BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI

ORIGINAL APPLICATION NO. 875/2019

IN THE MATTER OF:

Shankarlal Prajapat … Applicant(s)

Versus

State of Madhya Pradesh & Others …. Respondent(s)

I N D E X

6.	**ANNEXURE – E** True Copy of the order issued by the Member Secretary, M.P. Pollution Control Board dated 16.08.2019	**34 - 39**
7.	**ANNEXURE – F** True copy of the appeal filed by the appellant dated 18.12.2019	**40 - 42**
8.	**ANNEXURE – G** True copy of the Full Report – CSIR-National Environmental Engineering Research Institute, Nehru Marg, Nagpur – 440 020, dated 10.11.2022.	**43 - 109**

FILED BY:

T.G.NARAYANAN NAIR
MANISH NAIR, GAURAV SINGH CHOUHAN &
SAMYUKTHA H.NAIR
ADVOVATES FOR THE RESPONDENT
[LANXESS INDIA PRIVATE LTD.]
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Filed on: 06.09.2025

BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI

ORIGINAL APPLICATION NO. 875/2019

IN THE MATTER OF:

Shankarlal Prajapat ... Applicant(s)

Versus

State of Madhya Pradesh & Others .... Respondent(s)

REPLY AFFIDAVI ON BEHALF OF LANXESS INDIA PRIVATE LIMITED.

I, Mr. Sunil Gulati, S/o Shri.Dhan Raj Gulati aged 44 years, working as Site Manufacturing Head having my office at LANXESS India Pvt. Ltd., Birlagram, Nagda District, Ujjan, Madhya Pradesh do hereby solemnly affirm and state as under:

1. I am working as the Site Manufacturing Head and I am the authorised representative of the respondent company, LANXESS India Pvt. Ltd., in the above case. I am well conversant with the facts of the case and I am competent to swear this affidavit.

2. The above Original Application No. 875 of 2019 is arising from a letter sent by the applicant to the National Green Tribunal complaining pollution caused to the Chambal River. The gravamen of the said complaint which was treated as an

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For LANXESS India Private Limited
Birlagram, Nagda (M.P.)

application by the Hon'ble Tribunal was pollution caused by M/s Grasim Chemical Division Limited, Birlagram, Nagda, District Ujjain, Madhya Pradesh causing contamination of water and damage to the environment and the public health. This Hon'ble Tribunal, instead of issuing notice to M/s Grasim Chemical Division Limited, directed the State Pollution Control Board (SPCB) to look into the matter and take appropriate action in accordance with law and furnish a factual and action taken report in the matter within one month. These directions were issued without notice to the affected parties which is a grave violation of the well-established principles of natural justice specifically provided in the National Green Tribunal Act itself. A complaint received by post was entertained and an order was passed by this Hon'ble Tribunal without giving notice to the affected parties and not following the procedure laid down in the Green Tribunal Act, 2010. It should have seen that the complainant had no locus standi to file a complaint before it through a letter sent by post.

3. By order dated 30.10.2019, the National Green Tribunal directed the State Pollution Control Board to look into the matter, take appropriate action in accordance with law and furnish a factual and action taken report in the matter.

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Birlagram, Nagda (M.P.)

4. In compliance of the order, the Regional Officer of the M.P. Pollution Control Board submitted an action taken report on 09.10.2020 wherein it is reported that improvements have been made in the water and air pollution control systems from industries located in Nagda and as a result, the contaminated water is reused after treatment by M/s Grasim Industries Ltd. (Chemical Division) and M/s LANXESS India Pvt. Ltd. and has zero discharge condition in outside the premises.

5. Regarding this respondent company, LANXESS India Pvt. Ltd., it is reported:

"For treatment and disposal of contaminated water, contaminated water treatment plants and RO systems, and MVRE and dryers are installed and functioning. MVRE and dryers were established by the industry in the year 2012 and a zero-discharge system has been in operation since the year 2012."

It is also reported as follows:

"An online continuous stack monitoring system is installed for emission monitoring from the incinerator stake under air pollution control, whose monitoring is done by MP Pollution Control Board and CPCB. An online continuous ambient air quality monitoring station has also been

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For LANXESS India Private Limited
Authorised Signatory
Birlagram, Nagda (M.P.)

established in the industry premises. Emissions from the industry and ambient air quality are found to be within the prescribed standard limits."

It is further reported as follows:

"At present plants have been set up to maintain zero discharge by these industries located in these villages, Messrs Grasim Industries Ltd (Chemical Division) and M/s LANXESS India Pvt Ltd. Currently there is no discharge from the premises of these two industries."

The report also states:

"Action has been taken by the board to stop the discharge of contaminated water from industries located in the Birlagram Industrial Area Nagda, under which instructions have been given to industries to maintain zero discharge conditions. As per the present situation, zero discharge conditions have been maintained in industries other than M/s Grasim Industries Ltd. (Staple Fibre Division) and the effluent water from them is not discharged into the drain."

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6. Even though it has been factually found and reported by the M.P. Pollution Control Board that there is no discharge from the premises of the two industries, M/s Grasim Industries Ltd (Chemical Division) and M/s LANXESS India Pvt. Ltd., on a false premise that polluted effluent

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was found discharged from these two companies, the National Green Tribunal, by order dated 12.10.2020, held that the report is incomplete and action taken is inadequate as the least expected is to assess the cost of damage to the environment and cost of restoration thereof and recover the same on 'Polluter Pays' principle for the period of non-compliance. The National Green Tribunal directed constitution of a joint Committee of CPCB, State PCB and District Magistrate, Ujjain and made State PCB as the nodal agency for coordination and compliance for preparation and execution of a restoration plan utilising the compensation recovered.

7. Accordingly, the Joint Committee report was filed by the M.P. State Pollution Control Board on 05.02.2021. In the said report it has been categorically found that this respondent industry had attained zero liquid discharge as early as on 30.12.2012. It has been reiterated in the Observations of the Committee in the report relating to this respondent company that the company has been strictly following all the instructions given by the State Pollution Control Board. However, the Joint Committee constituted by the National Green Tribunal in O.A.No.875 of 2019, imposed Environmental Compensation on non-compliance of the directions – Rs.82,20,000/- for delay in renewal of CTO (Consent to Operate) and Rs.75,60,000/- for not including the by-product acid (Hydrochloric Acid) in hazardous waste authorization.

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Birlagram, Nagda (M.P.)

8. Pursuant to the report of the said Joint Committee, by order dated 07.04.2021, this Hon'ble Tribunal directed that further action may be taken in terms of the report of the Joint Committee.

9. Subsequently, this respondent company, its chairman, directors and Plant Head received notice dated 02.08.2021 from the Madhya Pradesh Pollution Control Board as a direction for imposing of Environmental Compensation as per the order passed by the Hon'ble NGT vide its order dated 07.04.2021in O.A.No.875/2019. It was further directed to deposit the Environmental Compensation calculated by the Joint Committee within 15 days and in case of failure, action is liable to be initiated under Sections 41 and 47 of The Water Act of 1974 and other relevant Act.

10. The following are the details of the compensation imposed on LANXESS India Private Limited:

Industry	Non-Compliance	Date of Direction issued	Non-Compliance observed	No. of Days	Environment Compensation in Rs.
M/s. LANXESS India Pvt. Ltd. Birlagram, Nagda	CTO Validity	Last date of validity 31.12.2019	Renewal dated 01.10.2020	274 days	82,20,000/-
	Industries shall include their by-product acid in Hazardous waste authorization immediately	Date of MPPCB direction on 13.05.2020	Yet to be Complied ie.; 19.01.2021	252 days	75,60,000/-

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Birlagram, Nagda (M.P.)

11. Compensation of Rs.82,20,000/- is imposed for the reason that renewal of Consent to Operate (CTO) was delayed by 274 days. From the Action Taken Report submitted by the M.P. Pollution Control Board dated 09.10.2020 and the report of the Joint Committee constituted by the NGT, it is clear that the industry has been maintaining zero liquid discharge since the year 2012 and no effluent water from the industry is discharged into the drain. In the report dated 09.10.2020, it is specifically stated that "water/air pollution control systems have been found to be working in industries and discharge of contaminated water from any industry other than Grasim Industries Ltd. (SFD) was not found outside the industry premises. Thus, a huge amount of Rs.82,20,000/- calculated towards environmental compensation is not actually for any pollution caused by the industry, but in reality, it is a penalty for the delay in renewal of the Consent to Operate (CTO) which was for reasons beyond the control of this respondent due to the horrendous situation created by the pandemic and the inevitable lockdown causing heavy damages to all industries.

12. In this connection, it may kindly be noted that the previous Air and Water Consent Order No.17/TS/MPCCB/2014 and 19/TS/ MPPCB/2014 dated 01.01.2015 was valid up to 31.12.2019.

13. Since, all the consent or hazardous waste authorization applications and approval thereof have to be done through online XGN portal of

04 SEP 2025

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Birlagram, Nagda (M.P.)

MPPCB (Madhya Pradesh Pollution Control Board) and the hazardous waste authorization was under approval process, the application for renewal of Air and Water consent could not be submitted through the XGN portal as the portal was open only from 19.11.2019. Thus, application was submitted for renewal of Air and Water consent for five years (without any changes in production capacity or utility) on same date even before 42 days from expiry date of the consents. Thereafter, some queries were raised by the MPPCB.

14. This respondent company replied to all the queries and also reapplied on 22.08.2020. At last, the Air and water consents were approved and issued. Consolidated Air and Water consent in combined form known as CCA was issued on 01.10.2020 for the period up to 31.10.2021. A copy of the order dated 01.10.2020 is annexed as ANNEXURE – A.

15. In these circumstances, the delay is neither wilful nor deliberate and this respondent was not granted any opportunity to explain the facts either before the Joint Committee or before the Hon'ble Tribunal before passing an adverse order against this respondent imposing heavy compensation as penalty for the delay in obtaining renewal of consent from the State Pollution Control Board when in fact there was no deficiency on the part of this respondent in maintaining zero discharge of effluents and also maintaining ambient air quality within prescribed

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04 SEP 2025

limits. The Consent to Operate is granted under section 25 of the Water (Prevention & Control of Pollution) Act,1974 and under section 21 of the Air (Prevention & Control of Pollution) Act,1981 and penalties for non-compliance are laid down in the respective Acts. This Hon'ble Tribunal had constituted the Joint Committee in the present case for determining the compensation on the principle of 'polluter pays' with respect to the damages caused due to the discharge of effluents and sewage to the 'Chambal' river. There is a specific finding in the Action taken Reports of the M.P. Pollution Control Board and the Joint Committee constituted by this Hon'ble Tribunal that there is no discharge of effluents or contaminated water from any industry other than Grasim Industries Ltd. (SFD). So, the Joint Committee has exceeded its powers in calculating penalty for non-compliance of the directions under the Water (Prevention & Control of Pollution) Act, 1974 and under the Air (Prevention & Control of Pollution) Act,1981 towards environmental compensation against this respondent company as it is clear from the report itself that no case of water or air pollution has been found by the Joint Committee against this respondent.

16. The Joint Committee calculated compensation of Rs.75,60,000/- alleging a delay of 252 days as on 19.01.2021 in complying with the directions of the M.P. Pollution Control Board dated 13.05.2020. A copy

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For LANXESS India Private Limited
Nagda (M.P.)

of the directions of M.P. Pollution Control Board dated 13.05.2020 is annexed as **ANNEXURE – B**.

17. Against the directions of the M.P. Pollution Control Board dated 13.05.2020, this respondent had filed a representation on 27.05.2020. A copy of the same is annexed as **ANNEXURE – C**.

18. Pursuant to the respondent company's application dated 23.11.2015, Authorization under Hazardous Waste (Management Handling & Transboundary movement) Amended Rule, 2008 was granted to the company on 07.11.2016 which was valid up to 10.01.2021. A copy of the order is annexed as **ANNEXURE – D**.

19. Thereafter, against the respondent company's application dated 16.08.2019, authorization under Hazardous and other Waste (Management & Transboundary Movement) Rule, 2016 was granted to the company on 20.11.2019 with validity up to 31.08.2024. But, inter alia, it contained the following as note no.3:

> "(3) The industry shall handle and manage the HCl (Hydro Chloric Acid) generated from the process and scrubbing - Air Pollution control arrangements as hazardous waste as per CPCB guidelines and record in this regard shall be maintained as per Hazardous and other Waste (Management & Transboundary Movement) Rule, 2016." A copy of the order is annexed as **ANNEXURE – E**.

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For LANXESS India Private Limited, Birlagram, Nagda (M.P.)

20. On 18th December, 2019, this respondent company filed an appeal before the CPCB against the above said order dated 20.11.2019 requesting that the Authorization order be amended/modified by deleting Note No.3 from the Authorization order taking into consideration that Hydrochloric Acid which is generated from manufacturing process is not a "Hazardous Waste". A copy of the appeal is annexed as ANNEXURE – F.

21. As advised by the CPCB, this respondent had sought a study report from CSIR – National Environmental Engineering Research Institute (NEERI), Nagpur. In its study report "Pre-feasibility Study for Utilization of By-product HCL at M/s LANXESS India Private Limited", NEERI has reported as follows:

> "HCL is produced as a by-product of the main chemical reactions in the plant. The HCL gas is a valuable product for Lanxess and it is purified and concentrated to the level of Indian standards of HCL (IS 265:1993) and is transported out (sold) to the consumers of HCL. Since each molecule of HCL produced in the Lanxess plant, is ideally accounted in the saleable commercial product (31% HCL), with due information submitted to the MPPCB, it is established that no HCL goes to "waste" and hence it does not meet the criteria of Hazardous Waste in this case. Further the produced HCL, identified as a by-product, is a suitable resource in

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For LANXESS India Private Limited Authorised Signatory Telegram, Nagda (M.P.)

its all the possible end use scenarios. Lanxess has already obtained "Environmental Clearance for the Nagda site project" which mentions 288700 TPA production of Hydrochloric acid as a product (Annexure F- Ref: order number F.No.IA-J-11011/350/2018-IA(I) from MoEF (Impact Assessment Division), hence it qualified the by-product criteria of CPCB. HCL is manufactured in the plant and the quality of HCL is checked (Annexure G) according to the IS standards (IS Specification-IS 265:1993 (Reaffirmed 1995, 2010) Revision 4). This HCL of 31% concentration is stored in Tank farm area and is further transported in tankers and commercially sold to companies". A copy of the full report is annexed as ANNEXURE – G.

22. Thus, it is clear that this respondent's industry is not generating any hazardous waste. Whether the industry shall include the by-product Hydrochloric Acid in hazardous waste has been a disputed question and it has also been noted by the Joint Committee in their report. Under these circumstances, the Joint Committee had erred in calculating compensation for not including the by-product, Hydrochloric Acid in hazardous waste and also imposing a hefty sum of Rs.75,60,000/- towards penalty for the same.

23. The compensation calculated as Rs.75,60,000/- is for delay of 252 days in compliance of the direction of the MPPCB dated 13.05.2020 that industries shall include their by-product acid in Hazardous Waste

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For LANXESS India Private Limited
Authorised Signatory
Birlagram, Nagda (M.P.)

Authorization immediately. In the present case, as stated earlier, whether the by-product, Hydrochloric acid, is a hazardous waste itself is a disputed question and an appeal against the order of MPPCB has been pending decision. In fact, the said direction issued on 13.05.2020 is under Section 33A of the Water (Prevention and Control of Pollution) Act, 1974 and it was also indicated therein that failing which action shall be initiated under Section 41 of the said Act.

As far as this respondent is concerned, it has been clearly found that there has not been any discharge of effluents since 2012. This Hon'ble Tribunal had directed the Joint Committee constituted by it to assess the damage caused due to discharge of effluent or sewage in a waterbody and the compensation recoverable for the same and not to calculate the penalty for non-compliance of the directions of the State Pollution Control Board which is specifically laid down under Section 41of the said Act itself.

24. Being aggrieved by the order of this Hon'ble Tribunal dated 07.04.2021, Grasim Industries and this respondent filed appeals before the Hon'ble Supreme Court of India. By judgment dated 27.11. 2024, passed in Civil Appeal Nos. 1711-1712 of 2021 and 5158 of 2021, the Hon'ble Supreme Court held that the approach of the NGT in deciding the matter without impleading an affected party and passing its decision on an outsourced opinion of the experts is not permissible

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For LANXESS India Private Limited
Shajapur, Nagda (M.P.)

on the ground of violation of principle of natural justice. Accordingly, the appeals were allowed by quashing and setting aside the impugned order and remitting the matter back to this Hon'ble Tribunal for considering the matter afresh.

25. I state that the Annexures filed herewith are true copies of its respective originals.

26. I state that the contents of the affidavit are true and correct to the best of my knowledge and belief.

For LANXESS India Private Limited Bhagram, Nagda (M.P.)

DEPONENT

VERIFICATION

I, the abovenamed deponent do hereby state on solemn affirmation that the contents of the forgoing paras 1 to 26 are true and correct to my knowledge and I believe the same to be true and that nothing material has been concealed therefrom.

Verified at Nagda on this the 4th day of September, 2025.

For LANXESS India Private Limited Bhagram, Nagda (M.P.)

