitude : 83°53'15.21"E	6	Latitude : 24°13'31.33"N

## NABL Accredited

Discipline : Chemical		Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m <sup>3</sup>	IS 5182 (Part-23): 2006; RA2017	68	100 (24hrs)
Particulate Matter (PM2.5)	µg/m <sup>3</sup>	IS 5182 (Part-24):2019	36	60 (24hrs)
Sulphur Di-Oxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	IS 5182 (Part-2): 2001; RA2017	6.7	80 (24hrs)
Nitrogen Di-Oxide (NO <sub>2</sub> )	µg/m <sup>3</sup>	IS 5182 (Part-6): 2006; RA2017	14.2	80 (24hrs)
Carbon Monoxide (CO)	mg/m <sup>3</sup>	IS 5182 (Part-10):1999;RA2019	1.15	2 (8hrs)

Authorized Signatory

**SANDIP BERA**  
SENIOR MANAGER  
ELES PVT. LTD.

\*\*\*\*End of Report\*\*\*\*

Authorized Signatory

**Dr. Deependra Kumar Sinha**  
Ph. D. Environmental Engg.  
ELES Pvt. Ltd. Technical Manager

Page 1 of 1

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report refer or relates only to the job/analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report cannot be reproduced except in full and any part of the report is not taken out of context, without prior written approval of the Laboratory. The Report in full or in part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthorized alteration & falsification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30days from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24hours format Abbreviation used: N/A (Not Applicable); BDL (Below Detection Limit); LDL (Lower Detection Limit).

**"Saving Environment will only save the Future"**





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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA  
HATIA, RANCHI-834003 (JHARKHAND)  
GST NO:- 20AAECE9713D124

**ENGINEERING SERVICES PVT. LTD.**

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Phone no : 0651-2290103

Website : [www.elespl.co.in](http://www.elespl.co.in)

## TEST REPORT

Test Report No. : ELES/RNC/2022/2162	Report Release Date : 08.11.2022
Service Order No. : 4400014050	Service Order Date : 18.07.2022

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Grasim Industries Ltd. Chemical Division Rehla	Sample Ref. No.	: ELES/RNC/2022/AA/3207
Address	: Grasim Industries Ltd. Chemical Division Rehla, Dist- Palamu.	Location	: Hospital Roof Top
Plant Status	: Operational	Sampling Date	: 20.09.2022 to 21.09.2022
Period of Analysis	: 01.10.2022 to 30.10.2022	Sample Received Date	: 01.10.2022
		Type of Sample	: Ambient Air
		Sampling Procedure	: ELES/DOC/SMPL/02
		Sample Drawn By	: ELES Pvt. Ltd.
		Sample Condition	: Sealed & Preserved

## METEOROLOGICAL INFORMATION

1	Average Temperature (°C) : 29	2	Barometric Pressure (mmHg) : 745
3	Relative Humidity (%) : 68	4	Weather Condition : Clear
5	Longitude : 83°53'15.21"E	6	Latitude : 24°13'31.33"N

Parameter	Unit	Test Protocol	Result
Chlorine as (Cl <sub>2</sub> )*	mg/Nm <sup>3</sup>	GEL/SOP-01	<0.15
Hydrogen Chloride (HCl)*	mg/Nm <sup>3</sup>	GEL/SOP-01	<0.1

Remarks: 1 (\*) – Parameters are outsourced to other Lab

  
Authorized Signatory  
**SANDIP BERA**  
SENIOR MANAGER  
ELES PVT. LTD.

\*\*\*\*End of Report\*\*\*\*

  
Authorized Signatory  
**Dr. Deependra Kumar Sinha**  
Ph. D. Environmental Engg.  
ELES Pvt. Ltd. Technical Manager

The Document stated as Test Report, is issued by the Laboratory under General Terms and Conditions, only on Company letter head in pre-approved format. The results shown in the Test Report refer or relates only to the job/analysis done by the Laboratory only. The information stated on the Test Report reflects the findings done by the Laboratory at the time of involvement only and within the limits of client's instructions. The Laboratory is responsible for all the information or data provided on the report, except the information which is provided by the client. The Report in full or in part shall not be published, advertise, used for any legal actions unless prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, compensation and jurisdiction issues. Any unauthorized alteration & falsification of the content or appearance of the Test Report is unlawful and offenders may be prosecuted to the fullest extent of the law. All the samples are retained for 30days from the Date of release/issue of the Test Report. The samples from Regulatory bodies are to be retained as specified. Any type of Observations or Complaints regarding the Reports shall be done within 15days from the Date of Test Report released/issued. After the time period stated before, no complaints will be accepted. The entire Time schedule mentioned in Test Report is in 24hours format. Abbreviation used: N/A (Not Applicable); BDL (Below Detection Limit); LDL (Lower Detection Limit).





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GST NO:- 20AAECE9713D1Z4

ENGINEERING SERVICES PVT. LTD.

Email: [info@elespl.co.in](mailto:info@elespl.co.in), [eles.ranchi@gmail.com](mailto:eles.ranchi@gmail.com)

Phone no : 0651-2290103

Website : [www.elespl.co.in](http://www.elespl.co.in)



TC-8839

CIN: U74999JH2018PTC011125

## TEST REPORT

Test Report No. : ELES/RNC/2022/2163	Report Release Date : 08.11.2022
Service Order No. : 4400014050	Service Order Date : 18.07.2022
ULR No. : TC883922000001175F	


CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Grasim Industries Ltd. Chemical Division Rehla	Sample Ref. No.	: ELES/RNC/2022/AA/3208
Address	: Grasim Industries Ltd. Chemical Division Rehla, Dist- Palamu.	Location	: Near Lagoon
Plant Status	: Operational	Sampling Date	: 20.09.2022 to 21.09.2022
Period of Analysis	: 01.10.2022 to 30.10.2022	Sample Received Date	: 01.10.2022
		Type of Sample	: Ambient Air
		Sampling Procedure	: ELES/DOC/SMPL/02
		Sample Drawn By	: ELES Pvt. Ltd.
		Sample Condition	: Sealed & Preserved

## METEOROLOGICAL INFORMATION

1	Average Temperature (°C) : 29	2	Barometric Pressure (mmHg) : 745
3	Relative Humidity (%) : 68	4	Weather Condition : Clear
5	Longitude : 83°52'52.23"E	6	Latitude : 24°13'29.64"N

## NABL Accredited

Discipline : Chemical		Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m <sup>3</sup>	IS 5182 (Part-23): 2006; RA2017	70	100 (24hrs)
Particulate Matter (PM2.5)	µg/m <sup>3</sup>	IS 5182 (Part-24):2019	41	60 (24hrs)
Sulphur Di-Oxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	IS 5182 (Part-2): 2001; RA2017	12.6	80 (24hrs)
Nitrogen Di-Oxide (NO <sub>2</sub> )	µg/m <sup>3</sup>	IS 5182 (Part-6): 2006; RA2017	18.2	80 (24hrs)
Carbon Monoxide (CO)	mg/m <sup>3</sup>	IS 5182 (Part-10):1999;RA2019	1.2	2 (8hrs)

  
**Authorized Signatory**  
**SANDIP BERA**  
**SENIOR MANAGER**  
**ELES PVT. LTD.**

\*\*\*\*End of Report\*\*\*\*

  
**Authorized Signatory**  
**Dr. Deependra Kumar Sinha**  
**Ph. D. Environmental Engg.**  
**ELES Pvt. Ltd. Technical Manager**