DEPONENT

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RAJKUMAR THAKUR
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246/1, Jawahar Marg,
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NOTARIAL

Rajkumar Thakur Notary Duly appointed and Authorised under Notaries Act. 53 of 1952 and notaries Rules 8(4) of the 1956 Residing at NAGDA do hear by Certify that

Place
Dist. Ujjain Teh. Nagda Jn. (M.P.)
Time 9.5 A.M A.M./P.M. at Serial No. 08 (750)

[illegible]

SOWRN BEFORE ME

Date 04 SEP 2025
Identified by [illegible]
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द्वारा पहचान की गई।

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★ RAJKUMAR THAKUR ★
B.Com, L.L.B.
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For LANXESS India Private Limited
Birlagram, Nagda (M.P.)

Consent Order

M.P. Pollution Control Board
E-5, Arera Colony
Paryavaran Parisar, Bhopal - 16 MP
Tele : 0755-2466191, Fax-0755-2463742

RED-LARGE	CCA-Re Apply	CONSENT NO: ***	PCB ID: 19244

Outward No:101121,01/10/2020 Consent No:AW-52229

NO: /MPPCB/UJJ

To,

The Occupier,
M/s. Lanxess India Private Limited,
256 to 261, Mehtwas, Birlagram, Nagda ,
Dist Ujjain,(M.P).

Sub: Grant of Consent to Operate under section 25 of the Water (Prevention & Control of Pollution) Act,1974 & under section 21 of the Air (Prevention & Control of Pollution) Act,1981

Ref: Your Consent to Operate Application Receipt No. 1018232 Dt. 23/09/2020 and last communication received on Dt. **30/09/2020.**

With reference to your above application for consent to operate has been considered under the aforesaid Acts and existing rules therein. The M. P. Pollution Control Board has agreed to grant consent up to **31/10/2021**, subject to the fulfillment of the terms & conditions, enclosed with this letter and-

SUBJECT TO THE FOLLOWING CONDITIONS :-

a. Location: 256 to 261, Mehtwas, Birlagram, Nagda , Dist Ujjain,(M.P).

b. The capital investment: Rs. 650.00 Crore

c. Product & Production Capacity:

S.No.	Product	CCA Qty / year	Applied Qty / year
1.	Benzal Chloride	32850.00 M.T	32850.00 M.T
2.	Benzaldehyde	19000.00 M.T	19000.00 M.T
3.	Benzyl Acetate	7200.00 M.T	7200.00 M.T
4.	Benzyl Alcohol	36000.00 M.T	36000.00 M.T
5.	Benzyl Benzoate	3000.00 M.T	3000.00 M.T
6.	Benzyl Chloride	54750.00 M.T	54750.00 M.T
7.	Cinnamaldehyde	3000.00 M.T	3000.00 M.T
8.	Di Benzyl Ether	3600.00 M.T	3600.00 M.T
9.	Sodium Benzoate	2500.00 M.T	2500.00 M.T
10.	Sulphur Di Chloride	12400.00 M.T	12400.00 M.T
11.	Sulphur Mono Chloride	9400.00 M.T	9400.00 M.T
12.	Thionyl Chloride	50000.00 M.T	50000.00 M.T
13.	Power Generation (Co Generation Plant) (45 TPH Boiler)	3.950 MWH	3.950 MWH
	By product/wastes *		
14.	**Hydrochloric Acid ***	**212400.00 M.T**	**212400.00 M.T**

Note:-

i) For any change in above industry shall obtain fresh consent from the board

ii) Products Benzyl Salicylate, Cinnamyl Alcohol and Hexyl Cinnamaldehyde are not produced by the unit till date, for production of these products prior permission has to be obtain from the Board. Remaining products are deleted from production list as their production has been stopped by industry.

*iii) * The hydrochloric acid generated from process shall be treated as hazardous wastes as per the mandatory directions issued by Central Pollution Control Board, (CPCB) Delhi on 19 Feb.2020 and communicated to you vide Board's directions letter dated 13.05.2020 and disposal of the same shall be ensured through actual users as per the provisions of the Hazardous and Other Wastes (Management & Transboundary Movement) Rules, 2016.*

iv) This consent under the Water & Air Act is granted to the industry without prejudice to the criminal proceeding pending against the industry in the Court of Law. This consent in no way is taken as measure of proof that industry has not vio[illegible]ol [illegible]ime in the past. Hence whatsoever may the decision of Hon'ble Court shall be binding on the ind[illegible]

The validity of the consent is up to **31/10/2021** and has to be renewed before expiry of consent validity. On[illegible] application through XGN with annual license fees in this regard shall be submitted to this office 6 months before expiry of the consent/Authorization.

Board reserves the right to amend/cancel / revoke the above condition in part or whole as and when required.

e-Signed On 01/10/2020 17:04:33
(Organic Authentication on AADHAR from UIDAI Server)
TPAV # 934U6O33RH

ACHYUT ANAND MISHRA
Member Secretary

Enclosures:-

* Conditions under Water Act
* Conditions under Air Act
* General conditions

CONDITIONS PERTAINING TO WATER (PREVENTION & CONTROL OF POLLUTION) ACT 1974 :-

1. The daily quantity of trade effluent of the unit shall not exceed 194.00 KL/day, and the daily quantity of sewage of the unit shall not exceed 31.00 KL/day

2. Trade Effluent Treatment:-
The applicant shall operate the effluent treatment system comprising ETP/RO/MEE/MVRE and maintain the same properly to achieve zero liquid discharge (ZLD) from the plant and in case of accidental discharge following standards shall be achieved-

Parameter	Standard	
pH	Between	5.5 – 9.0
Suspended Solids	Not exceed	100 mg/l.
BOD3 Days 27 °c	Not exceed	30 mg/l.
COD	Not exceed	250 mg/l.
Oil and grease	Not exceed	10 mg/l.

Parameter	Standard	
TDS	Not exceed	2100 mg/l.
Chlorides	Not exceed	1000 mg/l.

For other parameters general standards of discharge as notified under EP Act 1986 shall be applicable.

3. Sewage Treatment :- The applicant shall operate the sewage treatment system and maintain the same properly to achieve following standards and treated waste water shall be recycled within the plant -

Parameter	Standard	
pH	Between	6.5 – 9.0
Suspended Solids	Not exceed	100 mg/l.
BOD3 Days 27 °c	Not exceed	30 mg/l.
COD	Not exceed	250 mg/l.
Oil and grease	Not exceed	10 mg/l.

4. The effluent shall be treated up to prescribed Standards and reuse in the process, for cooling and for green belt devolvement/gardening within premises. Hence zero discharge condition shall be practiced. In no case treated effluent shall be discharged outside of industry/unit premises.

5. Water meter preferably electromagnetic/ultrasonic type with digital flow recording facilities shall be installed separately for category wise consumption of water for Industrial cooling/boiler feed, mine spray, process & domestic purposes and data shall be submitted online through XGN monthly patrak/statements. The industry/unit shall also monitor the treated wastewater flow and report the same online through monthly patrak/statements.

Sr	Water Code (Qty in Kilo Ltr per Day)	WC : 2882.00 KLD	WWG : 225.00 KLD	Water Source
1	Agriculture	70.000	0.000	Recycled
2	Boiler Feed	740.000	0.000	Local Body
3	Cooling Water	1450.000	166.000	Recycled
4	Domestic Purpose	60.000	31.000	Local Body
5	Mnfg Process	562.000	28.000	Recycled

6. Any change in production capacity, process, raw material used etc. and for any enhancement of the above prior permission of the Board shall be obtained. All authorized discharges shall be consistent with terms and conditions of this consent. Facility expansions, production increases or process modifications which result new or increased discharges of pollutants must be reported by submission of a fresh consent application for prior permission of the Board

7. All treatment/control facilities/systems installed or used by the applicant shall be regularly maintained in good working order and operate effectively/efficiently to achieve compliance of the terms and conditions of this consent

8. The specific effluent limitations and pollution control systems applicable to the discharge permitted herein are set forth as above conditions.

9. Compilation of Monitoring data-

i. Samples and measurements taken to meet the monitoring requirements specified above shall be representative of the volume and nature of monitored discharge.
ii. Following promulgation of guidelines establishing test procedures for the analysis of pollutants, all sampling and analytical methods used to meet the monitoring requirements specified above shall conform to such guidelines unless otherwise specified sampling and analytical methods shall conform to the latest edition of the Indian Standard specifications and where it is not specified the guidelines as per standard methods for the examination of Water and Waste latest edition of the American Public Health Association, New York U.S.A. shall be used.
iii. The applicant shall take samples and measurement to meet the monthly requirements specified above and report online through XGN the same to the Board.

10. Recording of Monitoring Activities & Results-
i. The applicant shall make and maintain online records of all information resulting from monitoring activities by this Consent.
ii. The applicant shall record for each measurement of samples taken pursuant to the requirements of this Consent as follows:

(i) The date, exact place and time of sampling
(ii) The dates on which analysis were performed
(iii)Who performed the analysis?
(iv)The analytical techniques or methods used and
(v)The result of all required analysis

iii. If the applicant monitors any Pollutant more frequently as is by this Consent he shell include the results of such monitoring in the calculation and reporting of values required in the discharge monitoring reports which may be prescribed by the Board. Such increased frequency shall be indicated on the Discharge Monitoring Report Form.
iv. The applicant shall retain for a minimum of 3 years all records of monitoring activities including all records of Calibration and maintenance of instrumentation and original strip chart regarding continuous monitoring instrumentation. The period of retention shall be extended during the course of any unresolved litigation regarding the discharge of pollutants by the applicant or when requested by Central or State Board or the court.

11. Reporting of Monitoring Results:-
Monitoring Information required by this Consent shall be summarized and reported by submitting a Discharge Monitoring report on line to the Board.

12. Limitation of discharge of oil Hazardous Substance in harmful quantities:-
The applicant shall not discharge oil or other hazardous substances in quantities defined as harmful in relevant regulations into natural water course. Nothing in this Consent shall be deemed to preclude the institution of any legal action nor relive the applicant from any responsibilities, liabilities, or penalties to which the applicant is or may be subject to clauses.

13. Limitation of visible floating solids and foam:
During the period beginning date of issuance the applicant shall not discharge floating solids or visible foam.

14. Disposal of Collected Solid waste/sludge-
All hazardous waste/sludge shall be disposed of as per the Authorization issued under Hazardous & other waste (M&TM) Rules 2016. And/other Solids Sludges, dirt, silt or other pollutant separated from or resulting from treatment shall be disposed of in such a manner as to prevent any pollutant from such materials from entering any such water Any live fish, Shall fish or other animal collected or trapped as a result of intake water screening or treatment may be returned to eaters body habitat.

15. Provision for Electric Power Failure-
The applicant shall assure to the consent issuing authority that the applicant has installed or provided for an alternative electric power source sufficient to operate all facilities utilized by the applicant to maintain compliance with the terms and conditions of the Consent.

16. Prohibition of By pass system of treatment facilities-
The diversion or by-pass of any discharge from facilities utilized by the applicant to maintain compliance with the terms and conditions of this Consent in prohibited except :
i. where unavoidable to prevent loss of life or severe property damage, or
ii. Where excessive storm drainage or run off would damage any facilities necessary for compliance with the terms and conditions of this Consent. The applicant shall immediately notify the consent issuing authorities in writing of each such diversion or by-pass in accordance with the procedure specified above for reporting non-compliance.

17. Industry/Institute/mine management shall submit the information online through XGN in reference to compliance of consent conditions.

Additional Water condition:-

1. The industry shall ensure the zero liquid discharge condition by treating the wastewater through ETP/STP, RO, MVRE and recycle & reuses this treated water in plant process and for cooling, gardening within the premises.
2. The waste sludge generated from water/alkali scrubbing is categories under HOWM Rules, 2016 shall be disposed to hazardous authorized actual users/vendors only.
3. The industry shall submit quarterly treated waste water analysis report to the Board/RO.
4. The industry shall display on the main gate the waste water generation and treated quantity details along with capacity of treatment system.

CONDITIONS PERTAINING TO AIR (PREVENTION & CONTROL OF POLLUTION) ACT 1981 :-

1. The applicant shall provide comprehensive air pollution control system consisting of control equipments with reference to generation of emission and same shall be operated & maintained continuously so as to achieve the level of pollutants to the following standards:-

Name of section	Capacity	Stack height(mtrs)	Fuel	Control equipment installed	PM, SO_X, NO_X (mg/Nm^3)
Incinerator (attached with boiler 3.5 TPH for steam generation)	375 kg/hr,	30	HSD-125 Kg/Hr	Scrubber,	PM – 50,HCI-50, SO_2 – 200, CO – 100,VOC – 20 NOx – 400,Cl2 - 15 Total dioxins and furans - 0.1 ng TEQ/Nm^3
Process (Alkali Scrubber(TC))	---	30	---		
Boiler (Steam Generation)	25 TPH	58	COAL-4.58 Ton/Hr	Hood Cover	50,200,300
Boiler (Power Plant)	45 TPH		Husk -10.91 MT & Coal- 1.05 MT		50,200,300
fire engine 1	350 KVA	10	HSD-45 Ltr/Hr	Not Applicable,	50,200,400
fire engine 2	150 KVA	6	HSD-25 Ltr/Hr	Acoustic enclosure,	
D.G. Sets	500 KVA	10	HSD-106 Ltr/Hr	Acoustic enclosure,	50,200,400
D.G. Sets	1000 KVA	30 (Common Stack)	HSD-765 Ltr/Hr	Acoustic enclosure,	
D.G. Sets	1250 KVA		HSD-765 Ltr/Hr	Acoustic enclosure	
D.G. Sets	1500 KVA		HSD-761 Ltr/Hr	Acoustic enclosure	
Biomass Handling System	---	4	---	Bag filter (100 Nos. of Bags)	PM-50
Boiler Coal Handling(25TPH)	---	8	---	Bag filter (64 Nos. of Bags)	PM-50
Water Scrubber (HCLTKF)	---	15	---	Scrubber,	HCL Fumes- 35

2. Ambient air quality at the boundary of the industry/unit premises shall be monitored and reported to the Board regularly on quarterly basis: The Ambient air quality norms are prescribed in MoEF gazette notification no. GSR/826(E), dated: 16/11/09. Some of the parameters are as follows:
   a. Particulate Matter (less than 10 micron) - 100 µg/m³ (PM10 µg/m³ 24 hrs. basis)
   b. Particulate Matter (less than 2.5 micron) - 60 µg/m³ (PM2.5 µg/m³ 24 hrs. basis)
   c. Sulphur Dioxide [SO2] (24 hrs. Basis) - 80 µg/m³
   d. Nitrogen Oxides [NOx] (24 hrs. Basis) - 80 µg/m³
   e. Carbon Monoxide [CO] (8 hrs. Basis) - 2000 µg/m³

3. The industry shall take adequate measures for control of noise level generated from industrial activities within the premises less than 75 dB(A) during day time and 70 dB(A) during night time.

4. Industry/Unit shall provide with each stack port hole with safe platform of 1 meter width with support & spiral ladder/ Stepped ladder with hand rail up to monitoring platform as per specifications given in part-III emission regulation of CPCB. In no case monkey ladder shall be allowed as stack monitoring facility.

5. The industry/unit shall make the necessary arrangements for control of the fugitive emission from any source of emission/section/activities.

6. All other fugitive emission sources such as leakages, seepages, spillages etc shall be ensured to be plugged or sealed or made airtight to avoid the public nuisance.

7. The industry/ unit shall ensure all necessary arrangements for control of odour nuisance from the industrial activities or process within premises

8. All the internal roads shall be made pucca to control the fugitive emissions of particulate matter generated due to transportation and internal movements. Good housekeeping practices shall be adopted to avoid leakages, seepages, spillages

etc.

9. Industry shall take effective steps for extensive tree plantation atleast in 03 rows of the local tree species with minimum spacing of 4X4 meter within or around the industry/unit premises for general improvement of environmental conditions and as stated in additional condition

Additional Air condition:-

1. The industry shall install the Continuous Emission Monitoring System CEMS on rest of all process stacks/vent (Water/alkali Scrubber) and make connectivity of the same with MPPCB, HO Bhopal within 03 Months from issued of the letter.
2. The industry shall maintain Continuous Emission Monitoring System (CEMS) at Boiler, incinerator, HCl scrubber/ alkali scrubber point and ensure continuous connectivity of the same with Environment Surveillance Centre , MPPCB HO Bhopal within 01 month from issued of the letter.
3. The industry shall make a covered storage yard for storage of husk to control fugitive emission generated due to fly of husk around the plant premises.
4. The industry shall make the boundary wall around the plant with adequate height to reduce fugitive emission of husk dust in around the plant.
5. The industry shall submit the air analysis report of all the emission/process stacks on quarterly basis to MPPCB

GENERAL CONDITIONS:

1. The non hazardous solid waste arresting in the industry/unit premises sweeping, etc. be disposed off scientifically so as not to cause any nuisance/pollution. The applicant shall take necessary permission from civic authorities for disposal to dumping site. If required.

Non Hazardous Solid wastes:-

Type of waste	Quantity MT/month	Disposal Mode
Fly Ash	3365.81 MT	Sale to authorized/consented party/As Per CPCB/MoEF Guide lines.
Packaging Material (Includes scraps of LDPE, Paper Scrap, Paper Scrap Wet, Plastic, Waste Paper, Wooden)	80.94 MT	

2. The applicant shall allow the staff of Madhya Pradesh Pollution Control Board and/or their authorized representative, upon the representation of credentials:

a. To inspect raw material stock, manufacturing processes, reactors, premises etc to perform the functions of the Board.

b. To enter upon the applicant's premises where an effluent source is located or in which any records are required to be kept under the terms and conditions of this Consent.

c. To have access at reasonable times to any records required to be kept under the terms and conditions of this Consent.

d. To inspect at reasonable times any monitoring equipment or monitoring method required in this Consent: or,

e. To sample at reasonable times any discharge or pollutants.

3. This consent / authorisation is transferable in nature, in case of any change in ownership / management, the new owner / partner / directors / proprietor shall immediately apply for the consent with new requisite information.

4. The issuance of this Consent does not convey any property rights in either real or personal property or any exclusive privileges, nor does it authorise any invasion of personal rights, nor any infringement of Central, State or local laws or regulations.

5. Industry shall install separate electric metering arrangement for running of pollution control devices and this arrangement shall be made in such fashion that any non functioning of pollution control devices shall immediately stop electric supply to the production and shall remain tripped till such time unless the pollution control device/devices are made functional. The record of electricity consumption for running of pollution control equipment shall be maintained and submitted to the Board every month

6. This consent is granted in respect of Water pollution control Act 1974 or Air Pollution Control act, 1981 only and does not relate to any other Department/Agencies. License required from other Department/Agencies have to be obtained by the unit separately and have to comply separately as per there Act / Rules.

7. Balance consent/authorisation fee, if any shall be recoverable by the Board even at a later date.

8. The applicant shall submit such information, forms and fees as required by the board not letter than 180 day prior to the date of expiration of this consent/authorisation

9. The industry/unit shall establish a separate environmental cell, headed by senior officer of the unit for reporting the environmental compliances. The industry/ Unit shall submit environmental statement for the previous year ending 31st March on or before 30th September every year to the Board.

10. Industry shall obtain membership of Emergency Response Center of the Board if needed.

11. Knowingly making any false statement for obtaining consent or compliance of consent conditions shall result in the imposition of criminal penalties as provided under the section 42(g) of the Water Act or section 38 (g) of the Air Act.

12. After notice and opportunity for the hearing, this consent may be modified, suspended or revoked by the Board in whole or in part during its term for cause including, but not limited to, the following :

(a) Violation of any terms and conditions of this Consent.
(b) Obtaining this Consent by misrepresentation of failure to disclose fully all relevant facts.
(c) A change in any condition that requires temporary or permanent reduction or elimination of the authorized discharge.

13. On violation of any of the above-mentioned conditions the consent granted will automatically be taken as canceled and necessary action will be initiated against the industry.

Additional condition:-

1. The industry shall ensure maintenance and uploading of data from "Outdoor HD Industrial grade IP (Internet Protocol) cameras with Pan-Tilt-Zoom (PTZ) feature, minimum focal length 5X with night vision facility and tamper proof mechanism" at suitable locations to display all emission sources and effluent discharge points and connect the same with Environment Surveillance Centre, M.P. Pollution Control Board Bhopal for remote surveillance within one month and intimate to the Board.
2. The industry shall ensure maintenance and uploading of data from online continuous effluent monitoring system and online continuous emission monitoring system and connect the same with Environment Surveillance Centre, M.P. Pollution Control Board Bhopal for remote surveillance.
3. The industry shall ensure disposal of HCI and other hazardous wastes to authorized disposal agency/actual users only and transported the same through authorized transporters as per CPCB guidelines.
4. The Industry shall submit the HCI generation and disposal details monthly to Board/RO. On violation of any of consent condition, legal action under Air/Water Act, shall be initiated against the industry.
5. The industry shall provide the single click link (without ID passwords) of GPS details of the HCL transportation vehicles to RO MPPCB Ujjain and ESC MPPCB for public display within one month.
6. The industry shall not engage any transporter which was found indulge in illegal transport/disposal of the HCl or transporters whose complaints are received.
7. The industry shall display the information on hazardous waste generated on notice board of size 6' x 4' (in Hindi & English) outside the unit main gate along with quantity and nature of hazardous chemicals being handled in the plant, including wastewater, air emission and hazardous wastes.
8. The industry shall comply with directions issued time to time by MPPCB/CPCB/MoEF&CC/Courts.
9. The industry shall comply with the directions regarding impact of pollution on health and ground water pollution assessment followed by remediation of the same.

Consent/authorization as required under the Water (Prevention & Control of Pollution) Act, 1974 & the Air (Prevention & Control of Pollution) Act,1981is granted to your industry subject to fulfillment of all the conditions mentioned above. For renewal purpose you shall have to make an application to this Board through XGN at least Six months before the date of expiry of this consent/authorisation. The applicant without valid consent (for operation) of the Board shall not bring in to use any outlet for the discharge of effluent and gaseous emission.

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ACHYUT ANAND MISHRA
Member Secretary

e-Signed On 01/10/2020 17:04:33
(Organic Authentication on AADHAR from UIDAI Server)
TPAV # 934U6O33RH

Consent No:AW-52229

MADHYA PRADESH POLLUTION CONTROL BOARD
Paryawaran Parisar, E-5, Arera Colony, Bhopal - 462 016 (M.P.)
Phone : (0755) 2466191/ 24664428 Fax : (0755) 24663742 E-mail : it_mppcb@rediffmail.com

No. 860 /HO/MPPCB/CPCB-Dir/2020 Bhopal, dt. 13/05 /2020

To,

The Occupier,
M/s. Lanxess India Pvt. Ltd.,
Birlagram Nagda,
Tehsil : Nagda, Dist : Ujjain, (M.P.)

SPEED POST

Sub: Direction under 33-A of Water (Prevention and Control of Pollution) Act 1974 –reg.
Ref: CPCB Directions to MPPCB vide letter B-29016/04/06/IPC-I/ February 19,2020

WHEREAS, you are operating an industry M/s. Lanxess India Pvt. Ltd., Birlagram Nagda, Tehsil : Nagda, Dist : Ujjain, (M.P.) against the provisions of Water (Prevention and Control of Pollution) Act, 1974 ; and

WHEREAS, M.P. Pollution Control Board has granted conditional consent u/s 25/26 of Water (Prevention and Control of Pollution) Act, 1974 and under section 21 of Air (Prevention and Control of Pollution) Act 1981; and

WHEREAS, CPCB has received a reference from Hon'ble Member of Parliament (Lok Sabha) Ujjain, Madhya Pradesh dated December 30, 2019 regarding water pollution in the river Chambal caused by industries located in Nagda region, Madhya Pradesh; and

WHEREAS, the Chambal river stretch from Nagda to Rampura has been identified by Central Pollution Control Board as polluted river stretch and Madhya Pradesh Pollution Control Board (MPPCB) has prepared an action plan for rejuvenation of river Chambal in compliance of the Hon'ble NGT order dated 20.09.2018 in the matter of O.A. 673/2018; and

WHEREAS, a team of officers from CPCB Head office Delhi and Regional office Bhopal along with a representative nominated by Hon'ble M.P. inspected the area during January 07.08.2020 to investigate the matter and observed the following :

a. The pH values found 5.9 & 5.5 at 02 locations of river Chambal i.e. 200m downstream after confluence of industrial domestic & 3.5 km downstream of river Chambal near Parmarkhedi village respectively, which indicate water is not fit for irrigation as per designated best use Water Quality Criteria.
b. High Level of Mercury in the range of 0.0025 mg/l 0.0364 mg/l (more than 0.001 mg/l) found in 06 water samples, Lead in the range of 0.015 mg/l, 0.375 mg/l (more than 0.01 mg) found in 7water samples & Aluminum in the range of 0.04 mg/l – 2.565 mg/l (more than 0.03 mg/l) found in 10 water samples collected from river Chambal, dug well(s) and hand pump(s) and which indicates water is not fit for drinking purpose as per BIS-10500:2012.
c. High level of Mercury in the range of 0.004 mg/l 0.0364 mg/l (more than 0.001 mg/l) found in 03 water samples, Lead 0.025 mg/l (more than 0.01mg/l) found in 03 water samples, & Aluminium in the range of 0.06 mg/l – 0.735 mg/l (more than 0.03 mg/l) found in 6 water samples collected and which indicates contamination with old secured land fill (SLF) containing mercury bearing brine sludge.
d. M/s. Grasim Industries Ltd., (Chemical Division) has installed peizometers in North & South direction of industry to assess any leakage from new SLF site and it was observed that river Chambal is flowing in West direction of industry.

MADHYA PRADESH POLLUTION CONTROL BOARD
Paryawaran Parisar, E-5, Arera Colony, Bhopal - 462 016 (M.P.)
Phone : (0755) 2466191/ 24664428 Fax : (0755) 24663742 E-mail : it_mppcb@rediffmail.com

e. A study was conducted by CSIR-NEERI, Hyderabad on "Assessment of groundwater quality in and around M/s. Grasim Industries Limited, (Chemical Division), Nagda in May 2018, which mentioned that lead concentration in the ground water samples many time higher than the desirable limits (0.01 mg/l) under BIS 10500:2012 at buffer zone of 5 km surrounding the industry.

f. M/s. Grasim Industries Ltd., (Chemical Division) and M/s. laxness India Pvt. Ltd., have achieved zero liquid discharge (ZLD).

g. High values of Sulphate i.e. 3161 mg/l was found in river Chambal water sample at downstream of the M/s. Grasim Industries Ltd., (staple Fiber Division) which due to discharge of industrial effluent after treatment to the industrial drain joining to river Chambal. M/s. Grasim Industries Ltd., (SFD) Nagda has submitted action plan to fulfill zero liquid discharge (ZLD) conditions till January 2021 & deposited bank guarantee of Rs. 15 crore to MPPCB, Bhopal on 30.11.2019. Currently, industry is restricted by MPPCB to discharge up to 12500 KLD.

h. The Municipal council of Nagda has prepared DPR of Rs. 61.40 Crore for the sewerage line & treatment of domestic waste water generated from Nagda Town. The project is pending for sanctioning & tendering in M.P. Urban Development Company Bhopal (MPUDC).

i. The water Resources Department, Ujjain informed that Barrage-Cum-diversion scheme of Rs. 64.14 Cr. is proposed at Ninawada Kheda (about 7 km downstream of Nagda town) and will be used for dilution purpose of polluted water coming from Nagda town.

j. The Public Health Engineering Department (PHED) & the M.P. Jal Nigam Maryadith Periyogna has prepared scheme of Rs. 29.29 Crore to supply potable water coming from Nagda town.

k. The Regional office, MPPCB has prepared & submitted a study project named "Study of Underground water quality in adjacent villages of River Chambal from village Pipoloda (Dist Ujjain) to village. Tal (Dist. Ratlam of Rs. 1.14 Crore for sanctioning from MPPCB, Bhopal Head Office.

WHEREAS, water quality of the surrounding area including river Chambal has been deteriorated due to the discharge of industrial effluent as well as domestic effluent; and

WHEREAS, in view of the above, CPCB in exercising the powers conferred to them under Section 18(1) (b) of the Water (Prevention & Control) of Pollution Act, 1974, has issued mandatory directions to Madhya Pradesh Pollution Control Board (MPPCB) to issue necessary directions u/s 33 A of the Water Act, 1974 to the industries of Nagda i.e. M/s. Grasim Industries Ltd., (Chemical Division) (ii). M/s. Grasim Industries Ltd., (SFD) (iii) Lanxess India Pvt. Ltd., and also to the local bodies of Madhya Pradesh for compliance.

In light of the above facts and mandatory directions of CPCB, now therefore in exercise of the power conferred upon under section 33 A of the Water (Prevention and Control of Pollution) Act 1974, you are hereby directed as follows :-

(i). The industry shall include their by-product acids in hazardous waste authorization immediately.

(ii) The industry shall not operate without valid Consent to Operate and control fugitive emission/odorous in ambience of plant premises by preventing leakages.

(iii) Industry shall maintain the installed PTZ camera and online flow meter at ETP area and remain connected with MPPCB server without failure.

MADHYA PRADESH POLLUITON CONTROL BOARD
Paryawaran Parisar, E-5, Arera Colony, Bhopal - 462 016 (M.P.)
Phone : (0755) 2466191/ 24664428 Fax : (0755) 24663742 E-mail : it_mppcb@rediffmail.com

(iv) Industry in consultation with the Public Health Engineering Department, Nagda shall ensure supply drinking water immediately in affected villages & help the PHED to identify and seal the water source where increased concentration was found in CSIR-NEERI (September 2019) report.

(v) The hazardous waste generated from the industry shall be transported only through GPS enable transport vehicles and MPPCB shall keep a vigil on the same.

(vi) Industry shall keep complete track record of acid and wastes generated in the unit and shall submit on monthly basis to Local administration to ensure vigil on illegal discharge of acid/industrial waste in river Chambal in closed co-ordination with Emergency Response Centre, MPPCB, Bhopal and Sub-regional office of MPPCB, Nagda.

(vii) Industry shall submit plan of remediation measures of ground water contamination in Nagda & adjacent villages immediately.

(viii) A detailed health study for Nagda region to be carried out in light of synergistic health effects of pollutant like Cl_2, HCl, VOCs etc. by engaging any reputed government institute working in the field of Research in Environmental Health in consultation with MPPCB and Regional Director, Health services within 6 months.

You are hereby directed to submit an action plan for the compliance of above directions within a period of 15 days from the date of issue of these directions failing which the interlia action shall be initiated against the industry and all responsible occupiers under section 41 of the Water (Prevention & Control of Pollution) Act, 1974.

For and on behalf of
M.P. Pollution Control Board.

(R.S. Kori)
Member Secretary

Copy to:

Endt. No. 861 /HO/MPPCB/CPCB-Dir/2020 Bhopal, dt. 13/05 /2020

1. Dr. Dattaprasad Govind Talekar, Whole Time Director, M/s. LANXESS House, Plot no: A 162-164, Road No 27, MIDC, Wagle Estate, Thane (W) – 400604 Maharashtra, India for compliance.
2. The Collector, Ujjain for information and necessary action please.
3. Sub-Divisional Magistrate, Nagda, District Ujjain for information and necessary action please.
4. The Executive Engineer, Public Health Engineering Department, Ujjain for information and necessary action please.
5. The Regional officer, Regional Office, M.P. Pollution Control Board, Ujjain, for information necessary action please.
6. Incharge, Legal Section, M.P. Pollution Control Board, Bhopal, for information please.

(R.S. Kori)
Member Secretary

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LANXESS
Energizing Chemistry

LXS/NGD/HSE/2020/155

Date : 27.05.2020

To,
The Member Secretory
M P Pollution Control Board
E-5, Arera Colony,
Prayavaran Parisar,
Bhopal – 462 016

Subject : Direction Under section 33-A of water (Prevention and Control of Pollution) Act 1974 – reg.

Reference : Your letter No. 860/HO/MPPCB /CPCB- Dir/2020.

Dear Sir,

Please refer to your above stated letter vide which we have been issued certain directions. We are submitting here our point wise reply to the directions along with the action plan .

Direction-1 The industry shall include their by-product acid in hazardous waste authorization immediately.

Reply With reference to our appeal filed to The Respected Principal Secretory – GoMP Environment Department, regarding to removal of the special note 03 from the issued hazardous waste authorization by the MPPCB and subsequent meeting held at the principal secretory Bhopal office on 11.02.2020. During the discussion, the respected Principal secretory had directed MPPCB to put up this case with CPCB to understand correct interpretation of the CPCB guidelines, keeping, LANXESS India Private Limited Nagda, in copy.

Further, we request you to provide the copy of CPCB direction given to MPPCB wherein CPCB has given direction for considering the byproduct hydrochloric acid to be include in hazardous waste authorization.

We had expressed our concern over and over again and also our fear that putting only our HCL in hazardous waste category and not enacting it at Pan India basis would jeopardize our operation & may even lead up to closure of our operation in Nagda .

We humbly request you to make us aware the technical basis adopted by CPCB to put HCL produced only by our Nagda site, in the hazardous waste category as we fail to understand why the HCL produced by us only falls under Haz waste category while the rest of Industries pan India are exempted from it .

LANXESS India Private Limited

Registered Office :
LANXESS House
Plot Nos. A 162-164
Road No. 27, MIDC
Wagle Estate
Thane (W) - 400 604
Maharashtra, India

Tel. + 91 22 2587 1000
Fax + 91 22 2587 1287
infoindia@lanxess.com
www.lanxess.in

CIN : U24119MH2004PTC158377

Works :
Birlagram, Nagda - 456 331
Madhya Pradesh, India

Tel. + 91 7366 245104, 248735, 245447
Fax + 91 7366 246283

LANXESS
Energizing Chemistry

Direction-2	(2a) The industry shall not operate without valid Consent to Operate and (2b) control fugitive emission/odorous in ambience of plant premises by preventing leakages.
Reply	2a. With reference to consent validity , we had applied on dated 27/11/2019 for renewal of our Air and Water consent which we presume could not be renewed because of the COVID issue . 2b . Regarding the fugitive emissions and odor in ambient air , we are in planning to implement Leak Detection and Repair (LDAR) program from August 2020, to prevent any leakages and repair. Further, we have installed gas detectors at the site to detect leakages of hydrocarbons. We have also installed Ambient Air monitoring and continuous emission monitoring system for incinerator in 2018.
Direction-3	Industry shall maintain the installed PTZ camera and online flow meter at ETP area and remain connected with MPPCB server without failure.
Reply	We have already installed PTZ camera at our ETP plant. Our plant is zero liquid discharge plant, therefore, online flow meter and connection to MPPCB server it is not applicable.
Direction-4	Industry in consultation with the Public Health Engineering Department, Nagda shall ensure supply drinking water immediately in affected villages & help the PHED to identify and seal the water source where increased concentration was found in CSIR-NEERI (September 2019) report.
Reply	We are running the plant by utilizing the sewage from the nearby colonies in our big capacity sewage treatment plant wherein sewage water is treated and recovered water is used in the process. We do not have independent source of drinking water and we ourselves are dependent on Municipal Corporation Nagda for our drinking water requirement. Hence, we seek your understanding that we are not in a position to supply drinking water to the affected villages. However, we would like to inform you that we have provided drinking water storage facility in nearby villages Bikampur, Takaravada, Bhagatpuri, Mahetwas under CSR over the years .
Direction-5	The hazardous waste generated from the industry shall be transported only through GPS enabled transport vehicles and MPPCB shall keep a vigil on the same.
Reply	The industry already is transporting all the hazardous waste through MPPCB authorized transporters vehicle only, which are equipped with GPS system linked with MPPCB server.