Page 1 of 1

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**"Saving Environment will only save the Future"**





CIN: U74999JH2018PTC011125

# ENVIRONMENTAL LABORATORIES &

PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA  
HATIA, RANCHI-834003 (JHARKHAND)  
GST NO:- 20AAECE9713D1Z4

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Phone no : 0651-2290103

Website : [www.elespl.co.in](http://www.elespl.co.in)

## TEST REPORT

Test Report No.	: ELES/RNC/2022/2163	Report Release Date	: 08.11.2022
Service Order No.	: 4400014050	Service Order Date	: 18.07.2022

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Grasim Industries Ltd. Chemical Division Rehla	Sample Ref. No.	: ELES/RNC/2022/AA/3208
Address	: Grasim Industries Ltd. Chemical Division Rehla, Dist- Palamu.	Location	: Near Lagoon
Plant Status	: Operational	Sampling Date	: 20.09.2022 to 21.09.2022
Period of Analysis	: 01.10.2022 to 30.10.2022	Sample Received Date	: 01.10.2022
		Type of Sample	: Ambient Air
		Sampling Procedure	: ELES/DOC/SMPL/02
		Sample Drawn By	: ELES Pvt. Ltd.
		Sample Condition	: Sealed & Preserved

METEOROLOGICAL INFORMATION					
1	Average Temperature (°C)	: 29	2	Barometric Pressure (mmHg)	: 745
3	Relative Humidity (%)	: 68	4	Weather Condition	: Clear
5	Longitude	: 83°52'52.23"E	6	Latitude	: 24°13'29.64"N

Parameter	Unit	Test Protocol	Result
Chlorine (as Cl <sub>2</sub> )*	mg/Nm <sup>3</sup>	GEL/SOP-01	<0.15
Hydrogen Chloride (HCl)*	mg/Nm <sup>3</sup>	GEL/SOP-01	<0.1

Remarks: 1 (\*) – Parameters are outsourced to other Lab

  
Authorized Signatory  
**SANDIP BERA**  
SENIOR MANAGER  
ELES PVT. LTD.

\*\*\*\*End of Report\*\*\*\*

  
Authorized Signatory  
**Dr. Deependra Kumar Sinha**  
Ph. D. Environmental Engg.  
ELES Pvt. Ltd. Technical Manager

Page 1 of 1

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**"Save Environment, Save Future"**





# ENVIRONMENTAL LABORATORIES &

PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA  
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CIN: U74999JH2018PTC011125

## TEST REPORT

Test Report No.	: ELES/RNC/2022/2164	Report Release Date	: 08.11.2022
Service Order No.	: 4400014050	Service Order Date	: 18.07.2022
ULR No.	: TC883922000001176F		

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Grasim Industries Ltd. Chemical Division Rehla	Sample Ref. No.	: ELES/RNC/2022/AA/3209
Address	: Grasim Industries Ltd. Chemical Division Rehla, Dist- Palamu.	Location	: Near Temple (Colony)
Plant Status	: Operational	Sampling Date	: 20.09.2022 to 21.09.2022
Period of Analysis	: 01.10.2022 to 30.10.2022	Sample Received Date	: 01.10.2022
		Type of Sample	: Ambient Air
		Sampling Procedure	: ELES/DOC/SMPL/02
		Sample Drawn By	: ELES Pvt. Ltd.
		Sample Condition	: Sealed & Preserved

## METEOROLOGICAL INFORMATION


1	Average Temperature (°C)	: 29	2	Barometric Pressure (mmHg)	: 745
3	Relative Humidity (%)	: 68	4	Weather Condition	: Clear
5	Longitude	: 83°52'57.61"E	6	Latitude	: 24°13'43.11"N

## NABL Accredited

Discipline : Chemical		Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m <sup>3</sup>	IS 5182 (Part-23): 2006; RA2017	61	100 (24hrs)
Particulate Matter (PM2.5)	µg/m <sup>3</sup>	IS 5182 (Part-24): 2019	34	60 (24hrs)
Sulphur Di-Oxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	IS 5182 (Part-2): 2001; RA2017	7.2	80 (24hrs)
Nitrogen Di-Oxide (NO <sub>2</sub> )	µg/m <sup>3</sup>	IS 5182 (Part-6): 2006; RA2017	13.5	80 (24hrs)
Carbon Monoxide (CO)	mg/m <sup>3</sup>	IS 5182 (Part-10): 1999; RA2019	1.04	2 (8hrs)

  
Authorized Signatory  
**SANDIP BERA**  
SENIOR MANAGER  
ELES PVT. LTD.

\*\*\*\*End of Report\*\*\*\*

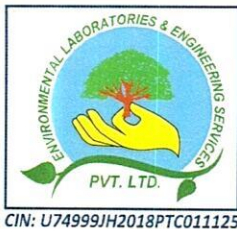
  
Authorized Signatory  
**Dr. Deependra Kumar Sinha**  
Ph. D. Environmental Engg.  
ELES Pvt. Ltd. Technical Manager

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**"Saving Environment will only save the Future"**





# ENVIRONMENTAL LABORATORIES &

PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA  
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Website : [www.elespl.co.in](http://www.elespl.co.in)

## TEST REPORT

Test Report No.	: ELES/RNC/2022/2164	Report Release Date	: 08.11.2022
Service Order No.	: 4400014050	Service Order Date	: 18.07.2022

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Grasim Industries Ltd. Chemical Division Rehla	Sample Ref. No.	: ELES/RNC/2022/AA/3209
Address	: Grasim Industries Ltd. Chemical Division Rehla, Dist- Palamu.	Location	: Near Temple (Colony)
Plant Status	: Operational	Sampling Date	: 20.09.2022 to 21.09.2022
Period of Analysis	: 01.10.2022 to 30.10.2022	Sample Received Date	: 01.10.2022
		Type of Sample	: Ambient Air
		Sampling Procedure	: ELES/DOC/SMPL/02
		Sample Drawn By	: ELES Pvt. Ltd.
		Sample Condition	: Sealed & Preserved

## METEOROLOGICAL INFORMATION

1	Average Temperature (°C)	: 29	2	Barometric Pressure (mmHg)	: 745
3	Relative Humidity (%)	: 68	4	Weather Condition	: Clear
5	Longitude	: 83°52'57.61"E	6	Latitude	: 24°13'43.11"N

Parameter	Unit	Test Protocol	Result
Chlorine (as Cl <sub>2</sub> )*	mg/Nm <sup>3</sup>	GEL/SOP-01	<0.15
Hydrogen Chloride (HCl)*	mg/Nm <sup>3</sup>	GEL/SOP-01	<0.1

Remarks: 1 (\*) – Parameters are outsourced to other Lab

  
Authorized Signatory  
**SANDIP BERA**  
SENIOR MANAGER  
ELES PVT. LTD.