LANXESS
Energizing Chemistry

Direction-6	Industry shall keep complete track record of acid and wastes generated in the unit and shall submit on monthly basis to Local administration to ensure vigil on illegal discharge of acid/industrial waste in river Chambal in closed co-ordination with Emergency Response Center MPPCB , Bhopal and Sub-regional office of MPPCB, Nagda.
Reply	We are keeping the complete track record of acid and waste generated in the unit and we are already submitting the data of HCl and waste generation on monthly basis to the MPPCB. We shall also submit the same to Emergency Response Center MPPCB, Bhopal and Sub-regional office of MPPCB, Nagda.
Direction-7	Industry shall submit plan of remediation measures of ground water contamination in Nagda and adjacent villages immediately.
Reply	As we are "zero liquid discharge" facility from 2012, we are not discharging any treated waste water outside of our factory premises. Further, since inception our factory has not used any heavy metals Mercury, lead or Arsenic, hence we request you to absolve us from this direction.
Direction-8	A detailed health study for Nagda region to be carried out in light of synergistic health effects of pollution like CL2, HCL, VOCs etc. by engaging any reputed government institute working in the field of Research in Environmental Health in consultation with MPPCB and Regional Director, Health Services within 6 months.
Reply	We, along with neighboring industries, shall conduct the detailed health study of the Nagda region by engaging a reputed government institute working in the field of Research in Environmental Health in consultation with MPPCB and Regional Director, Health Services by end of next year due to COVID pandemic situation. In this connection, we would also request you to communicate this requirement to the industries in Nagda to carry it out as a collaborative way.

Thanking you

Yours faith fully

For Lanxess India Private limited

Sanjay Singh
Vice President – Manufacturing.
Email – sanjayk.singh@lanxess.com

CC: The Regional Office, MP Pollution Control Board, 17 Bharatpuri, Ujjain (M.P.)

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M.P. Pollution Control Board
E-5, Arera Colony
Paryavaran Parisar, Bhopal - 16 MP
Tele : 0755-2466191, Fax-0755-2463742

ANNEXURE - D

Authorization Order

RED-MEDIUM	CCA-Expansion	VALIDITY (H): 10/01/2021	CONSENT NO: ***	PCB ID: 19244

NO: /MPPCB/UJJ **Dated: 07/01/2016**

To,

M/s. Lanxess India Private Limited,
256 to 261, Mehtwas, Birlagram, Nagda , Dist Ujjain,
Mehtwas, Birlagram, Nagda , Dist. Ujjain,City : NAGDA,
Dist : Ujjain, Tal : Nagda, SIDC : I/A Mehatwas Nagda

Subject: Grant of Authorization under Hazardous Waste (Management handling & Transboundary movement) Amended Rule, 2008

Ref: Your Application Receipt No. 132448 Dt. 23/11/2015 and last communication received on Dt.17/11/2015

With reference to your above application has been considered under the aforesaid Acts and existing rules therein. The M. P. Pollution Control Board has agreed to Authorisation Up to 10/01/2021, subject to the fulfillment of the terms & conditions, enclosed with this letter.

Note: ***This consent in no way be taken as measures of proof that project proponent has not violated any pollution control laws at any time proponent in the past. This consent is being granted to the industry without prejudice to the legal proceedings pending against the project in the Court of Law. Hence, whatsoever may be the decision of Hon'ble Court shall be binding to the industry and this Board.***

SUBJECT TO THE FOLLOWING CONDITIONS :-

a. Location: 256 to 261 Mehtwas, Birlagram, Nagda , Dist Ujjain

b. The capital investment in lakhs: 65000

Enclosures:-

* Conditions under Hazardous Rules
* General conditions

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Digitally Sign with Aadhaar

ACHYUT ANAND MISHRA
Member Secretary
e-Signed On 07/02/2016 20:15:44
(Organic Authentication on AADHAR from UIDAI Server)
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M.P. Pollution Control Board
E-5, Arera Colony
Paryavaran Parisar, Bhopal - 16 MP
Tele : 0755-2466191, Fax-0755-2463742

Authorization Order

CONDITIONS PERTAINING TO HAZARDOUS WASTE (MANAGEMENT, HANDLING AND TRANSBOUNDARY MOVEMENT) RULES 2008:-

[See rule 5 (4)] **FORM-2**

FORM FOR GRANT/RENEWAL OF AUTHORISATION BY M.P. POLLUTION CONTROL BOARD FOR OCCUPIERS, RE-USERS AND OPARATORS OF FACILITIES FOR COLLECTION, TREATMENT, STORAGE, TRANSPORT, AND DISPOSAL OF HAZARDOUS WASTE

1. The operator of facility, i.e. occupier Lanxess India Private Limited is hereby granted the authorization to operate a facility for collection, reception, treatment, storage, transport and dispose of Hazardous waste to be generated and disposed to the tune mentioned in table below on the premises situated at 256 to 261, Mehtwas, Birlagram, Nagda , Dist Ujjain Mehtwas, Birlagram, Nagda , Dist. Ujjain, NAGDA , Nagda, Ujjain, Phone No. 07366245104

2. The authorization granted to operate a facility for generation, collection, reception, storage and transport of hazardous waste

Hazardous Waste	Waste Stream	Qty/Year	Method of Disposal
Distillation Residues	-20.3	4200.000-M.T	At Captive Incinerator or M.P. Waste Management Project, Pithampur, Dist. Dhar (M.P.)
Chemical-Containing Residue arising from Decontamination	I -33.1	5.000-M.T	At Captive Incinerator or M.P. Waste Management Project, Pithampur, Dist. Dhar (M.P.)
Sludge From Treatment Of Waste Water Arising Out of Cleaning of Barrels containers	I -33.2	5.000-M.T	M.P. Waste Management Project, Pithampur, Dist. Dhar (M.P.)
Discarded Containers / Barrels / Liners contaminated with Hazardous Wastes/Chemicals	I -33.3	10.000-M.T	Return back to supplier/Sale to authorized vender/recycler registered with SPCB.
spent ion exchange resin containing toxic chemicals	I -34.2	8.000-M.T	M.P. Waste Management Project, Pithampur, Dist. Dhar (M.P.)
Chemical Sludge From Waste Water Treatment (ETP Sludge)	I -34.3	1500.000-M.T	M.P. Waste Management Project, Pithampur, Dist. Dhar (M.P.)
Chemical Sludge From Waste Water Treatment (Salt from Evaporator)	I -34.3	2000.000-M.T	M.P. Waste Management Project, Pithampur, Dist. Dhar (M.P.)
Filters And Filter Material Which Have Organic Liquids In them	I -35.1	20.000-M.T	M.P. Waste Management Project, Pithampur, Dist. Dhar (M.P.)
Filters And Filter Material Which Have Organic Liquids in them (Process Waste)	I -35.1	500.000-M.T	M.P. Waste Management Project, Pithampur, Dist. Dhar (M.P.)
Spent Carbon	I -35.3	10.000-M.T	M.P. Waste Management Project, Pithampur, Dist. Dhar (M.P.)
Ash From Incineration Of Hazardous Waste,Flue Gas Cleaning Residues	I -36.2	0.500-M.T	M.P. Waste Management Project, Pithampur, Dist. Dhar (M.P.)
Used Spent Oil	I -5.1	6.000-M.T	To be sold to authorized recycler registered with CPCB/SPCB.
Wastes Residues Containing Oil	I -5.2	5.000-M.T	At Captive Incinerator or M.P. Waste Management Project, Pithampur, Dist. Dhar (M.P.)

3. The waste specified under hazardous waste stream as mentioned above shall be stored as per MoEF and CPCB guidelines issued time to time and disposed off as indicated in above table at SL. No. 3 as Hazardous Waste (Management handling & Transboundary movement) Amended Rule, 2008 sub Rule 7 (1).

4. The authorization shall be in force for a period of Five years from 11/01/2016~10/01/2021.

5. The industry shall take all the steps wherever required, for reduction of the waste generated or for recycling or reuse.

6. The industry shall display the information on hazardous waste generated on notice board of size 6' x 4' (in Hindi & English) outside the unit main gate along with quantity and nature of hazardous chemicals being handled in the plant, including wastewater, air emission and hazardous wastes.

7. The authorisation is subject to the terms & conditions as given below and to such conditions as may be specified in the rules for the time being in force under the Environment (Protection) Act, 1986. Violation of any of the conditions shall be

Authorization Order

liable for legal action as per provisions under Environment (Protection) Act, 1986.

Terms and Condition Of Authorisation

1. The authorisation shall comply with the provision of Environment (Protection) Act, 1986 and the rules made there under.

2. The authorisation or its renewal shall be produced during inspection on the request of the inspecting officer authorized by the State Pollution Control Board.

3. The authorized person shall not rent, lend, sale, transfer or otherwise transport the hazardous wastes without obtaining prior permission of the State Pollution Control Board.

4. If the industry comes in such a category where insurance under Public Liability Insurance Act, is necessary, the industry shall comply with provision and submit a copy of the policy to the Board.

5. Any unauthorized change in production capacity, process, raw materials, personnel, equipments etc. as mentioned in the application by the person authorized shall constitute a breach of this authorisation.

6. The unit should maintain the records of hazardous wastes as per the Form-3 of rule 9 (1) and should online submit the annual return in Form No.4 as per the rule 9 (2) to this office on or before 31st January every year.

7. Details of auction/sale of non–ferrous hazardous waste should be submitted online in form no.13 to this office annually.

8. An on-site storage for waste for a maximum period of one year or a maximum quantity of 10 MT, whichever is less, should be provided and it shall be ensured that there is no leakage or seepage or spillage from surrounding walls or bottom. The site should be covered and properly protected to prevent the entry of rainwater in storage area.

9. It is the duty of authorized person to take prior permission of the M.P. Pollution Control Board to close down the facility.

10. The information regarding quantity of hazardous wastes generated and its analysis report should be sent to the Board online quarterly.

11. Hazardous Waste Storage Site & Danger signboard shall be provided with all safety devices at the storage site.

12. The authorized person should inform the name and address of the contact person responsible for hazardous waste management.

13. In case of importing Hazardous Waste, occupier shall apply to the M.P. Pollution Control Board, 180 days in advance in Form-6, for permission to import of the waste as per Rule 13 (i) of Hazardous Waste (Management, Handling and Transboundary Movement) Rules 2008 as amended up to date.

14. In the event of any accident due to handling of hazardous wastes, the authorized person must inform immediately to the Regional Office & Head office of the board on Fax/telephone/email-it_mppcb@rediffmail.com about the incident and detail report should be sent in Form No.5 as per rule –10 of Hazardous Waste (Management, Handling and Transboundary Movement) Rules 2008 as amended up to date.

Additional Haz condition:- (if any) :-

1. The authorization issued vide this office letter No. 1236 dt. 17.11.2014 shall be treated as cancelled.

Incineration of Hazardous Wastes

2.. (i) The incinerator should meet the norms and monitoring schedule decided by the CPCB, New Delhi as per "Guidelines for common Hazardous Waste Incineration" (Series HAZWAMS/30/2005-06).

(ii) Emissions from incinerator should confirm the emission limits prescribed by MoEF in. Environment (Protection) Second Amendment Rules 2009 published in Gazette of India dated 04.03.09.

Authorization Order

(iii) During incineration of hazardous wastes the operation condition such as temperature, air feed rate, retention time etc. must be met out to achieve complete destruction of wastes and to avoid generation of toxic emission.

(iv) Incinerator shall be attached with efficient scrubbing system or particulate trap device to nullify the effects of pollutants generated during incineration.

(v) Submit the monitoring report of pollutants arising due to incineration process. If the emissions are not within threshold limit then a scrubber or a particulate trap device may be attached with the incinerator to nullify the effects or toxic emissions from incinerator.

(vi) Generated incinerated ash should be analyzed after each shift of generation to ensure that ash is not toxic in nature. Non toxic incinerated ash shall be stored and disposed off in secured disposal facility.

(vii) The occupier or operator of a facility shall also comply with the terms& conditions laid down in the permission issued for establishment of captive on-site incineration facility.

(viii) The authorized person shall follow the guidelines of Mr. R. K. Garg Committee title as "Storage of incinerable hazardous wastes by the operators of Common Hazardous Wastes Treatment, Storage and Disposal Facilities and captive H.W. incinerators". Published by CPCB - Hazardous Waste Management Series : HAZWAMS/2005-2006.

GENERAL CONDITIONS:

1. The non hazardous solid waste arresting in the industry/unit/unit premises sweeping, etc. be disposed off scientifically so as not to cause any nuisance/pollution. The applicant shall take necessary permission from civic authorities for disposal to dumping site. If required.

Non Hazardous Solid wastes:-

Type of waste	Quantity	Disposal
Scrap/ Plastic packing material wood, card board, gunny begs etc		Sold Off

2. The applicant shall allow the staff of Madhya Pradesh Pollution Control Board and/or their authorized representative, upon the representation of credentials:

a. To inspect raw material stock, manufacturing processes, reactors, premises etc to perform the functions of the Board.

b. To enter upon the applicant's premises where an effluent source is located or in which any records are required to be kept under the terms and conditions of this Consent.

c. To have access at reasonable times to any records required to be kept under the terms and conditions of this Consent.

d. To inspect at reasonable times any monitoring equipment or monitoring method required in this Consent: or,

e. To sample at reasonable times any discharge or pollutants.

3. This consent/authorisation is transferable, in case of change of ownership/management and addresses of new Owner/partner/Directors/proprietor should immediately apply for the sam

4. The issuance of this Consent does not convey any property rights in either real or personal property or any exclusive privileges, nor does it authorise any invasion of personal rights, nor any infringement of Central, State or local laws or regulations.

5. This consent is granted in respect of Water pollution control Act 1974 or Air Pollution Control act, 1981 or Authorization under the provisions of HW (M, H & T) Rules 2008 only and does not relate to any other Department/Agencies. License required from other Department/Agencies have to be obtained by the unit separately and have to comply separately as per there Act / Rules.

6. Balance consent/authorisation fee, if any shall be recoverable by the Board even at a later date.

7. The applicant shall submit such information, forms and fees as required by the board not letter than 180 day prior to the date of expiration of this consent/authorisation

8. Knowingly making any false statement for obtaining consent or compliance of consent conditions shall result in the imposition of criminal penalties as provided under the section 42(g) of the Water Act or section 38 (g) of the Air Act.

M.P. Pollution Control Board
E-5, Arera Colony
Paryavaran Parisar, Bhopal - 16 MP
Tele : 0755-2466191, Fax-0755-2463742

Authorization Order

9. After notice and opportunity for the hearing, this consent may be modified, suspended or revoked by the Board in whole or in part during its term for cause including, but not limited to, the following :

(a) Violation of any terms and conditions of this Consent.
(b) Obtaining this Consent by misrepresentation of failure to disclose fully all relevant facts.
(c) A change in any condition that requires temporary or permanent reduction or elimination of the authorized discharge.

10. On violation of any of the above-mentioned conditions the consent granted will automatically be taken as canceled and necessary action will be initiated against the industry.

Additional condition:- (if any) :-

Incineration of Hazardous Wastes

1. (i) The incinerator should meet the norms and monitoring schedule decided by the CPCB, New Delhi as per "Guidelines for common Hazardous Waste Incineration" (Series HAZWAMS/30/2005-06).

(ii) Emissions from incinerator should confirm the emission limits prescribed by MoEF in. Environment (Protection) Second Amendment Rules 2009 published in Gazette of India dated 04.03.09.

(iii) During incineration of hazardous wastes the operation condition such as temperature, air feed rate, retention time etc. must be met out to achieve complete destruction of wastes and to avoid generation of toxic emission.

(iv) Incinerator shall be attached with efficient scrubbing system or particulate trap device to nullify the effects of pollutants generated during incineration.

(v) Submit the monitoring report of pollutants arising due to incineration process. If the emissions are not within threshold limit then a scrubber or a particulate trap device may be attached with the incinerator to nullify the effects or toxic emissions from incinerator.

(vi) Generated incinerated ash should be analyzed after each shift of generation to ensure that ash is not toxic in nature. Non toxic incinerated ash shall be stored and disposed off in secured disposal facility.

(vii) The occupier or operator of a facility shall also comply with the terms& conditions laid down in the permission issued for establishment of captive on-site incineration facility.

(viii) The authorized person shall follow the guidelines of Mr. R. K. Garg Committee title as "Storage of incinerable hazardous wastes by the operators of Common Hazardous Wastes Treatment, Storage and Disposal Facilities and captive H.W. incinerators". Published by CPCB - Hazardous Waste Management Series : HAZWAMS/2005-2006.