\*\*\*\*End of Report\*\*\*\*

  
Authorized Signatory  
**Dr. Deependra Kumar Sinha**  
Ph. D. Environmental Engg.  
ELES Pvt. Ltd. Technical Manager

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**"Save Environment, Save Future"**





# ENVIRONMENTAL LABORATORIES &

PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA  
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TC-8839

CIN: U74999JH2018PTC011125

## TEST REPORT

Test Report No.	: ELES/RNC/2022/2165	Report Release Date	: 08.11.2022
Service Order No.	: 4400014050	Service Order Date	: 18.07.2022
ULR No.	: TC883922000001177F		

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Grasim Industries Ltd. Chemical Division Rehla	Sample Ref. No.	: ELES/RNC/2022/AA/3210
Address	: Grasim Industries Ltd. Chemical Division Rehla, Dist- Palamu.	Location	: Vikram Nagar
Plant Status	: Operational	Sampling Date	: 20.09.2022 to 21.09.2022
Period of Analysis	: 01.10.2022 to 30.10.2022	Sample Received Date	: 01.10.2022
		Type of Sample	: Ambient Air
		Sampling Procedure	: ELES/DOC/SMPL/02
		Sample Drawn By	: ELES Pvt. Ltd.
		Sample Condition	: Sealed & Preserved

## METEOROLOGICAL INFORMATION

1	Average Temperature (°C)	: 29	2	Barometric Pressure (mmHg)	: 745
3	Relative Humidity (%)	: 68	4	Weather Condition	: Clear
5	Longitude	: 83°53'12.35"E	6	Latitude	: 24°13'53.19"N

## NABL Accredited

Discipline : Chemical		Group : Atmospheric Pollution		
Parameter	Unit	Test Protocol	Result	Regulatory Limit
Particulate Matter (PM10)	µg/m <sup>3</sup>	IS 5182 (Part-23): 2006; RA2017	59	100 (24hrs)
Particulate Matter (PM2.5)	µg/m <sup>3</sup>	IS 5182 (Part-24): 2019	32	60 (24hrs)
Sulphur Di-Oxide (SO <sub>2</sub> )	µg/m <sup>3</sup>	IS 5182 (Part-2): 2001; RA2017	5.8	80 (24hrs)
Nitrogen Di-Oxide (NO <sub>2</sub> )	µg/m <sup>3</sup>	IS 5182 (Part-6): 2006; RA2017	14.6	80 (24hrs)
Carbon Monoxide (CO)	mg/m <sup>3</sup>	IS 5182 (Part-10): 1999; RA2019	1.13	2 (8hrs)

  
Authorized Signatory

**SANDIP BERA**  
SENIOR MANAGER

\*\*\*\*End of Report\*\*\*\*

  
Authorized Signatory

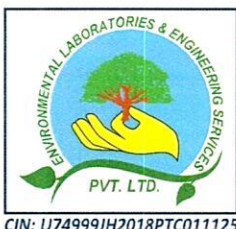
**Dr. Deependra Kumar Sinha**  
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ELES Pvt. Ltd. Technical Manager

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**"Saving Environment will only save the Future"**





# ENVIRONMENTAL LABORATORIES &

PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA  
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## TEST REPORT

Test Report No.	: ELES/RNC/2022/2165	Report Release Date	: 08.11.2022
Service Order No.	: 4400014050	Service Order Date	: 18.07.2022

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Grasim Industries Ltd. Chemical Division Rehla	Sample Ref. No.	: ELES/RNC/2022/AA/3210
Address	: Grasim Industries Ltd. Chemical Division Rehla, Dist- Palamu.	Location	: Vikram Nagar
Plant Status	: Operational	Sampling Date	: 20.09.2022 to 21.09.2022
Period of Analysis	: 01.10.2022 to 30.10.2022	Sample Received Date	: 01.10.2022
		Type of Sample	: Ambient Air
		Sampling Procedure	: ELES/DOC/SMPL/02
		Sample Drawn By	: ELES Pvt. Ltd.
		Sample Condition	: Sealed & Preserved

## METEOROLOGICAL INFORMATION

1	Average Temperature (°C)	: 29	2	Barometric Pressure (mmHg)	: 745
3	Relative Humidity (%)	: 68	4	Weather Condition	: Clear
5	Longitude	: 83°53'12.35"E	6	Latitude	: 24°13'53.19"N

Parameter	Unit	Test Protocol	Result
Chlorine (as Cl <sub>2</sub> )*	mg/Nm <sup>3</sup>	GEL/SOP-01	<0.15
Hydrogen Chloride (HCl)*	mg/Nm <sup>3</sup>	GEL/SOP-01	<0.1

Remarks: 1 (\*) – Parameters are outsourced to other Lab

  
Authorized Signatory

**SANDIP BERA**  
SENIOR MANAGER  
ELES PVT. LTD.

\*\*\*\*End of Report\*\*\*\*



Authorized Signatory  
**Dr. Deependra Kumar Sinha**  
Ph. D. Environmental Engg.  
ELES Pvt. Ltd. Technical Manager

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# ENVIRONMENTAL LABORATORIES & ENGINEERING SERVICES PVT. LTD.

PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA  
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Phone no : 0651-2290103  
Website : [www.elespl.co.in](http://www.elespl.co.in)



CIN: U74999JH2018PTC011125

## TEST REPORT

Test Report No.	: ELES/RNC/2022/2166	Report Release Date	: 08.11.2022
Service Order No.	: 4400014050	Service Order Date	: 18.07.2022
ULR No.	: TC883922000001178F		

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Grasim Industries Ltd. Chemical Division Rehla	Sample Date	: 20.09.2022 to 21.09.2022
Address	: Grasim Industries Ltd. Chemical Division Rehla, Dist- Palamu.	Sampling Received Date	: 01.10.2022
		Type of Sample	: Ambient Noise
		Sampling procedure	: ELES/DOC/SMPL/03
		Sample Drawn By	: ELES Pvt. Ltd.
Plant Status	: Operational	Period of Analysis	: 01.10.2022 to 30.10.2022

METEOROLOGICAL INFORMATION					
1	Average Temperature (°C)	: 29	2	Barometric Pressure (mmHg)	: 745
3	Relative Humidity (%)	: 68	4	Weather Condition	: Clear

NABL Accredited							
Discipline : Chemical				Group : Atmospheric Pollution			
Location	Unit	Test Protocol	Result				Regulatory Limit (Residential Zone)
Near Temple	dB(A)	IS 9989:1981; RA 2020	Time	L <sub>Max</sub>	L <sub>Min</sub>	L <sub>eq</sub>	55 dB(A) Day Time & 45 dB(A) Night Time
Sample ID: ELES/RNC/2022/AN/3211			Day Time	57.7	41.5	53	
Latitude: 24°13'43.11"N			Night Time	46.8	35.6	39	
	Longitude : 83°52'57.61"E						
Near Hospital	dB(A)	IS 9989:1981; RA 2020	Time	L <sub>Max</sub>	L <sub>Min</sub>	L <sub>eq</sub>	Regulatory Limit ( Silence Zone) 50 dB(A) Day Time & 40 dB(A) Night Time
Sample ID: ELES/RNC/2022/AN/ 3212			Day Time	50.1	39.8	47	
Latitude: 24°13'31.33"N			Night Time	44.5	35.9	37	
	Longitude : 83°53'15.21"E						

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ENGINEERING SERVICES PVT. LTD.

PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA  
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TC-8839

CIN: U74999JH2018PTC011125

## TEST REPORT

Test Report No.	: ELES/RNC/2022/2166	Report Release Date	: 08.11.2022
Service Order No.	: 4400014050	Service Order Date	: 18.07.2022
ULR No.	: TC883922000001178F		

NABL Accredited								
Discipline : Chemical			Group		: Atmospheric Pollution			
Location		Unit	Test Protocol	Result				
Near Admin Building		dB(A)	IS 9989:1981; RA 2020	Time	L <sub>Max</sub>	L <sub>Min</sub>	L <sub>eq</sub>	Regulatory Limit (Industrial Zone)  75 dB(A) Day Time & 70 dB(A) Night Time
Sample ID: ELES/RNC/2022/AN/3213				Day Time	69.1	50.8	63	
Latitude: 24°13'29.64"N				Night Time	58.2	37.8	53	
		Longitude : 83°52'52.23"E						
Vikram Nagar		dB(A)	IS 9989:1981; RA 2020	Time	L <sub>Max</sub>	L <sub>Min</sub>	L <sub>eq</sub>	Regulatory Limit (Residential Zone)  55 dB(A) Day Time & 45 dB(A) Night Time
Sample ID: ELES/RNC/2022/AN/3214				Day Time	58	42.1	52	
Latitude: 24°13'53.19"N				Night Time	45.1	35.7	40	
		Longitude : 83°53'12.35"E						

Authorized Signatory

**SANDIP BERA**  
SENIOR MANAGER  
ELES PVT. LTD.

\*\*\*\*End of Report\*\*\*\*

Authorized Signatory

**Dr. Deependra Kumar Sinha**  
Ph. D. Environmental Engg.  
ELES Pvt. Ltd. Technical Manager

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CIN: U74999JH2018PTC011125

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### TEST REPORT

Test Report No.	: ELES/RNC/2022/2174	Report Release Date	: 08.11.2022
Service Order No.	: 4400014050	Service Order Date	: 18.07.2022


CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Grasim Industries Ltd. Chemical Division Rehla	Sample Ref. No.	: ELES/RNC/2022/WA/3233
Address	: Grasim Industries Ltd. Chemical Division Rehla, Dist- Palamu.	Location	: CHP Area
Plant Status	: Operational	Sampling Date	: 21.09.2022
Period of Analysis	: 01.10.2022 to 30.10.2022	Sample Received Date	: 01.10.2022
		Type of Sample	: Work Zone Air
		Sampling Procedure	: ELES/DOC/SMPL/02
		Sample Drawn By	: ELES Pvt. Ltd.
		Sample Condition	: Sealed & Preserved

METEOROLOGICAL INFORMATION					
1	Average Temperature (°C)	: 30	2	Barometric Pressure (mmHg)	: 745
3	Relative Humidity (%)	: 67	4	Weather Condition	: Clear

Non-Accredited			
Parameter	Unit	Test Protocol	Result
Suspended Particulate Matter (SPM)	mg/m <sup>3</sup>	IS 5182 (Part-4):1999; RA 2019	0.467
Sulphur Di-Oxide (SO <sub>2</sub> )	mg/m <sup>3</sup>	IS 5182 (Part-2): 2001; RA2017	0.011
Nitrogen Di-Oxide (NO <sub>2</sub> )	mg/m <sup>3</sup>	IS 5182 (Part-6): 2006; RA2017	0.020

  
Authorized Signatory  
**SANDIP BERA**  
SENIOR MANAGER  
ELES PVT. LTD.

\*\*\*\*End of Report\*\*\*\*

  
Authorized Signatory  
**Dr. Deependra Kumar Sinha**  
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ELES Pvt. Ltd. Technical Manager

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## TEST REPORT

Test Report No. : ELES/RNC/2022/2175	Report Release Date : 08.11.2022
Service Order No. : 4400014050	Service Order Date : 18.07.2022

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Grasim Industries Ltd. Chemical Division Rehla	Sample Ref. No.	: ELES/RNC/2022/WA/3234
Address	: Grasim Industries Ltd. Chemical Division Rehla, Dist- Palamu.	Location	: Coal Unloading Area
Plant Status	: Operational	Sampling Date	: 21.09.2022
Period of Analysis	: 01.10.2022 to 30.10.2022	Sample Received Date	: 01.10.2022
		Type of Sample	: Work Zone Air
		Sampling Procedure	: ELES/DOC/SMPL/02
		Sample Drawn By	: ELES Pvt. Ltd.
		Sample Condition	: Sealed & Preserved

METEOROLOGICAL INFORMATION			
1	Average Temperature (°C) : 30	2	Barometric Pressure (mmHg) : 745
3	Relative Humidity (%) : 67	4	Weather Condition : Clear

Non-Accredited			
Parameter	Unit	Test Protocol	Result
Suspended Particulate Matter (SPM)	mg/m <sup>3</sup>	IS 5182 (Part-4):1999; RA 2019	0.753
Sulphur Di-Oxide (SO <sub>2</sub> )	mg/m <sup>3</sup>	IS 5182 (Part-2): 2001; RA2017	0.015
Nitrogen Di-Oxide (NO <sub>2</sub> )	mg/m <sup>3</sup>	IS 5182 (Part-6): 2006; RA2017	0.024

Authorized Signatory  
**SANDIP BERA**  
SENIOR MANAGER  
ELES PVT. LTD.

\*\*\*\*End of Report\*\*\*\*

Authorized Signatory  
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## TEST REPORT

Test Report No.	: ELES/RNC/2022/2176	Report Release Date	: 08.11.2022
Service Order No.	: 4400014050	Service Order Date	: 18.07.2022

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Grasim Industries Ltd. Chemical Division Rehla	Sample Ref. No.	: ELES/RNC/2022/WA/3235
Address	: Grasim Industries Ltd. Chemical Division Rehla, Dist- Palamu.	Location	: Near Silo
Plant Status	: Operational	Sampling Date	: 21.09.2022
Period of Analysis	: 01.10.2022 to 30.10.2022	Sample Received Date	: 01.10.2022
		Type of Sample	: Work Zone Air
		Sampling Procedure	: ELES/DOC/SMPL/02
		Sample Drawn By	: ELES Pvt. Ltd.
		Sample Condition	: Sealed & Preserved

METEOROLOGICAL INFORMATION					
1	Average Temperature (°C) : 30		2	Barometric Pressure (mmHg) : 745	
3	Relative Humidity (%) : 67		4	Weather Condition : Clear	

Non-Accredited			
Parameter	Unit	Test Protocol	Result
Suspended Particulate Matter (SPM)	mg/m <sup>3</sup>	IS 5182 (Part-4):1999; RA 2019	0.445
Sulphur Di-Oxide (SO <sub>2</sub> )	mg/m <sup>3</sup>	IS 5182 (Part-2): 2001; RA2017	0.011
Nitrogen Di-Oxide (NO <sub>2</sub> )	mg/m <sup>3</sup>	IS 5182 (Part-6): 2006; RA2017	0.021

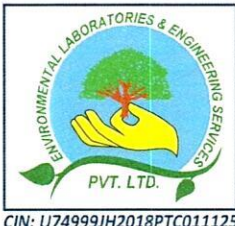
  
Authorized Signatory  
**SANDIP BERA**  
SENIOR MANAGER  
ELES PVT. LTD.