Authorization as required under the Hazardous Waste (Management handling & Transboundary movement) Amended Rule, 2008 is granted to your industry subject to fulfillment of all the conditions mentioned above. For renewal purpose you shall have to make an application to this Board through XGN at least Six months before the date of expiry of this Authorisation. The applicant without valid Authorisation (for operation) of the Board shall not bring in to use any outlet for the discharge of effluent and gaseous emission.

For and on behalf of
M.P. Pollution Control Board

Achyut mishra

(Member Secretary)

M.P. Pollution Control Board
E-5, Arera Colony
Paryavaran Parisar, Bhopal - 16 MP
Tele : 0755-2466191, Fax : 0755-2463742

Authorization Order

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ACHYUT ANAND MISHRA
Member Secretary
e-Signed On 07/02/2016 20:15:44
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M.P. Pollution Control Board
E-5, Arera Colony
Paryavaran Parisar, Bhopal - 16 MP
Tele : 0755-2466191, Fax 0755-2463742

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ANNEXURE - E

Authorization Order

Outward No. 89895,20/11/2019 RED LARGE	CCA-Re Apply	CONSENT NO. ** Consent No.II-50734	PCB ID: 19244

To,

The Occupier,
M/s. Lanxess India Private Limited,
Plot No. 256 to 261, Vill. Mehtwas,
Birlagram, Nagda ,
Dist Ujjain PIN- 456331 (M.P.)

Subject: Grant of Authorization under Hazardous and other Waste (Management & Transboundary Movement) Rule, 2016

Ref: Your Application Receipt No. 858703 Dt. 16/08/2019 and last communication received on Dt.05/11/2019.

With reference to your above subject, the application has been considered under the aforesaid Acts and existing rules therein. The M. P. Pollution Control Board has agreed to grant Authorisation under Hazardous and other Waste (Management & Transboundary Movement) Rule, 2016 Up to **31/08/2024**, subject to the fulfillment of the provisions of the rule & CPCB guidelines issue in this regard alongwith terms & conditions, enclosed with this letter

SUBJECT TO THE FOLLOWING CONDITIONS :-

a. Location: 256 to 261, Mehtwas, Birlagram, Nagda , Dist Ujjain (M.P.)

b. The capital investment in lakhs: Rs. 650 Crs

Enclosures:-

* Conditions under Hazardous Rules
* General conditions

Note :-

(1) This authorization is being granted without prejudice to the Criminal proceeding pending against the industry in the Court of Law. This authorization in no way be taken as measures of proof that the industry has not violated any pollution control laws at any time in the past. Hence, whatsoever may be decision of the Hon'ble Court shall be binding to the industry and this Board.

(2) The hydrochloric acid generated from control arrangement shall be treated as hazardous waste and same shall be handled and transported as per category 35.1 of the Hazardous and Other Wastes (Management & Transboundary Movement Rules, 2016.

(30 The industry shall handle and manage the HCl (Hydro Chloric Acid) generated from the process and scrubbing - Air Pollution control arrangements as hazardous waste as per CPCB guidelines and record in this regard shall be maintained as per Hazardous and other Waste (Management & Transboundary Movement) Rule, 2016

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e-Signed On 20/11/2019 14:10:25
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R.S. KORI
Member Secretary

M.P. Pollution Control Board
E-5, Arera Colony
Paryavaran Parisar, Bhopal - 16 MP
Tele : 0755-2466191, Fax 0755-2463742

Authorization Order

CONDITIONS PERTAINING TO THE HAZARDOUS AND OTHER WASTES (MANAGEMENT AND TRANSBOUNDARY MOVEMENT) RULES, 2016:-

FORM-2
[See rule 6 (2)]

FORM FOR GRANT OR RENEWAL OF AUTHORISATION BY STATE POLLUTION CONTROL BOARD TO THE OCCUPIERS, RECYCLERS, REPROCESSORS, REUSERS, USER AND OPERATORS OF DISPOSAL FACILITIES

1. Number of authorisation and date of issue :

2. Reference of application (No. and date) : **COR-858703, dt: 16/08/2019**

3. The Occupier, of M/s. Lanxess India Private Limited is hereby granted an authorisation based on the enclosed signed inspection report for generation, collection, reception, storage, transport, reuse, recycling, recovery, pre-processing, co-processing, utilisation, treatment, disposal or any other use of hazardous or other wastes or both on the premises situated at 256 to 261, Vill. Mehtwas, Birlagram, Tehsil Nagda , Dist Ujjain , PIN - 456331, (M.P.)

Details of Authorisation

S.No.	Category of Hazardous Waste as per the Schedules I, II and III of these rules	Authorised mode of disposal or recycling or utilisation or co-processing, etc.	Quantity (ton/annum)
1.	Used or Spent Oil (I-5.1)	To be sold to authorized Re-processors/ Recycler authorized with SPCB.	6.000-M.T
2.	Oily rages/DG-filters etc. (I-5.2)	M.P. Waste Management Project, Pithampur, Dist. Dhar (M.P.) or pre processing or Co-processing.	0.600 M.T.
3.	Chemical-containing residue Arising from decontamination. (I-34.1)	M.P. Waste Management Project, Pithampur, Dist. Dhar (M.P.) or pre processing.	5.000-M.T
4.	Sludge From Treatment Of Waste Water Arising Out Of Cleaning / Disposal Of Barrels / Containers (I-34.2)	M.P. Waste Management Project, Pithampur, Dist. Dhar (M.P.) or pre processing.	5.000-M.T
5.	Empty barrels/containers/liners contaminated with hazardous chemicals /wastes (I-33.1)	At Captive Incinerator or M.P. Waste Management Project, Pithampur, Dist. Dhar (M.P.) or To be sold to authorized Re-processors/ Recycler authorized with SPCB.	10.000-M.T
6.	Ash from incinerator and flue gas cleaning residue (I-37.2)	M.P. Waste Management Project, Pithampur, Dist. Dhar (M.P.) or pre processing .	0.500-M.T
7.	Chemical sludge from waste water treatment (I-35.3)	M.P. Waste Management Project, Pithampur, Dist. Dhar (M.P.) or pre processing .	2000.000-M.T
8.	Spent ion exchange resin containing toxic metals (I-35.2)	M.P. Waste Management Project, Pithampur, Dist. Dhar (M.P.) or pre processing .	8.000-M.T
9.	Distillation Residues (I--20.3)	At Captive Incinerator or M.P. Waste Management Project, Pithampur, Dist. Dhar (M.P.) or pre processing	5200.000-M.T
10.	Chemical sludge from waste water treatment (I-35.3)	M.P. Waste Management Project, Pithampur, Dist. Dhar (M.P.) or pre processing with due permission from the disposal destination SPCB.	1500.000-M.T
11.	Any process or distillation residue (I-36.1)	CTSDF/Pre-processing.	3800.00 MT
12.	Any process or distillation residue (I-36.1)	Captive Incinerator/CTSDF/Pre-processing.	2300.00 MT
13.	Any process or distillation residue (I-36.1)	CTSDF/Pre-processing	5200.00 MT
14.	Spent Carbon or filter medium (I-36.2)	M.P. Waste Management Project, Pithampur, Dist. Dhar (M.P.) or pre processing .	510.000-M.T
15.	Exhaust Air or Gas cleaning residue (I-35.1)	M.P. Waste Management Project, Pithampur, Dist. Dhar (M.P.) or pre processing .	6000.000-M.T
16.	Oil And Grease, Skimming (I-35.4)	M.P. Waste Management Project, Pithampur, Dist. Dhar (M.P.) or pre processing .	5.000-M.T

M.P. Pollution Control Board
E-5, Arera Colony
Paryavaran Parisar, Bhopal - 16 MP
Tele : 0755-2466191, Fax 0755-2463742

Authorization Order

(1) The authorisation shall be valid for a period of **01/09/2019~31/08/2024**

(2) The authorisation is subject to the following general and specific conditions (Please specify any conditions that need to be imposed over and above general conditions, if any):

Incineration of Hazardous Wastes :

(i) The incinerator should meet the norms and monitoring schedule decided by the CPCB, New Delhi as per "Guidelines for common Hazardous Waste Incineration" (Series HAZWAMS/30/2005-06).
(ii) Emissions from incinerator should confirm the emission limits prescribed by MoEF in. Environment (Protection) Second Amendment Rules 2009 published in Gazette of India dated 04.03.09.
(iii) During incineration of hazardous wastes the operation condition such as temperature, air feed rate, retention time etc. must be met out to achieve complete destruction of wastes and to avoid generation of toxic emission.
(iv) Incinerator shall be attached with efficient scrubbing system or particulate trap device to nullify the effects of pollutants generated during incineration.
(v) Submit the monitoring report of pollutants arising due to incineration process. If the emissions are not within threshold limit then a scrubber or a particulate trap device may be attached with the incinerator to nullify the effects or toxic emissions from incinerator.
(vi) Generated incinerated ash should be analyzed after each shift of generation to ensure that ash is not toxic in nature. Non toxic incinerated ash shall be stored and disposed off in secured disposal facility.
(vii) The occupier or operator of a facility shall also comply with the terms& conditions laid down in the permission issued for establishment of captive on-site incineration facility.
(viii) The authorized person shall follow the guidelines of Mr. R. K. Garg Committee title as "Storage of incinerable hazardous wastes by the operators of Common Hazardous Wastes Treatment, Storage and Disposal Facilities and captive H.W. incinerators". Published by CPCB - Hazardous Waste Management Series : HAZWAMS/2005-2006.

A. General conditions of authorisation:

1. The authorised person shall comply with the provisions of the Environment (Protection) Act, 1986, and the rules made there under.

2. The authorisation or its renewal shall be produced for inspection at the request of an officer authorised by the State Pollution Control Board.

3. The person authorised shall not rent, lend, sell, transfer or otherwise transport the hazardous and other wastes except what is permitted through this authorisation.

4. Any unauthorised change in personnel, equipment or working conditions as mentioned in the application by the person authorised shall constitute a breach of his authorisation.

5. The person authorised shall implement Emergency Response Procedure (ERP) for which this authorisation is being granted considering all site specific possible scenarios such as spillages, leakages, fire etc. and their possible impacts and also carry out mock drill in this regard at regular interval of time;

6. The person authorised shall comply with the provisions outlined in the Central Pollution Control Board guidelines on Implementing Liabilities for Environmental Damages due to Handling and Disposal of Hazardous Waste and Penalty

7. It is the duty of the authorised person to take prior permission of the State Pollution Control Board to close down the facility.

8. The imported hazardous and other wastes shall be fully insured for transit as well as for any accidental occurrence and its clean-up operation.

M.P. Pollution Control Board
E-5, Arera Colony
Paryavaran Parisar, Bhopal - 16 MP
Tele : 0755-2466191, Fax 0755-2463742

Authorization Order

9. The record of consumption and fate of the imported hazardous and other wastes shall be maintained.

10. The hazardous and other waste which gets generated during recycling or reuse or recovery or pre-processing or utilisation of imported hazardous or other wastes shall be treated and disposed of as per specific conditions of authorisation.

11. The importer or exporter shall bear the cost of import or export and mitigation of damages if any.

12. An application for the renewal of an authorisation shall be made as laid down under these Rules.

13. Any other conditions for compliance as per the Guidelines issued by the Ministry of Environment, Forest and Climate Change or Central Pollution Control Board from time to time.

14. Annual return shall be filed by June 30th for the period ensuring 31st March of the year.

15. The non hazardous solid waste arresting in the industry/unit/unit premises sweeping, etc. be disposed off scientifically so as not to cause any nuisance/pollution. The applicant shall take necessary permission from civic authorities for disposal to dumping site. If required.

B. Specific conditions:

1. The industry shall display the information on hazardous waste generated on notice board of size 6' x 4' (in Hindi & English) outside the unit main gate along with quantity and nature of hazardous chemicals being handled in the plant, including wastewater, air emission and hazardous wastes.

2. The authorisation or its renewal shall be produced for inspection at the request of an officer authorised by the State Pollution Control Board.

3. The industry shall comply with the provisions of guidelines issued by CPCB for identifying the wastes and by products.

4. The industry shall comply with the provisions of transportation and manifest system for hazardous wastes in accordance with CPCB transportation guidelines.

M.P. Pollution Control Board
E-5, Arera Colony
Paryavaran Parisar, Bhopal - 16 MP
Tele : 0755-2466191, Fax 0755-2463742

Authorization Order

GENERAL CONDITIONS :-

Non Hazardous Solid wastes:-
The non hazardous solid waste arresting in the industry/unit/unit premises sweeping, etc. be disposed off scientifically so as not to cause any nuisance/pollution. The applicant shall take necessary permission from civic authorities for disposal to dumping site. If required.
.

Type of waste	Quantity	Disposal
Scrap/ Plastic packing material wood, card board, gunny begs etc		Sale to authorized party/As Per CPCB. MoEF Guide lines.

2. The applicant shall allow the staff of Madhya Pradesh Pollution Control Board and/or their authorized representative, upon the representation of credentials:
   a. To inspect raw material stock, manufacturing processes, reactors, premises etc to perform the functions of the Board.
   b. To enter upon the applicant's premises where an effluent source is located or in which any records are required to be kept under the terms and conditions of this Consent.
   c. To have access at reasonable times to any records required to be kept under the terms and conditions of this Consent.
   d. To inspect at reasonable times any monitoring equipment or monitoring method required in this Consent: or,
   e. To sample at reasonable times any discharge or pollutants.

3. This consent/authorisation is transferable, in case of change of ownership/management and addresses of new Owner/partner/Directors/proprietor should immediately apply for the same.

4. The issuance of this Consent does not convey any property rights in either real or personal property or any exclusive privileges, nor does it authorise any invasion of personal rights, nor any infringement of Central, State or local laws or regulations.

5. This consent is granted in respect of Water pollution control Act 1974 or Air Pollution Control act, 1981 or Authorization under the provisions of Hazardous and other Waste (Management & Transboundary movement) Rules 2016 only and does not relate to any other Department/Agencies. License required from other Department/Agencies have to be obtained by the unit separately and have to comply separately as per there Act / Rules.

6. Balance consent/authorisation fee, if any shall be recoverable by the Board even at a later date.

7. The applicant shall submit such information, forms and fees as required by the board not letter than 180 day prior to the date of expiration of this consent/authorisation

8. Knowingly making any false statement for obtaining consent or compliance of consent conditions shall result in the imposition of criminal penalties as provided under the section 42(g) of the Water Act or section 38 (g) of the Air Act.

9. After notice and opportunity for the hearing, this consent may be modified, suspended or revoked by the Board in whole or in part during its term for cause including, but not limited to, the following :
   (a) Violation of any terms and conditions of this Consent.
   (b) Obtaining this Consent by misrepresentation of failure to disclose fully all relevant facts.
   (c) A change in any condition that requires temporary or permanent reduction or elimination of the authorized discharge.

10. On violation of any of the above-mentioned conditions the consent granted will automatically be taken as canceled and necessary action will be initiated against the industry.

M.P. Pollution Control Board
E-5, Arera Colony
Paryavaran Parisar, Bhopal - 16 MP
Tele : 0755-2466191, Fax 0755-2463742

Authorization Order

Additional condition:-

Packing, Labeling & Transportation of Hazardous wastes

(i) The occupier or operator of the Treatment, Storage and Disposal Facility or recycler shall ensure that the hazardous waste are packaged and labeled, based on the composition in a manner suitable for safe handling, storage and transport as per the guidelines issued by the Central Pollution Control Board vide - October 2004 & conditions issues from time to time.
(ii) The labeling and packaging shall be easily visible and be able to withstand physical conditions and climate factors.
(iii) The transport of the hazardous wastes shall be in accordance with the provision of these rules and the rules made by the Central Govt. under the Motor Vehicle Act 1988 and other guidelines issued from time to time in this regard.
(iv) In case of transportation of hazardous wastes through a State other than the State of origin or destination, the occupier shall intimate the concerned State Pollution Control Board before he hands over the hazardous wastes to the transporter.
(v) The occupier shall provide the transporter with seven copies of the manifest as per the colour codes as per rule 19(1).
(vi) The occupier shall forward copy 1 (white) to the State Pollution Control Board and in case the hazardous wastes is likely to be transported through any transit State, the occupier shall prepare an additional copy each for intimation to such State and forward the same to the concerned SPCB before he hands over the hazardous wastes to the transporter.
(vii) No transporter shall accept hazardous wastes from an occupier for transport unless copies 3 to 7 of the manifest accompany it.
(viii) The transporter shall submit copies 3 to 7 of the manifest duly signed with date to the operator of the facility along with the waste consignment.

Authorization as required under the Hazardous and other Wastes (Management & Transboundary Movement) Rule, 2016 is granted to your industry subject to fulfillment of all the conditions mentioned above. For renewal purpose you shall have to make an application to this Board through XGN at least Six months before the date of expiry of this Authorisation. The applicant without valid Authorisation (for operation) of the Board shall not bring in to use any outlet for the discharge of effluent and gaseous emission.

For and on behalf of
M.P. Pollution Control Board

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e-Signed On 20/11/2019 14:10:25
(Organic Authentication on AADHAR from UIDAI Server)
TPAV # W9RVMCK19W

R.S. KORI
Member Secretary

Consent No:H-50734

ANNEXURE - F

LXS/NGD/HSE/2019/480

Date : 18.12.2019

LANXESS
Energizing Chemistry

To,
Shri Malay Shrivastav Ji,
(The Principal Secretary, Environment, PWD, M.P. Government)
PWD Mantralaya, Room No. – First –F, VB – 2,
Vallabh Bhavan , **Bhopal** (M.P.)