\*\*\*\*End of Report\*\*\*\*

  
Authorized Signatory  
**Dr. Deependra Kumar Sinha**  
Ph. D. Environmental Engg.  
ELES Pvt. Ltd. Technical Manager

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## TEST REPORT

Test Report No.	: ELES/RNC/2022/2172	Report Release Date	: 08.11.2022
Service Order No.	: 4400014050	Service Order Date	: 18.07.2022

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Grasim Industries Ltd. Chemical Division Rehla	Sample Ref. No.	: ELES/RNC/2022/FA/3231
Address	: Grasim Industries Ltd. Chemical Division Rehla, Dist- Palamu.	Location	: New Process Building
Plant Status	: Operational	Sampling Date	: 22.09.2022
Period of Analysis	: 01.10.2022 to 30.10.2022	Sample Received Date	: 01.10.2022
		Type of Sample	: Fugitive Air
		Sampling Procedure	: ELES/DOC/SMPL/02
		Sample Drawn By	: ELES Pvt. Ltd.
		Sample Condition	: Sealed & Preserved

METEOROLOGICAL INFORMATION					
1	Average Temperature (°C) : 29		2	Barometric Pressure (mmHg) : 745	
3	Relative Humidity (%) : 66		4	Weather Condition : Clear	

Non-Accredited			
Parameter	Unit	Test Protocol	Result
Chlorine (as Cl <sub>2</sub> )*	mg/Nm <sup>3</sup>	GEL/SOP-01	1.2
Hydrogen Chloride (HCl)*	mg/Nm <sup>3</sup>	GEL/SOP-01	<0.1

Remarks: 1. (\*) – Parameters are outsourced to other Lab.

  
Authorized Signatory  
**SANDIP BERA**  
SENIOR MANAGER  
ELES PVT. LTD.

\*\*\*\*End of Report\*\*\*\*

  
Authorized Signatory  
**Dr. Deependra Kumar Sinha**  
Ph. D. Environmental Engg.  
ELES Pvt. Ltd. Technical Manager

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## TEST REPORT

Test Report No.	: ELES/RNC/2022/2173	Report Release Date	: 08.11.2022
Service Order No.	: 4400014050	Service Order Date	: 18.07.2022

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Grasim Industries Ltd. Chemical Division Rehla	Sample Ref. No.	: ELES/RNC/2022/FA/3232
Address	: Grasim Industries Ltd. Chemical Division Rehla, Dist- Palamu.	Location	: Old Process Building
Plant Status	: Operational	Sampling Date	: 22.09.2022
Period of Analysis	: 01.10.2022 to 30.10.2022	Sample Received Date	: 01.10.2022
		Type of Sample	: Fugitive Air
		Sampling Procedure	: ELES/DOC/SMPL/02
		Sample Drawn By	: ELES Pvt. Ltd.
		Sample Condition	: Sealed & Preserved

## METEOROLOGICAL INFORMATION

1	Average Temperature (°C)	: 29	2	Barometric Pressure (mmHg)	: 745
3	Relative Humidity (%)	: 66	4	Weather Condition	: Clear

## Non-Accredited

Parameter	Unit	Test Protocol	Result
Chlorine (as Cl <sub>2</sub> )*	mg/Nm <sup>3</sup>	GEL/SOP-01	0.8
Hydrogen Chloride (HCl)*	mg/Nm <sup>3</sup>	GEL/SOP-01	<0.1

Remarks: 1. (\*) – Parameters are outsourced to other Lab.

  
Authorized Signatory  
**SANDIP BERA**  
SENIOR MANAGER  
ELES PVT. LTD.

\*\*\*\*End of Report\*\*\*\*

  
Authorized Signatory  
**Dr. Deependra Kumar Sinha**  
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ELES Pvt. Ltd. Technical Manager

Page 1 of 1

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TC-8839

CIN: U74999JH2018PTC011125

## TEST REPORT

Test Report No. : ELES/RNC/2022/2167	Report Release Date : 08.11.2022
Service Order No. : 4400014050	Service Order Date : 18.07.2022
ULR No. : TC883922000001179F	

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Grasim Industries Ltd. Chemical Division Rehla	Sample Ref. No.	: ELES/RNC/2022/SM/3326
Address	: Grasim Industries Ltd. Chemical Division Rehla, Dist- Palamu.	Location	: CPP Stack-1
Plant Status	: Operational	Sampling Date	: 21.09.2022
Period of Analysis	: 01.10.2022 to 30.10.2022	Sample Received Date	: 01.10.2022
		Type of Sample	: Flue Gas
		Sampling Procedure	: ELES/DOC/SMPL/02(A)
		Sample Drawn By	: ELES Pvt. Ltd.
		Sample Condition	: Sealed & Preserved

GENERAL INFORMATION		
1	Particular of the Plant	: Boiler
2	Emission Due to	: Burning of Coal
3	Stack Connected to	: CPP Stack-1
4	Material of Construction of Duct	: MS
5	Stack Height from Ground Level (m)	: 80.0
6	Height of Sampling Port from Ground Level (m)	: 5.0
7	Dimension of Duct at Sampling Point (m)	: 0.14 x 1.927
8	Shape of the Duct	: Rectangular
9	Working Load of the Stack	: 74971 Ton/Month
10	Pollution Control System	: ESP
11	Ladder & Platform	: Permanent

FUEL CHARACTERISTICS DETAILS		
1	Type of Fuel Used	: Coal
2	Fuel Consumption	: 16681 Ton/Month
3	Calorific Value of Fuel (Kcal/Kg)	: N/A

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TC-8839

CIN: U74999JH2018PTC011125

## TEST REPORT

Test Report No. : ELES/RNC/2022/2167	Report Release Date : 08.11.2022
Service Order No. : 4400014050	Service Order Date : 18.07.2022
ULR No. : TC883922000001179F	

NABL Accredited			
Discipline : Chemical		Group : Atmospheric Pollution	
Parameter	Unit	Test Protocol	Results
Particulate Matter (PM)	mg/Nm <sup>3</sup>	IS 11255(Part 1):1985: RA 2019	52
Sulphur Di-Oxide (SO <sub>2</sub> )	mg/Nm <sup>3</sup>	USEPA 6C:2017	413
Oxides of Nitrogen (NO <sub>x</sub> )	mg/Nm <sup>3</sup>	USEPA 7E :2020	132
Flue Gas Temperature	°C	IS 11255 (Part-3): 2008; RA 2018	125
Barometric Pressure	mmHg	IS 11255 (Part-3): 2008; RA 2018	744
Velocity of Flue Gas	m/sec	IS 11255 (Part-3): 2008; RA 2018	17.68
Quantity of Gas Flow	Nm <sup>3</sup> /hr	IS 11255 (Part-3): 2008; RA 2018	115656

Authorized Signatory

**SANDIP BERA**  
SENIOR MANAGER  
ELES PVT. LTD.

\*\*\*\*End of Report\*\*\*\*

Authorized Signatory

**Dr. Deependra Kumar Sinha**  
Ph. D. Environmental Engg.  
ELES Pvt. Ltd. Technical Manager

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TC-8839

CIN: U74999JH2018PTC011125

## TEST REPORT

Test Report No.	: ELES/RNC/2022/2168	Report Release Date	: 08.11.2022
Service Order No.	: 4400014050	Service Order Date	: 18.07.2022
ULR No.	: TC883922000001180F		

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Grasim Industries Ltd. Chemical Division Rehla	Sample Ref. No.	: ELES/RNC/2022/SM/3327
Address	: Grasim Industries Ltd. Chemical Division Rehla, Dist- Palamu.	Location	: CPP Stack-2
Plant Status	: Operational	Sampling Date	: 21.09.2022
Period of Analysis	: 01.10.2022 to 30.10.2022	Sample Received Date	: 01.10.2022
		Type of Sample	: Flue Gas
		Sampling Procedure	: ELES/DOC/SMPL/02(A)
		Sample Drawn By	: ELES Pvt. Ltd.
		Sample Condition	: Sealed & Preserved

GENERAL INFORMATION		
1	Particular of the Plant	: Boiler
2	Emission Due to	: Burning of Coal
3	Stack Connected to	: CPP Stack-2
4	Material of Construction of Duct	: MS
5	Stack Height from Ground Level (m)	: 110.0
6	Height of Sampling Port from Ground Level (m)	: 6.5
7	Dimension of Duct at Sampling Point (m)	: 1.524 x 2.438
8	Shape of the Duct	: Rectangular
9	Working Load of the Stack	: 70244 Ton/Month
10	Pollution Control System	: ESP
11	Ladder & Platform	: Permanent

FUEL CHARACTERISTICS DETAILS		
1	Type of Fuel Used	: Coal
2	Fuel Consumption	: 14937 Ton/Month
3	Calorific Value of Fuel (Kcal/Kg)	: N/A

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TC-8839

CIN: U74999JH2018PTC011125

## TEST REPORT

Test Report No. : ELES/RNC/2022/2168	Report Release Date : 08.11.2022
Service Order No. : 4400014050	Service Order Date : 18.07.2022
ULR No. : TC883922000001180F	

### NABL Accredited

Discipline : Chemical		Group : Atmospheric Pollution	
Parameter	Unit	Test Protocol	Results
Particulate Matter (PM)	mg/Nm <sup>3</sup>	IS 11255(Part 1):1985: RA 2019	46
Sulphur Di-Oxide (SO <sub>2</sub> )	mg/Nm <sup>3</sup>	USEPA 6C:2017	395
Oxides of Nitrogen (NO <sub>x</sub> )	mg/Nm <sup>3</sup>	USEPA 7E :2020	129
Flue Gas Temperature	°C	IS 11255 (Part-3): 2008; RA 2018	140
Barometric Pressure	mmHg	IS 11255 (Part-3): 2008; RA 2018	744
Velocity of Flue Gas	m/sec	IS 11255 (Part-3): 2008; RA 2018	14.74
Quantity of Gas Flow	Nm <sup>3</sup> /hr	IS 11255 (Part-3): 2008; RA 2018	126239

Authorized Signatory

**SANDIP BERA**  
SENIOR MANAGER  
ELES PVT. LTD.

\*\*\*\*End of Report\*\*\*\*

Authorized Signatory

**Dr. Deependra Kumar Sinha**  
Ph. D. Environmental Engg.  
ELES Pvt. Ltd. Technical Manager

### Page 2 of 2

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CIN: U74999JH2018PTC011125

### TEST REPORT

Test Report No. : ELES/RNC/2022/2169	Report Release Date : 08.11.2022
Service Order No. : 4400014050	Service Order Date : 18.07.2022
ULR No. : TC883922000001181F	

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Grasim Industries Ltd. Chemical Division Rehla	Sample Ref. No.	: ELES/RNC/2022/SM/3228
Address	: Grasim Industries Ltd. Chemical Division Rehla, Dist- Palamu.	Location	: HCl Furnace No.-B
Plant Status	: Operational	Sampling Date	: 22.09.2022
Period of Analysis	: 01.10.2022 to 30.10.2022	Sample Received Date	: 01.10.2022
		Type of Sample	: Flue Gas
		Sampling Procedure	: ELES/DOC/SMPL/02(A)
		Sample Drawn By	: ELES Pvt. Ltd.
		Sample Condition	: Sealed & Preserved

GENERAL INFORMATION		
1	Particular of the Plant	: Caustic Plant
2	Emission Due to	: Process Activity
3	Stack Connected to	: HCl Furnace No.B
4	Material of Construction of Duct	: PVC/FRP
5	Stack Height from Ground Level (m)	: 18.5
6	Height of Sampling Port from Ground Level (m)	: 1.20
7	Inner Diameter of Stack at Sampling Point (m)	: 0.15
8	Shape of the Stack	: Circular
9	Working Load of the Stack	: N/A
10	Pollution Control System	: Wet Scrubber
11	Ladder & Platform	: Permanent

FUEL CHARACTERISTICS DETAILS		
1	Type of Fuel Used	: N/A
2	Fuel Consumption	: N/A
3	Calorific Value of Fuel (Kcal/Kg)	: N/A

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TC-8839

CIN: U74999JH2018PTC011125

## TEST REPORT

Test Report No. : ELES/RNC/2022/2169	Report Release Date : 08.11.2022
Service Order No. : 4400014050	Service Order Date : 18.07.2022
ULR No. : TC883922000001181F	

### NABL Accredited

Discipline : Chemical		Group : Atmospheric Pollution	
Parameter	Unit	Test Protocol	Results
Flue Gas Temperature	°C	IS 11255 (Part 3): 2008; RA 2018	41
Barometric Pressure	mmHg	IS 11255 (Part 3): 2008; RA 2018	745
Velocity of Flue Gas	m/sec	IS 11255 (Part 3): 2008; RA 2018	5.55
Quantity of Gas Flow	Nm <sup>3</sup> /hr	IS 11255 (Part 3): 2008; RA 2018	271
Moisture Percentage	%	IS 11255 (Part -3):2008,RA 2018	12.1

Authorized Signatory

**SANDIP BERA**  
SENIOR MANAGER  
ELES PVT. LTD.

\*\*\*\*End of Report\*\*\*\*

Authorised Signatory

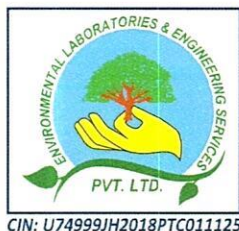
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Ph. D. Environmental Engg.  
ELES Pvt. Ltd. Technical Manager

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## TEST REPORT

Test Report No. : ELES/RNC/2022/2169	Report Release Date : 08.11.2022
Service Order No. : 4400014050	Service Order Date : 18.07.2022

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Grasim Industries Ltd. Chemical Division Rehla	Sample Ref. No.	: ELES/RNC/2022/SM/3228
Address	: Grasim Industries Ltd. Chemical Division Rehla, Dist- Palamu.	Location	: HCl Furnace No.-B
Plant Status	: Operational	Sampling Date	: 22.09.2022
Period of Analysis	: 01.10.2022 to 30.10.2022	Sample Received Date	: 01.10.2022
		Type of Sample	: Flue Gas
		Sampling Procedure	: ELES/DOC/SMPL/02(A)
		Sample Drawn By	: ELES Pvt. Ltd.
		Sample Condition	: Sealed& Preserved

GENERAL INFORMATION		
1	Particular of the Plant	: Caustic Plant
2	Emission Due to	: Process Activity
3	Stack Connected to	: HCl Furnace No.B
4	Material of Construction of Duct	: PVC/FRP
5	Stack Height from Ground Level (m)	: 18.5
6	Height of Sampling Port from Ground Level (m)	: 1.20
7	Inner Diameter of Stack at Sampling Point (m)	: 0.15
8	Shape of the Stack	: Circular
9	Working Load of the Stack	: N/A
10	Pollution Control System	: Wet Scrubber
11	Ladder & Platform	: Permanent

FUEL CHARACTERISTICS DETAILS		
1	Type of Fuel Used	: N/A
2	Fuel Consumption	: N/A
3	Calorific Value of Fuel (Kcal/Kg)	: N/A

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### TEST REPORT

Test Report No. : ELES/RNC/2022/2169	Report Release Date : 08.11.2022
Service Order No. : 4400014050	Service Order Date : 18.07.2022

#### Non-Accredited

Parameter	Unit	Test Protocol	Result
Hydrogen Chloride (HCl)*	mg/Nm <sup>3</sup>	GEL/SOP/-01	8.2

Remarks :(\*)-Parameters are outsourced to other Lab.