Subject : Application in prescribed Form - 12 for filling Appeal against the authorization order passed by Madhya Pradesh Pollution Control Board.

Reference : Your Authorization Order No. H-50734 issued on 20.11.2019 to LANXESS India Private Limited granted under the Hazardous and Other Waste (Management and Transboundary Movement) Rule 2016.

Dear Sir,
This is in continuation to our letter No. LIPL/NGD/HSE/2019/475 dated 10.12.2019, we are submitting herewith Appeal Form – 12 (attached with this letter) against the "Authorization Order" passed by Madhya Pradesh Pollution Control Board, Bhopal.

Thanking you
Yours faith fully
For Lanxess India Private limited

Sanjay Singh
Vice President – Manufacturing.
Email – sanjayk.singh@lanxess.com

CC To : **1.** The Member Secretory
M P Pollution Control Board
E-5, Arera Colony, Prayavaran Parisar,
Bhopal – 110 032

2. The Regional Office,
MP Pollution Control Board,
17 Bharatpuri, Ujjain (M.P.)

3. The Sub -Regional Office,
MP Pollution Control Board,
HIG-1, Ingoria Road, Nagda (M.P.)

LANXESS India Private Limited
Registered Office :
LANXESS House
Plot Nos. A 162-164
Road No. 27, MIDC
Wagle Estate
Thane (W) - 400 604
Maharashtra, India
Tel. + 91 22 2587 1000
Fax + 91 22 2587 1287
infoindia@lanxess.com
www.lanxess.in
CIN : U24119MH2004PTC158377
Works :
Birlagram, Nagda - 456 331
Madhya Pradesh, India
Tel. + 91 7366 245104, 248735, 245447
Fax + 91 7366 246283

REGIONAL OFFICE M.P. Pollution Control Board, NAGDA DATE 19/12/19

Office of the M.P. Pollution Control Board BHOPAL No. Dt. Rec. 19/12/19

19/12/19
कार्यालय
प्रमुख सचिव
लोक निर्माण विभाग

LANXESS
Energizing Chemistry

HAZARDOUS AND OTHER WASTES (MANAGEMENT AND TRANSBOUNDARY MOVEMENT) RULES, 2016
Form XII

FORM 12

[See rule 24(1)]

APPLICATION FOR FILING APPEAL AGAINST THE ORDER PASSED BY STATE POLLUTION CONTROL BOARD

1. Name and address of the person making the appeal:	Mr. Sanjay Singh - Vice President Manufacturing LANXESS India Private Limited Birlagram,Nagda-456331 Madhya Pradesh , India
2. Number, date of order and address of the authority which passed the order, against which appeal is being made: (certified copy of the order be attached)	Authorization order No. H-50734 Issue Date: 20, November, 2019 Madhya Pradesh Pollution Control Board, E-5, Arera Colony, Paryavaran Parisar Bhopal 462 016, Madhya Pradesh (Certified Copy of the authorization order is attached)
3. Ground on which the appeal is being made:	In Note No. 3 of the impugned Authorization Order issued to us, it has been mentioned that - *"The industry shall handle and manage the HCl (Hydro Chloric Acid) generated from the process and scrubbing - Air Pollution control arrangements as hazardous waste as per CPCB guidelines and record in this regard shall be maintained as per Hazardous and other Waste (Management & Transboundary Movement) Rule, 2016"* It is pertinent to note that there are two types of Hydrochloric Acid that are generated and produced at our site at Nagda in Madhya Pradesh. The two types of Hydrochloric Acid generated at our site are through (a) scrubbing in incinerator plant; and (b) manufacturing process. In this regard we would like to mention that, the Hydrochloric Acid generated from manufacturing process is our product (which has been considered as a product by Madhya Pradesh Pollution Control Board since 1989) and the same is directly absorbed, purified and concentrated up to commercial grade of 31%. As such, the Hydrochloric Acid produced through the manufacturing process does not fall under category 35.1 of

LANXESS
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	Schedule-1 of the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and falls outside the ambit of the definition of "Hazardous Wastes" as defined in the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016. We have previously also informed the Madhya Pradesh Pollution Control Board that HCL is our product and is not a hazardous waste. Despite the above, we note that the Authorization Order under appeal as issued by the Madhya Pradesh Pollution Control Board has erroneously included and recorded the Hydrochloric Acid generated and produced at our site through manufacturing process, as a "Hazardous Waste".
4. Relief sought for:	We request that the Authorization Order be amended/modified by deleting Note No. 3 from the Authorization Order taking into consideration that Hydrochloric Acid which is generated from manufacturing process is not a "Hazardous Waste".
5. List of enclosures other than the order referred in point 2 against which the appeal is being filed.:	1. Process flow diagram and process description briefing about HCL generation. 2. Copy of Air and Water consent mentioning Hydrochloric Acid as product.
Sanjay Singh Vice President Manufacturing	
LANXESS India Private Limited Birlagram,Nagda-456331 Madhya Pradesh ,India	
Date: 18 December 2019	

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Final Report

Pre-feasibility Study for Utilization of By-product HCL at M/s. LANXESS India Private Limited

Sponsor:
M/s. LANXESS India Private Limited.

CSIR-National Environmental Engineering Research Institute,
Nehru Marg, Nagpur – 440020.

November 2022

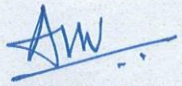
FOREWORD

Lanxess India Private limited (LIPL) has a manufacturing plant at Birlagram, Nagda, MP, for production of organic chemicals using Toluene and Chlorine as raw materials via chemical reactions that also generate HCL gas as a byproduct. The HCL gas, produced in the main reactions of the processes is absorbed in water, purified and further concentrated to 31% HCL acid that is sold as commercial product to industries.

Lanxess India Pvt. Ltd. desired to conduct a prefeasibility study (as adviced by the Central Pollution Control Board) following CPCB guidelines to decide whether the generated HCL can be categorized as product, by-product or hazardous waste as per HWM Rules 2016 and had engaged CSIR-National Environmental Engineering Research Institute (NEERI), Nagpur in November 2021 to carry out the study in accordance with the prevailing guidelines issued by Central Pollution Control Board.

Studies were carried out by CSIR-NEERI during December 2021 to October 2022, which involved site reconnaissance, examination of process operations, study of HCL streams, HCL purification and concentration processes. This report highlights the findings of NEERI's study conducted to evaluate the generated HCL as by-product from the chemical process and verification of any HCL (aqueous-liquid) discharge as hazardous waste from the plant. Major observations, conclusions and recommendations pertaining to these aspects are presented in this Report.

The co-operation extended by Lanxess India Pvt. Ltd. officials during various stages of the study is gratefully acknowledged.



(A. N. Vaidya)
Director

Date: 10/11/2022

Nagpur

Executive Summary

M/s. LANXESS India Private Limited (LIPL), is a German MNC, presently operating the chemical plant situated in Birlagram, Nagda, Madhya Pradesh. Lanxess manufactures a range of organic chemicals using Chlorine and Toluene, which also generate HCL as a by-product. Lanxess purifies and processes HCL gas to 31% HCL acid (aqueous) according to IS Standards BIS 265:1993 (Rev. 2010) and the HCL is sold to commercial entities. NEERI has conducted this study to understand the generation as well as utilization of this by-product HCL and also to evaluate if any other HCL waste is generated in the plant that needs special disposal mechanism to strictly adhere to the Environmental Standards of Pollution Control Board. The study was conducted after detailed site visits to understand HCL related plant operations and activities in the Lanxess premises. The conclusions and recommendations of the study are presented in the report. General data supplied by Lanxess is incorporated in the report. No confidential data is published in the report.

List of Contents

Chapter 1: Introduction

1.1 Preamble

M/s. LANXESS India Private Limited (**LIPL)** is a German MNC, presently operating the chemical plant situated in Birlagram, Nagda, Madhya Pradesh. The plant was established in 1978 by M/s. Gwalior Chemical India Pvt. Ltd. (GCIL). LANXESS was formed in India on July 1, 2004. LANXESS has acquired the Nagda site (from GCIL) in Sep 2009.

LIPL is a leading company having specialty in chemical production and has a wide experience in the field. The core business of **LIPL** is the development, manufacturing and marketing of chemical intermediates, additives, specialty chemicals and plastics. **LIPL** is listed in the leading sustainability indices Dow Jones Sustainability Index (DJSI World and Europe) and FTSE4Good.

The following products are manufactured in the plant, using Toluene and Chlorine gas:

Table 1.1: Products manufactured in Lanxess plant, Nagda

Sr. No.	Product	Qty / year (MT)
1.	Benzaldehyde	19000
2.	Benzyl Acetate	7200
3.	Benzyl Alcohol	36000
4.	Benzyl Benzoate	3000
5.	Benzyl Chloride	54750
6.	Cinnamaldehyde	3000
7.	Di Benzyl Ether	3600
8.	Sodium Benzoate	2500
9.	Hydrochloric Acid	212400

Some of the chemical processes employed in the plant to manufacture the different products also generate HCL as by-product. The generated HCL is absorbed and is purified further to make it a commercial-grade HCL product as per IS specifications. A prefeasibility study was needed (as advised by the Central Pollution Control Board) following the CPCB guidelines to decide whether the generated HCL can be categorized as product, by-product or hazardous waste as per HWM Rules 2016. Identification of the other HCL containing streams was also needed as waste streams for proper disposal to comply with HWM 2016 rules. Considering the expertise available with CSIR-National Environmental Engineering Research Institute (CSIR-NEERI), Nagpur, LANXESS India Private Limited., had requested CSIR-NEERI to submit a project proposal to carry out the required pre-feasibility study for generated HCL.

1.2 Scope of Work

Keeping in view the requirements of the CPCB guidelines, the scope of the project included:

i) Identification of all HCL containing streams generated in the plant facility,
ii) Categorization of the identified HCL containing streams as useful by-product streams or hazardous waste streams (per hazardous waste management rules 2016),
iii) Recommendations on end utilization of by-product HCL,
iv) Recommendations on disposal pathways for HCL containing hazardous waste streams.

(This study was limited to HCL containing streams. No other waste was considered in this study. No sampling and analysis was involved).

1.3 Site Visits:

NEERI scientists visited the LANXESS India Private Limited., Birlagram, Nagda plant sites to understand the various processes and utility units. The visit details are given in **Table 1.2**.

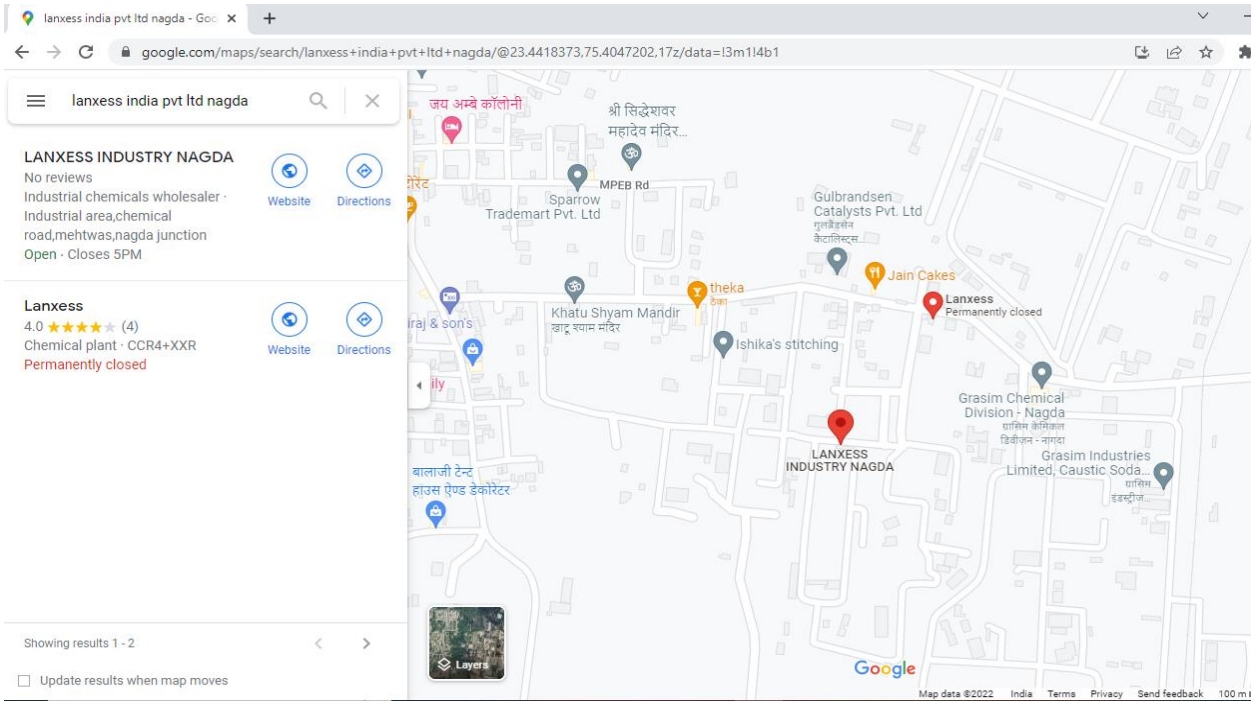
Table 1.2: Visit dates of NEERI officials to Lanxess plant, Nagda

Date of Visit	NEERI Scientists
09/01/2020	Dr. G. R. Kale
06/07/2020	Dr. G. R. Kale and Dr. A. N. Vaidya
07/07/2022	Dr. G. R. Kale

During the plant visit, different sub-sections of the plant were explored in presence of the designated plant officials. All plant lines / processes / reactors /scrubbers / alarm systems, etc. related to HCL were checked.

1.4 Geographical Location and Site Description

The Lanxess India Private Limited manufacturing plant is situated at Plot No. 256 to 261, Vill. Mehtwas, Birlagram, Nagda, Dist. Ujjain (PIN - 456331) in Madya Pradesh state. This site, spanning more than 20 hectares is located around 125 kms away from Indore city (Madhya Pradesh). The nearest Airport is Indore Airport and it takes about 3 hours by road journey to the Lanxess plant. The total plot area of the Project site is 23.468 hectare. The GPS coordinates and Google map location of the Plant is shown below as **Figure 1.1**.



North Latitude	23°26'27.88"N
East Longitude	75°24'23.18"E
Height above MSL	470 M

Figure 1.1: Location of Lanxess India Pvt. Ltd.

Chapter 2: Conventional HCL Process Operations

2.1 Chemistry of Hydrochloric Acid (HCL)

Hydrochloric acid is a strong corrosive acid. Its chemical formula is HCL and is a gas. The other name for hydrochloric acid is hydrogen chloride or Muriatic acid. Hydrochloric acid is an inorganic chemical. HCL acid forms when hydrogen chloride gas dissolves in water. Hydrochloric acid is a simple diatomic molecule, the chlorine atom and hydrogen connect over a single covalent bond. The bond that exists between them is polar because the chlorine atom is more electronegative when compared with the hydrogen atom. Hydrogen chloride can be generated in many ways, and thus several precursors to hydrochloric acid exist. In India, the commercial HCL is evaluated by IS Standards BIS 265:1993, Rev. 2010 (**Annexure A)**.

Hydrochloric acid, also known as muriatic acid, is an aqueous solution of hydrogen chloride. It is a colourless solution with a distinctive pungent smell. It is classified as a strong acid. It is a component of the gastric acid in the digestive systems of most animal species, including humans.

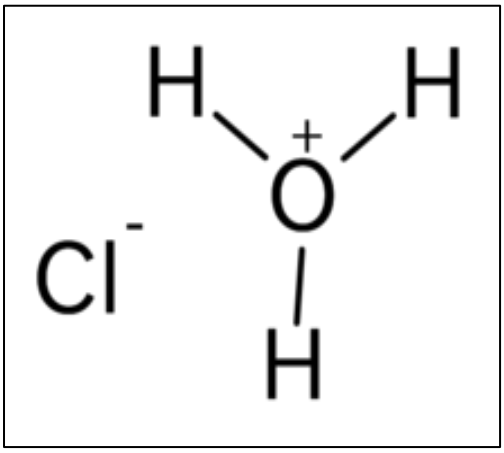


Figure 2.1: HCL Molecular Diagram

2.2 Chemical and Physical Properties of HCL

Table 2.1: Properties of HCL

Sr. No.	Chemical and Physical Properties	Description
1.	Appearance	Colourless or slightly yellow, fuming pungent liquid or colourless gas with characteristic pungent odour
2.	Boiling-point	Gas, -84.9°C at 760 mm Hg (101 kPa); constant boiling Azeotrope with water containing 20.24% HCl, 110 °C at 760 mm Hg
3.	Melting-point	-114.8°C; aqueous solutions, -17.1°C (10.8% solution); -62.25°C (20.7% solution); -46.2°C (31.2% solution); -25.4°C (39.2% solution)
4.	Density	Aqueous solutions, 39.1% solution (15°C/4°C), 1.20 g/ml, constant boiling HCL (20.24%),
5.	Specific volume	Gas, 1/47-1/52 g/l
6.	Solubility	Soluble in water (g/100 g water): 82.3 at 0°C, 67.3 at 30°C; methanol (g/100 g solution): 51.3 at 0°C, 47.0 at 20°C; ethanol (g/100 g solution): 45.4 at O°C, 41.0 at 20°C; diethylether (g/ 100g solution): 35.6 at 0°C, 24.9 at 20°C
7.	Volatility	Vapour pressure, 40 atm (4 MPa) at 17.8°C.
8.	Conversion factor	mg/m^3 = 1.49 x ppm
9.	Corrosivity	Hydrochloric acid is very corrosive to the skin and mucous membranes and can cause severe burns to any part of the body.
10.	Reactivity	Hydrochloric acid is extremely corrosive to metals, including the following: carbon steel, stainless steel, nickel, bronze, brass, copper and aluminum.

2.3 Conventional Routes for manufacture of Hydrochloric Acid

Production of Hydrochloric acid can be done by several methods. It is obtained from the reaction of sodium chloride and sulfuric acid in a cast iron retort at elevated

temperature. Although reaction starts at 150°C, the complete reaction occurs at about 600°C:

$$2NaCl + H_2SO_4 \rightarrow Na_2SO_4 + 2HCl$$

Hydrochloric acid also is made by the Hargreaves process in which a mixture of salt, sulfur dioxide, oxygen, and water are heated at elevated temperatures, between 430-540°C. The reaction is exothermic and becomes self-sustaining:

$$4NaCl + SO_2 + O_2 + 2H_2O \rightarrow 2Na_2SO_4 + 4HCl$$

Hydrochloric acid may be produced by hydrolysis of metal chlorides such as titanium(IV) chloride:

$$TiCl_4 + 2H_2O \rightarrow TiO_2 + 4HCl$$

Hydrochloric acid preparation takes place by dissolving hydrogen-chloride gas in water. The water molecules take the hydrogen atom in HCl and put it away from the chlorine atom when hydrogen chloride gas enters the water. This is known as the dissolution process which forms hydrochloric acid.

Hydrochloric acid is usually prepared industrially by dissolving hydrogen chloride in water. The large-scale production of hydrochloric acid is almost always integrated with the industrial scale production of other chemicals, such as in the chloralkali process which produces hydroxide, hydrogen, and chlorine, the latter of which can be combined to produce HCl.

Hydrogen chloride is produced by combining chlorine and hydrogen:

$$Cl_2 + H_2 \rightarrow 2\ HCl$$

Since the reaction is exothermic, the installation is called an HCl oven or HCl burner. The resulting hydrogen chloride gas is absorbed in deionized water, resulting in chemically pure hydrochloric acid. This reaction can give a very pure product, e.g. for use in the food industry.

2.4 Brief Description of processes involving HCL Generation at Lanxess

Hydrochloric Acid is produced from the following 2 manufacturing plants namely,

- Benzyl Chloride and Benzal Chloride
- Benzyl Alcohol and Di Benzyl Ether

and is later concentrated to 31% in the HCL concentration plant.

Benzaldehyde and Sodium Benzoate manufacturing plant also produce HCL of 31% concentration, which is directly sent to the Tank Farm.

A brief description of each process is provided in the following sections.

Exhibit 1: Benzyl Chloride Plant

2.4.1 Benzyl Chloride & Benzal Chloride

Benzyl Chloride (BCL) & Benzal Chloride (BCL2) are manufactured by controlled side chain chlorination of toluene by following main reactions in the same reactor.

$C_6H_5CH_3$ + Cl_2 ⟶ $C_6H_5CH_2Cl$ + HCl

Toluene Chlorine Benzyl Chloride Hydrochloric gas

$C_6H_5CH_3$ + 2 Cl_2 ⟶ $C_6H_5CHCl_2$ + 2HCl

Toluene Chlorine Benzal Chloride Hydrochloric gas

Toluene and Chlorine are reacted to form chlorinated mass in the reactor. Hydrogen chloride gas liberated during the reaction is cooled and absorbed in water to form 20% HCL aqueous solution. The Chlorinated mass containing mixture of Benzyl Chloride (BCL) and Benzal Chloride (BCL2) is distilled out in the distillation section to get BCl and BCl_2 as products and intermediates.

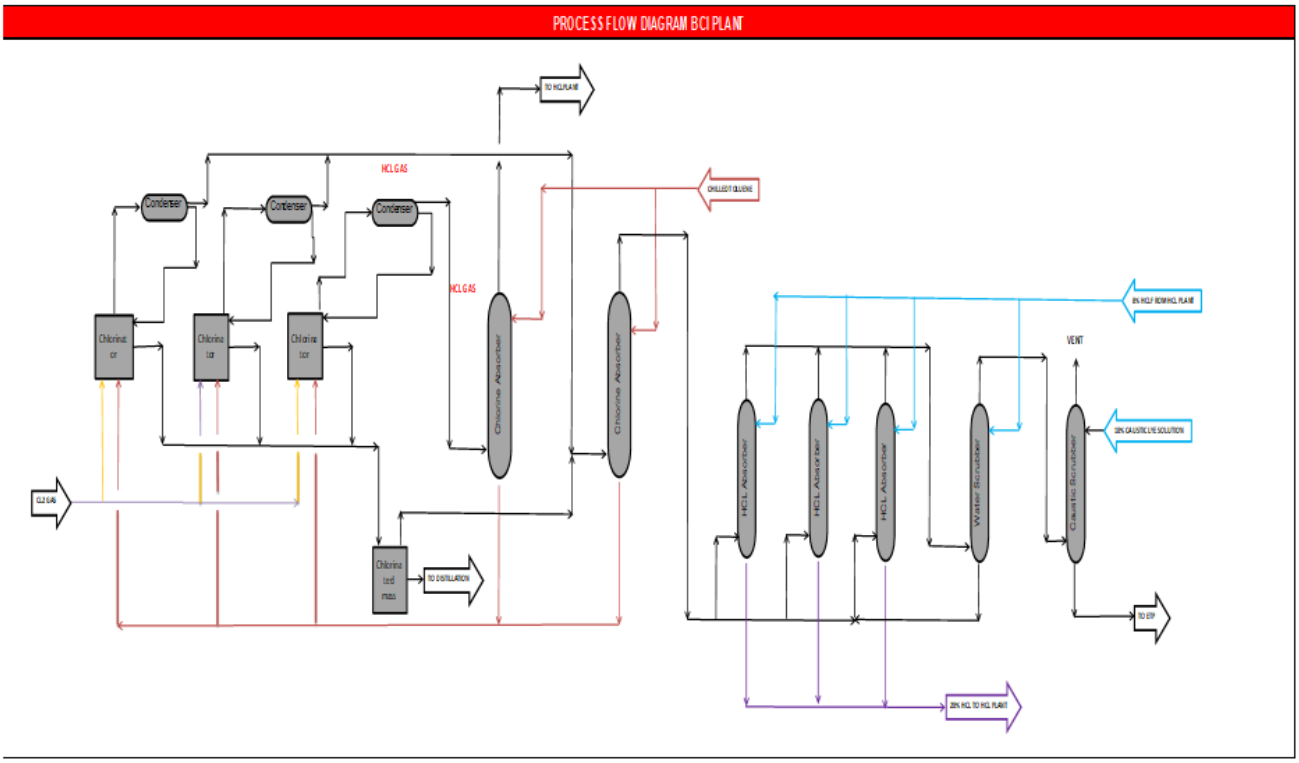


Figure 2.2: BCL-BCL2 flow diagram

2.4.2 Benzyl Alcohol and Dibenzyl Ether

Benzyl Alcohol (BOH) is manufactured by Hydrolysis of Benzyl Chloride (BCL) at elevated temperature. Benzyl Alcohol (BOH) also reacts with Benzyl Chloride (BCL) to produce Dibenzyl Ether.

$C_6H_5CH_2Cl$ + H_2O ⟶ $C_6H_5CH_2OH$ + HCl

Benzyl Chloride Water Benzyl Alcohol Hydrochloric gas

$C_6H_5CH_2OH$ + $C_6H_5CH_2Cl$ ⟶ $(C_6H_5CH_2)_2O$ + HCl

Benzyl Alcohol Benzyl Chloride Di Benzyl Ether Hydrochloric gas

Benzyl Alcohol and Dibenzyl Ether are separated out in the distillation section. Dibenzyl Ether is used to manufacture Benzyl Acetate. HCL gas is produced in the reactions which is absorbed in water in the same reactor and is further cooled and separated to form 5% HCL solution. This dilute Hydrochloric acid (5%) is further processed to 31% HCL (liquid) in the HCL plant.

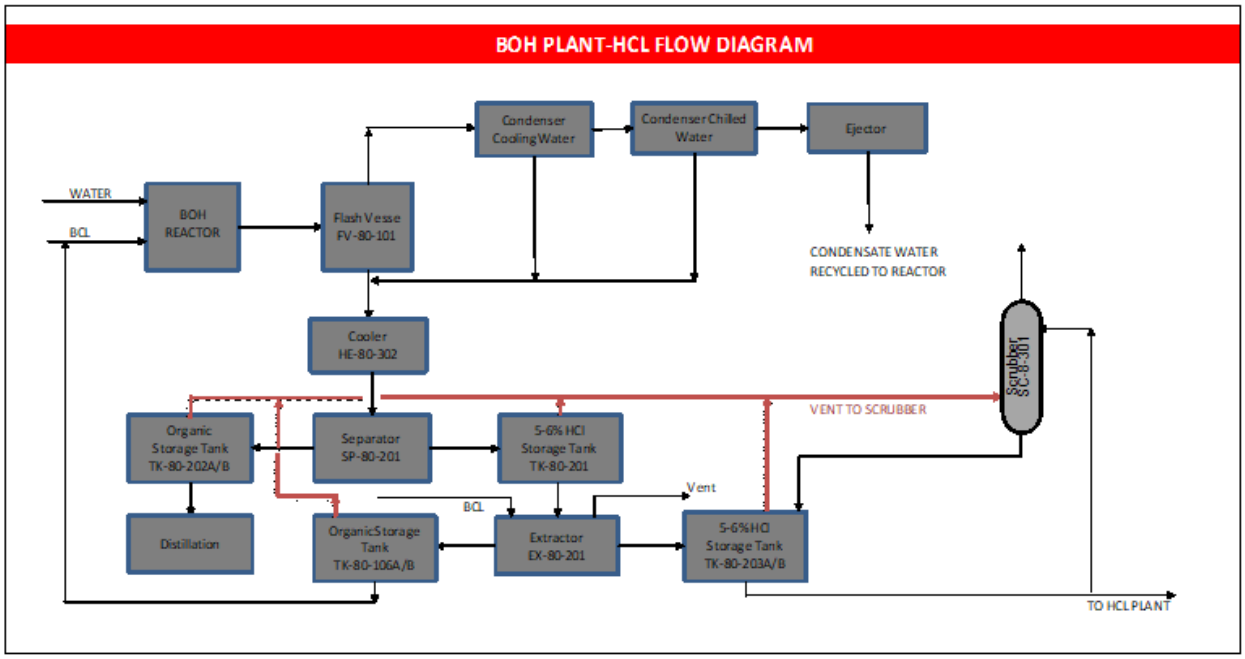


Figure 2.3: BOH flow diagram

2.4.3 Benzaldehyde and Sodium Benzoate

Benzaldehyde and Sodium Benzoate are manufactured by hydrolysis of Benzal Chloride and Benzo-trichloride by following main reactions.

$C_6H_5CHCl_2$ + H_2O ⟶ C_6H_5CHO + 2HCl

Benzal Chloride Water Benzaldehyde Hydrochloric gas

$C_6H_5CCl_3$ + $2H_2O$ ⟶ C_6H_5COOH + 3HCl

Benzo-trichloride water Benzoic acid Hydrochloric gas

$2C_6H_5COOH + Na_2CO_3$ ⟶ $2C_6H_5COONa$ + $H_2O + CO_2$

Benzoic acid Sodium Carbonate Sodium Benzoate Water Carbon Dioxide

Benzal Chloride is hydrolysed in presence of acid catalyst to form Benzaldehyde in the hydrolysis reactor. During this reaction, Benzoic Acid is also formed; which is neutralized with Sodium Carbonate to form Sodium Benzoate. HCL gas is liberated in the reaction, which is cooled in 3 stages and absorbed in 20% dilute Hydrochloric acid to increase the concentration to 31%, which is further sent to the Tank Farm.

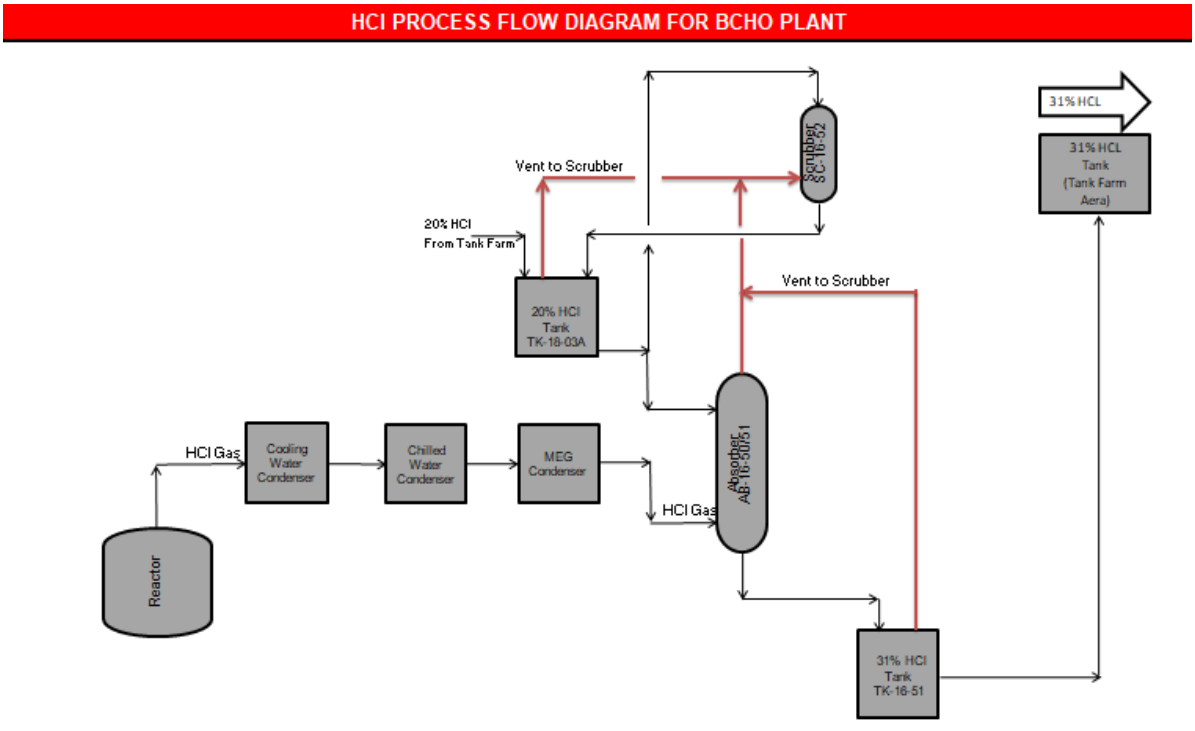


Figure 2.4: BCHO flow diagram

2.4.4 HCL Concentration Plant

HCL concentration plant consists of various unit operations to concentrate and purify dilute HCL Acid received from the 2 plants to make it commercial sellable product (31%) in accordance with IS:265 standard. The 5% HCL stream is received from Benzyl Alcohol plant into HCL concentration plant, it is further concentrated upto 8.5% by process evaporators and again sent back to the BCL plant where it is again enriched to 21% in the HCL absorber section. This 21% HCL is fed to the HCL plant for extraction and purification. Organic contaminants (traces of raw materials) are removed by toluene extraction. The purified 21% HCL is further processed to make it commercial technical grade 31% HCL. The liquid 31% HCL is passed through carbon beds for further purification to remove the contaminants including organics. It is then sent to Tank Farm (storage) for further dispatch to customers after routine quality check. The process flow diagram of the HCL concentration plant is presented below in **figure 2.5**.