Authorized Signatory  
**SANDIP BERA**  
SENIOR MANAGER  
ELES PVT. LTD.

\*\*\*\*End of Report\*\*\*\*

Authorized Signatory  
**Dr. Deependra Kumar Sinha**  
Ph. D. Environmental Engg.  
ELES Pvt. Ltd. Technical Manager

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TC-8839

CIN: U74999JH2018PTC011125

## TEST REPORT

Test Report No. : ELES/RNC/2022/2170	Report Release Date : 08.11.2022
Service Order No. : 4400014050	Service Order Date : 18.07.2022
ULR No. : TC883922000001182F	

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Grasim Industries Ltd. Chemical Division Rehla	Sample Ref. No.	: ELES/RNC/2022/SM/3329
Address	: Grasim Industries Ltd. Chemical Division Rehla, Dist- Palamu.	Location	: HCl Furnace No.-C
Plant Status	: Operational	Sampling Date	: 22.09.2022
Period of Analysis	: 01.10.2022 to 30.10.2022	Sample Received Date	: 01.10.2022
		Type of Sample	: Flue Gas
		Sampling Procedure	: ELES/DOC/SMPL/02(A)
		Sample Drawn By	: ELES Pvt. Ltd.
		Sample Condition	: Sealed & Preserved

GENERAL INFORMATION		
1	Particular of the Plant	: Caustic Plant
2	Emission Due to	: Process Activity
3	Stack Connected to	: HCl Furnace No.C
4	Material of Construction of Duct	: PVC/FRP
5	Stack Height from Ground Level (m)	: 18.5
6	Height of Sampling Port from Ground Level (m)	: 1.20
7	Inner Diameter of Stack at Sampling Point (m)	: 0.15
8	Shape of the Stack	: Circular
9	Working Load of the Stack	: N/A
10	Pollution Control System	: Wet Scrubber
11	Ladder & Platform	: Permanent

FUEL CHARACTERISTICS DETAILS		
1	Type of Fuel Used	: N/A
2	Fuel Consumption	: N/A
3	Calorific Value of Fuel (Kcal/Kg)	: N/A

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TC-8839

CIN: U74999JH2018PTC011125

## TEST REPORT


Test Report No. : ELES/RNC/2022/2170	Report Release Date : 08.11.2022
Service Order No. : 4400014050	Service Order Date : 18.07.2022
ULR No. : TC883922000001182F	

NABL Accredited

Discipline : Chemical		Group : Atmospheric Pollution	
Parameter	Unit	Test Protocol	Results
Flue Gas Temperature	°C	IS 11255 (Part 3): 2008; RA 2018	36
Barometric Pressure	mmHg	IS 11255 (Part 3): 2008; RA 2018	745
Velocity of Flue Gas	m/sec	IS 11255 (Part 3): 2008; RA 2018	5.78
Quantity of Gas Flow	Nm <sup>3</sup> /hr	IS 11255 (Part 3): 2008; RA 2018	285
Moisture Percentage	%	IS 11255 (Part 3):2008, RA 2018	11.2

  
Authorized Signatory  
**SANDIP BERA**  
SENIOR MANAGER  
ELES PVT. LTD.

\*\*\*\*End of Report\*\*\*\*

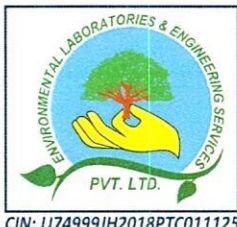
  
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**Dr. Deependra Kumar Sinha**  
Ph. D. Environmental Engg.  
ELES Pvt. Ltd. Technical Manager

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PLOT NO-30, MANSAROVAR ENCLAVE, TUPUDANA  
HATIA, RANCHI-834003 (JHARKHAND)  
GST NO:- 20AAECE9713D1Z4

**ENGINEERING SERVICES PVT. LTD.**

Email: [info@elespl.co.in](mailto:info@elespl.co.in), [eles.ranchi@gmail.com](mailto:eles.ranchi@gmail.com)

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## TEST REPORT

Test Report No. : ELES/RNC/2022/2170	Report Release Date : 08.11.2022
Service Order No. : 4400014050	Service Order Date : 18.07.2022

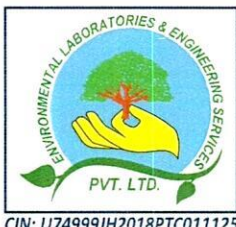
CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Grasim Industries Ltd. Chemical Division Rehla	Sample Ref. No.	: ELES/RNC/2022/SM/3329
Address	: Grasim Industries Ltd. Chemical Division Rehla, Dist- Palamu.	Location	: HCI Furnace No.-C
Plant Status	: Operational	Sampling Date	: 22.09.2022
Period of Analysis	: 01.10.2022 to 30.10.2022	Sample Received Date	: 01.10.2022
		Type of Sample	: Flue Gas
		Sampling Procedure	: ELES/DOC/SMPL/02(A)
		Sample Drawn By	: ELES Pvt. Ltd.
		Sample Condition	: Sealed & Preserved

GENERAL INFORMATION		
1	Particular of the Plant	: Caustic Plant
2	Emission Due to	: Process Activity
3	Stack Connected to	: HCI Furnace No.B
4	Material of Construction of Duct	: PVC/FRP
5	Stack Height from Ground Level (m)	: 18.5
6	Height of Sampling Port from Ground Level (m)	: 1.20
7	Inner Diameter of Stack at Sampling Point (m)	: 0.15
8	Shape of the Stack	: Circular
9	Working Load of the Stack	: N/A
10	Pollution Control System	: Wet Scrubber
11	Ladder & Platform	: Permanent

FUEL CHARACTERISTICS DETAILS		
1	Type of Fuel Used	: N/A
2	Fuel Consumption	: N/A
3	Calorific Value of Fuel (Kcal/Kg)	: N/A

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## TEST REPORT

Test Report No. : ELES/RNC/2022/2170	Report Release Date : 08.11.2022
Service Order No. : 4400014050	Service Order Date : 18.07.2022

### Non-Accredited

Parameter	Unit	Test Protocol	Result
Hydrogen Chloride (HCl)*	mg/Nm <sup>3</sup>	GEL/SOP-01	10.8

Remarks :(\*)-Parameters are outsourced to other Lab.

Authorized Signatory

**SANDIP BERA**  
**SENIOR MANAGER**  
**ELES PVT. LTD.**

\*\*\*\*End of Report\*\*\*\*

Authorised Signatory

**Dr. Deependra Kumar Sinha**  
**Ph. D. Environmental Engg.**  
**ELES Pvt. Ltd. Technical Manager**

## Page 2 of 2

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TC-8839

CIN: U74999JH2018PTC011125

## TEST REPORT

Test Report No. : ELES/RNC/2022/2171	Report Release Date : 08.11.2022
Service Order No. : 4400014050	Service Order Date : 18.07.2022
ULR No. : TC883922000001183F	

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Grasim Industries Ltd. Chemical Division Rehla	Sample Ref. No.	: ELES/RNC/2022/SM/3230
Address	: Grasim Industries Ltd. Chemical Division Rehla, Dist- Palamu.	Location	: Sodium Hypo Stack
Plant Status	: Operational	Sampling Date	: 22.09.2022
Period of Analysis	: 01.10.2022 to 30.10.2022	Sample Received Date	: 01.10.2022
		Type of Sample	: Flue Gas
		Sampling Procedure	: ELES/DOC/SMPL/02(A)
		Sample Drawn By	: ELES Pvt. Ltd.
		Sample Condition	: Sealed& Preserved

## GENERAL INFORMATION

1	Particular of the Plant	: Caustic Plant
2	Emission Due to	: Process Activity
3	Stack Connected to	: Sodium Hypo Stack
4	Material of Construction of Duct	: PVC/FRP
5	Stack Height from Ground Level (m)	: 19.0
6	Height of Sampling Port from Ground Level (m)	: 2.0
7	Inner Diameter of Stack at Sampling Point (m)	: 0.25
8	Shape of the Stack	: Circular
9	Working Load of the Stack	: N/A
10	Pollution Control System	: Wet Scrubber
11	Ladder & Platform	: Permanent

## FUEL CHARACTERISTICS DETAILS

1	Type of Fuel Used	: N/A
2	Fuel Consumption	: N/A
3	Calorific Value of Fuel (Kcal/Kg)	: N/A

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TC-8839

CIN: U74999JH2018PTC011125

## TEST REPORT

Test Report No. : ELES/RNC/2022/2171	Report Release Date : 08.11.2022
Service Order No. : 4400014050	Service Order Date : 18.07.2022
ULR No. : TC883922000001183F	

NABL Accredited

Discipline : Chemical		Group : Atmospheric Pollution	
Parameter	Unit	Test Protocol	Results
Flue Gas Temperature	°C	IS 11255 (Part 3): 2008; RA 2018	38
Barometric Pressure	mmHg	IS 11255 (Part 3): 2008; RA 2018	745
Velocity of Flue Gas	m/sec	IS 11255 (Part 3): 2008; RA 2018	6.61
Quantity of Gas Flow	Nm <sup>3</sup> /hr	IS 11255 (Part 3): 2008; RA 2018	979
Moisture Percentage	%	IS 11255 (Part -3):2008, RA 2018	10.8

Authorized Signatory

**SANDIP BERA**  
SENIOR MANAGER  
ELES PVT. LTD.

\*\*\*\*End of Report\*\*\*\*

Authorised Signatory

**Dr. Deependra Kumar Sinha**  
Ph. D. Environmental Engg.  
ELES Pvt. Ltd. Technical Manager

## Page 2 of 2

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**"Saving Environment will only save the Future"**





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## TEST REPORT

Test Report No. : ELES/RNC/2022/2171	Report Release Date : 08.11.2022
Service Order No. : 4400014050	Service Order Date : 18.07.2022

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	: Grasim Industries Ltd. Chemical Division Rehla	Sample Ref. No.	: ELES/RNC/2022/SM/3230
Address	: Grasim Industries Ltd. Chemical Division Rehla, Dist- Palamu.	Location	: Sodium Hypo Stack
Plant Status	: Operational	Sampling Date	: 22.09.2022
Period of Analysis	: 01.10.2022 to 30.10.2022	Sample Received Date	: 01.10.2022
		Type of Sample	: Flue Gas
		Sampling Procedure	: ELES/DOC/SMPL/02(A)
		Sample Drawn By	: ELES Pvt. Ltd.
		Sample Condition	: Sealed& Preserved

## GENERAL INFORMATION

1	Particular of the Plant	: Caustic Plant
2	Emission Due to	: Process Activity
3	Stack Connected to	: Sodium Hypo Stack
4	Material of Construction of Duct	: PVC/FRP
5	Stack Height from Ground Level (m)	: 19.0
6	Height of Sampling Port from Ground Level (m)	: 2.0
7	Inner Diameter of Stack at Sampling Point (m)	: 0.25
8	Shape of the Stack	: Circular
9	Working Load of the Stack	: N/A
10	Pollution Control System	: Wet Scrubber
11	Ladder & Platform	: Permanent

## FUEL CHARACTERISTICS DETAILS

1	Type of Fuel Used	: N/A
2	Fuel Consumption	: N/A
3	Calorific Value of Fuel (Kcal/Kg)	: N/A

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### TEST REPORT

Test Report No. : ELES/RNC/2022/2171	Report Release Date : 08.11.2022
Service Order No. : 4400014050	Service Order Date : 18.07.2022

#### Non-Accredited

Parameter	Unit	Test Protocol	Result
Chlorine (as Cl <sub>2</sub> )*	mg/Nm <sup>3</sup>	GEL/SOP-1	1.2

Remarks :(\*)-Parameters are outsourced to other Lab.

Authorized Signatory  
**SANDIP BERA**  
SENIOR MANAGER  
ELES PVT. LTD.

\*\*\*\*End of Report\*\*\*\*

Authorised Signatory  
**Dr. Deependra Kumar Sinha**  
Ph. D. Environmental Engg.  
ELES Pvt. Ltd. Technical Manager

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## Grasim Industries Limited, Chemical Division, Rehla

### Hazardous Waste Disposal & Recycle Details (April'22 - September'22)

Sl. No.	Waste Type	Category	Generation (MT)	Disposal (MT)	Disposal / Recycling Facility
1	Asbestos waste	Sch-1, Cat-15.2	20.42	15.52	CHW-TSDF (AWMPL)
2	Empty Barrels/ Container/ Liners Contaminated with Hazardous Chemicals / Wastes/ C.T.Fills	Sch-1, Cat-33.1	21.94	21.94	CHW-TSDF (AWMPL)
3	Contaminated Cotton Rags or other Cleaning materials	Sch-1, Cat-33.2	0.33	0.40	CHW-TSDF (AWMPL)
4	ETP sludge	Sch-1, Cat- 35.3	114.60	112.26	CHW-TSDF (AWMPL)
5	Fibre Reinforced Plastic Waste (F R P)	Others	0.00	0.00	CHW-TSDF (AWMPL)
6	Insulation Waste (Glass wool)	Others	0.00	0.00	CHW-TSDF (AWMPL)
7	MEE+ATFD WASTE	Others	428.00	428.26	CHW-TSDF (AWMPL)
8	Used Oil	Sch-1, Cat- 5.1	3.01	4.41	Authorised Recyclers
9	Used Membrane	Others	0.00	0.00	CHW-TSDF (AWMPL)
10	Spent Resin	Sch-1, Cat-35.2	0.00	0.00	CHW-TSDF (AWMPL)
11	Process & Wastes from treatment of Salt sludge	Sch-1, Cat-11.5	0.00	0.00	CHW-TSDF (AWMPL)
12	Brine Sludge (Membrane Cell Plant)	Sch-1, Cat-16.3	1585.25	5294.22	CHW-TSDF (AWMPL)
13	Spent Carbon or filter medium	Sch-1, Cat-36.2	0.2	0.2	CHW-TSDF (AWMPL)
14	Oil & Grease skimming	Sch-1, Cat-35.4	0	0	CHW-TSDF (AWMPL)

**Note:**

1. Disposal quantity of Brine sludge is inclusive of stored quantity (Kept in SLF)



Photographs: Awareness Drive (i.e. WED 2022, Ban on Single Use Plastic, etc.)





Photographs: Continuous Ambient Air Quality Monitoring Station





Photographs: **Waste Storage Area**





Photograph: ETP (MEE+ATFD Facility), Installed Dust Separator Systems (i.e. Dry Fog & Sprinkler)