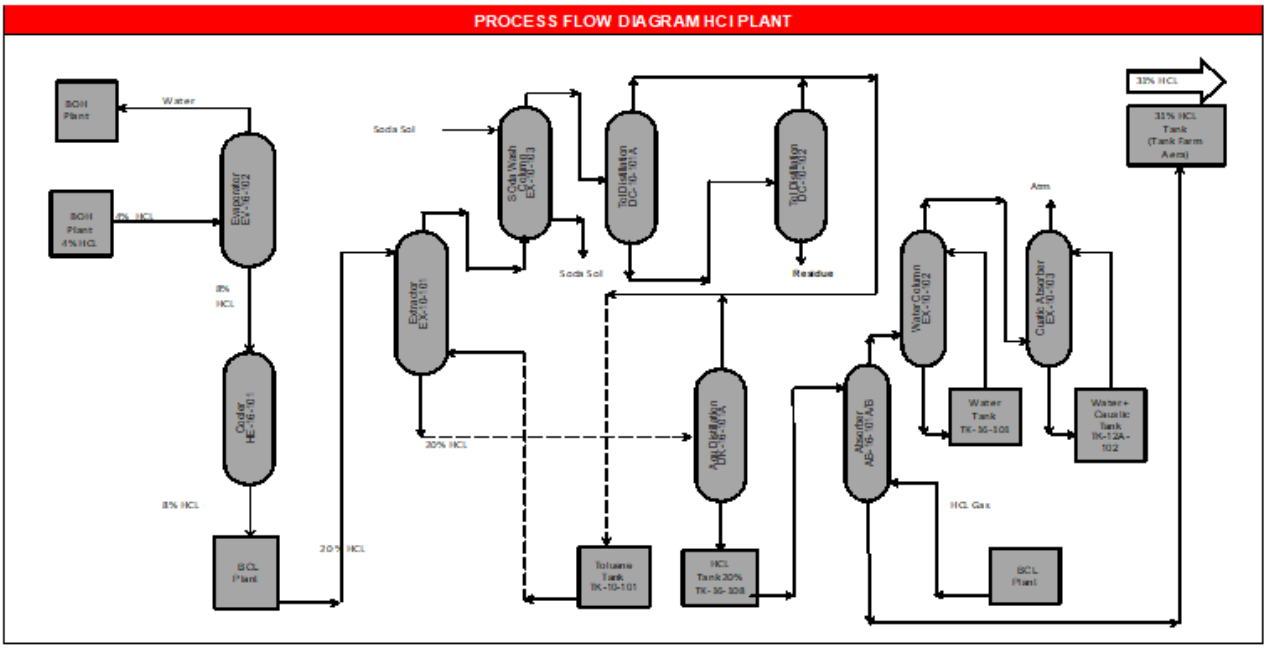


Figure 2.5: HCL Concentration Plant

2.5 HCL Line – Colour Coding and MOC

HCL lines are colour-coded, according to the distinct colour codes in accordance with industrial standards (**table 2.2**). All the pipe line conveying HCL having colour-coding "Violet colour" for easy identifcation and flow direction marking.

Table 2.2: HCL Line Colour Codes

Sr. No.	Chemical	Base Colour Code	First Colour Band	Second Colour Band
1	Hydrochloric Acid - 31 %	Dark Voilet (RAL 4008)	-	-
2	Hydrochloric Acid - 0-3 %	Dark Voilet (RAL 4008)	Signal Red (one band)	-
3	Hydrochloric Acid - 4-6 %	Dark Voilet (RAL 4008)	Signal Red (two band)	-
4	Hydrochloric Acid - 7-10%	Dark Voilet (RAL 4008)	Signal Red (three band)	-
5	Hydrochloric Acid - 20 %	Dark Voilet (RAL 4008)	Signal Red (four band)	-
6	Hydrochloric Acid - Gas	Black – HDPE line	-	-

The material of construction for HCL lines is also chosen according to the industrial standards (**table 2.3**).

Table 2.3 : HCl Line MOC and Gaskets

Sr. No.	Fluid Designation	Code	Piping Class (MOC)	Gasket Material	Type	Make
1	Hydrochloric Acid gas & Liquid 31% Concentration	HCL	MSTL/HDPE (Mild Steel Teflon lined) Or (High Density Polyethylene)	PTFE+ Non-Asbestos Sheet / Teadit	TMP with insert AF-160,Teadit -55 x 6 mm , 55 x 9 mm	Teadit / Gore/ KWO/Champion/Spitman

Exhibit 2: Colour Coding of HCL Lines

2.6 HCL Process Safety

Lanxess plant safety managers have put HCL alarms in places, wherever HCL emissions are likely to occur. The HCL alarm is calibrated and checked regularly by the plant authorities. Any HCL gas / vapour leakage beyond the permissible limit triggers the alarm. The plant safety managers immediately take all the standard precautionary measures to rectify the leakage. All the HCL alarms installed in the plant are of brand - “Dräger Polytron® 8000 Stationary gas detector (EC) with HCL detector” (procured from Draeger Safety India Pvt. Ltd., Malad (West), Mumbai). A sample photo of the HCL alarm is shown in **Exhibit 3**.

Exhibit 3: HCL Alarm installed in HCL Concentration Plant

Chapter 3: Handling of HCL Streams at Lanxess

3.1 HCL Streams

The HCL producing/transporting lines are completely sealed and no outlet in the lines is provided. All the HCL line drain-points in the plant are **blinded** properly and sealed to avoid mishandling and spillage of HCL. Sampling points are provided at regular intervals in the HCL lines. All the HCL lines have a different colour coding system for their quick identification. HCL gas generated in the chemical processes is cooled and absorbed in aqueous absorber towers to enrich the HCL content in it. Further, the leftover gas is passed through caustic scrubbers, in-which NaOH completely neutralizes the left-over HCL gas. Sampling of Aqueous HCL lines is carried out regularly to determine the concentration of HCL acid. During sampling, an excess HCL sample is drawn by the analysis team; but after taking the required amount of HCL for QC purpose, the excess HCL sample is added back in the process lines ensuring no-waste HCL stream generation in the plant. The final HCL product is 31% conc. HCL liquid, which is stored in the Tank Farm area and transported out of the plant as commercial product. During the site visits, it was observed that HCL (gas/liquid) waste is not generated in the entire plant.

Exhibit 4: HCL gas Line going to Chiller

Exhibit 5: Balance Sample is being added back in the process

Exhibit 6: All the HCL Sampling Pots are kept closed with proper lid

Exhibit 7: Vent of HCL Gas Scrubber
(No vapour releases from the vent)

3.2 Repair and Maintenance of Reactors/Lines

During the repair or maintenance of HCL containing reactors / lines, Lanxess follows a standard procedure for zero HCL waste generation. The opening of a HCL drain point is authorised by a Plant manager-level person only. The entire reactor/line is isolated and HCL remaining in the line is drained and it is put in the appropriate HCL line of the plant for reuse. This empty reactor / line is washed with water and this waste water is neutralized before sending it to the common ETP.

Exhibit 8: All the Line Drains in the Plant are Blinded properly to prevent mishandling and spillage of HCL

3.3 Earlier Hazardous HCL Waste Generation

HCL was earlier generated due to incineration of chlorinated polymeric wastes in the Inhouse incinerator. Entire Lanxess plant has only one incinerator in the premises. In the incinerator, liquid wastes mainly Distillation Residues were burned at 1100 – 1200°C. The flue gas, leaving the furnace was fed to a waste heat recovery boiler to generate saturated steam. The Flue gas also passed through a water-quencher followed by water-absorber and caustic scrubber before allowing to release from stack. A 32 meter height stack was provided as per CPCB norms and also equipped with CEMS (Continuous emission monitoring system). The operation of the incinerator was as per the MPPCB authorization. Incineration of chlorinated wastes in this incinerator caused hazardous HCL waste generation. However, in 2020 MPPCB had instructed Lanxess to stop incinerating of chlorinated polymeric wastes in the incinerator (Ref: CPCB letter no. 991, 2020). Hence after 2020, the incineration of all chlorinated waste was stopped and hence hazardous HCL waste generation was stopped in the plant. All the chlorinated waste is being sent to a CPCB certified pre-processor (Green Gene Environ Protection and Infrastructure Private Limited, Chittorgrah, Rajasthan).

The data of Chlorinated waste generated from BCL/BCL2 plant is regularly sent to MPPCB by Lanxess (**Table 3.1**).

Table 3.1: Chlorinated Waste generated from BCL/BCL2 Plant

Year	Generation of Chlorinated waste	Disposal of Chlorinated waste to pre-processor
2020-21	787.66 MT	769.85 MT
2021-22	643.17 MT	510.35 MT

At present, the incinerator is used for incinerating high calorific value residues of Benzyl Acetate and Benzyl Benzoate plants (Calorific value - 6000-7000 Kcal/Kg), which do not contain chlorine. Since it is liquid-waste incinerator, no ash is generated. Other details about the incinerator are given in **table 3.2** below:

Table 3.2: Details of Lanxess Incineration Plant

Liquid waste Incinerator (Capacity : 375 Kg/hr)		**Date of Commissioning**
Liquid-Waste Captive Incinerator with waste heat recovery	Incinerator Plant	April 2012
Absorber	Incinerator Plant	April 2012
Alkali Scrubber	Incinerator Plant	April 2012

Chapter 4: By-product HCL at Lanxess

4.1 By-product HCL

After thoroughly examining the production processes that generate HCL, according to the chemical reactions taking place in the different process reactors, it was found that HCL is generated in the “main chemical reactions” (desirable & intended) along with other desired products such as Benzyl Chloride, Benzal Chloride, Benzyl Alcohol, DiBenzyl Ether, Benzaldehyde and Sodium Benzoate. Hence, HCL gas is produced in the “main chemical reactions” in the process and is not produced by any other side-reactions (Side reactions are undesirable/unintended chemical reactions). According to standards, By-products are materials that are produced as a direct result of the desired chemical reaction and so they appear in the fully balanced chemical equation. Hence HCL is produced as an integral part of the production process, in accordance of the chemistry of favorable reactions. A further in-depth study reveals that the produced “HCL” does meet the criteria of “intended to be produced” by the chemical processes and does not qualify “that the material is not intended to be produced, but gets produced in the production process”; because HCL is a byproduct of the main desirable chemical reactions.

According to the CPCB guidelines – “Waste” means materials that are not products or by-products, for which the generator has no further use for the purposes of production, transformation or consumption & “By-product” means a material that is not intended to be produced, but gets produced in the production process of intended product and is used as such.

HCL is produced as a byproduct of the main chemical reactions in the plant. The HCL gas is a valuable product for Lanxess and it is purified and concentrated to the level of Indian standards of HCL (IS 265:1993) and is transported out (sold) to the consumers of HCL. Since each molecule of HCL produced in the Lanxess plant, is ideally accounted in the salable commercial product (31% HCL), with due information submitted to the

MPPCB, it is established that no HCL goes to “waste” and hence it does not meet the criteria of Hazardous Waste in this case. Further the produced HCL, identified as a by-product, is a suitable resource in its all the possible end use scenarios. Lanxess has already obtained “Environmental Clearance for the Nagda site project” which mentions 288700 TPA production of Hydrochloric acid as a product (**Annexure F**-Ref: Order number F. No. IA-J-11011/350/2018-IA-II(I) from MoEF (Impact Assessment Division)), hence it qualifies the by-product criteria of CPCB. HCL is manufactured in the plant and the quality of HCL is checked (**Annexure G)** according to the IS standards (IS Specification- IS 265:1993 (Reaffirmed 1995, 2010) Revision 4). This HCL of 31% concentration is stored in Tank farm area and is further transported in tankers and commercially sold to companies.

4.2 Precautions taken for HCL Storage

- HCL product is stored in PVDF lined storage tanks.
- Appropriate dyke has been provided around the storage tanks with acid proof tile lining.
- Breather valves have been provided to all the storage tanks to prevent escaping HCL vapours to the atmosphere.
- Vents of all the storage tanks are connected with Caustic scrubbers.
- HCL gas detectors have been installed for detecting any leakages.

4.3 Precautions for HCL Transportation

- All the HCL tankers are equipped with GPS system.
- Link of GPS system has been shared with MPPCB.
- Monthly report about HCL sales, customer list with contact numbers are submitted with MPPCB and local authority.

Exhibit 9: Tank Farm area (Storage of 31% HCL) at Lanxess

4.4 HCL - Sellable Product & Quantity Data

HCL sales details along with customers list, customers address, contact person, contact number, vehicle number, transporters name etc. on monthly basis are sent to MPPCB RO Ujjain, SDM Nagda, Sub-regional office MPPCB Nagda. All the HCL tankers are equipped with GPS system and the link of GPS has been provided to MPPCB, Bhopal and Ujjain. The data of commercial sale of 31% HCL is regularly submitted to the MPPCB. The data for the last few months is presented in **table 4.1**. **Table 4.2** gives the list of companies which buy 31% HCL from Lanxess.

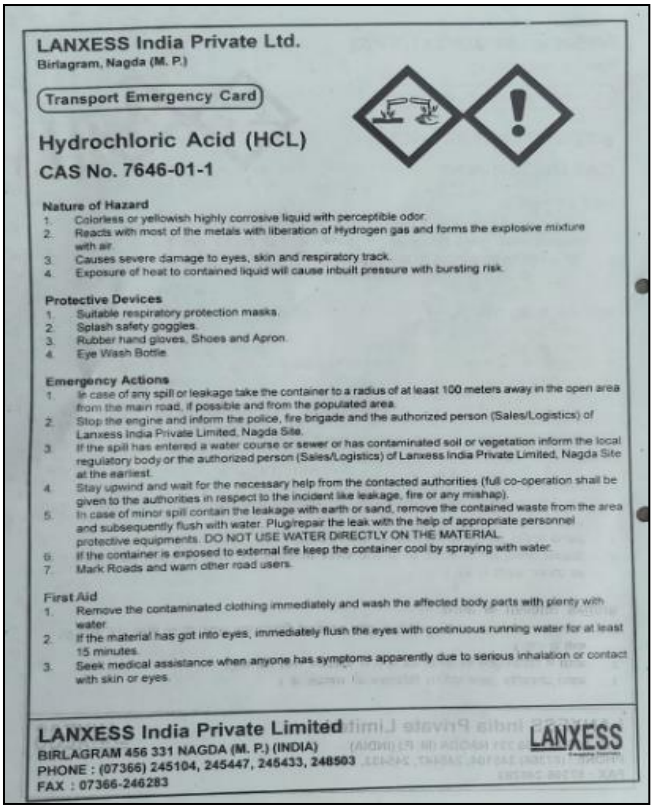
Table 4.1: Data of Commercial Sale of 31% HCL by Lanxess

HCL quantity (MT)	Month
12,887	Jan-21
11,247	Feb-21
12,866	March-21
13,064	April-21
13,113	May-21
12,270	June-21
13,064	July-21
13,521	Aug-21
11,492	Sept-21
12,464	Oct-21
12,252	Nov-21
12,280	Dec-21
10,986	Jan-22
11,715	Feb-22
13,023	March-22
12,756	April-22

Table 4.2: Major HCL Customers of Lanxess

Sr. No.	Customer Name	Sector	Intended use
1.	Arcelormittal Nippon Steel, Pune	Private	Steel pickling
2.	Bharat Oman Refinery, Bina	Semi Govt.	D.M Water treatment
3.	Bharat Petroleum Corporation Ltd., Mahul	Semi Govt.	D.M Water treatment
4.	Hariyana Power Gen Co Ltd., Y`nagar/Panipat/ Hissar	Semi Govt.	D.M Water treatment
5.	Hindustan Petroleum Corp. Ltd., Mahul	Semi Govt.	D.M Water treatment
6.	HPCL-MITTAL Energy Limited., Bhattinda	Semi Govt.	D.M Water treatment
7.	Indian Oil Corp. Ltd., Mathura	Semi Govt.	D.M Water treatment
8.	Indian Oil Corp. Ltd., Panipat	Semi Govt.	D.M Water treatment
9.	KEC International Ltd., Jabalpur / Nagpur	Private	For cleaning purpose
10.	Krasoma Biochem, Pithampur	Private	Trader
11.	Lupin Ltd., Mandideep	Private	Raw material
12.	Manglore Refinery & Petrochem, Manglore	Public Sector	D.M Water treatment
13.	MGM Chemicals, Delhi	Private	Raw material
14.	Narmada Gelatine Ltd., Jabalpur	Private	Raw material
15.	Oil & Natural Gas Corp Ltd., Nhava	Govt.	Cleaning purpose
16.	Prompt Enterprises Pvt Ltd., Dhatir	Private	Steel prickling
17.	Ramagundam Fertilizer, Ramagundam	Private	Cleaning purpose
18.	Sanchore Chemical Industries, Galifa	Private	Raw material
19.	Sanvijay Infrastructures Private Limited, Nagpur	Private	Steel prickling
20.	Snigdha Basic Chemicals, Indore	Private	Raw material
21.	Surya Roshni, Bahadurgrah/Malanpur	Private	Steel prickling
22.	Unitech Chemicals, New Delhi	Private	Raw material
23.	Uttam Galva Steel, Wardha	Private	Steel prickling

Exhibit 10: HCL Road Tanker photographs with all Labels



LANXESS India Private Ltd.
Birlagram, Nagda (M. P.)

Transport Emergency Card

Hydrochloric Acid (HCL)
CAS No. 7646-01-1

Nature of Hazard
1. Colorless or yellowish highly corrosive liquid with perceptible odor.
2. Reacts with most of the metals with liberation of Hydrogen gas and forms the explosive mixture with air.
3. Causes severe damage to eyes, skin and respiratory track.
4. Exposure of heat to contained liquid will cause inbuilt pressure with bursting risk.

Protective Devices
1. Suitable respiratory protection masks.
2. Splash safety goggles.
3. Rubber hand gloves, Shoes and Apron.
4. Eye Wash Bottle.

Emergency Actions
1. In case of any spill or leakage take the container to a radius of at least 100 meters away in the open area from the main road, if possible and from the populated area.
2. Stop the engine and inform the police, fire brigade and the authorized person (Sales/Logistics) of Lanxess India Private Limited, Nagda Site.
3. If the spill has entered a water course or sewer or has contaminated soil or vegetation inform the local regulatory body or the authorized person (Sales/Logistics) of Lanxess India Private Limited, Nagda Site at the earliest.
4. Stay upwind and wait for the necessary help from the contacted authorities (full co-operation shall be given to the authorities in respect to the incident like leakage, fire or any mishap).
5. In case of minor spill contain the leakage with earth or sand, remove the contained waste from the area and subsequently flush with water. Plug/repair the leak with the help of appropriate personnel protective equipments. DO NOT USE WATER DIRECTLY ON THE MATERIAL.
6. If the container is exposed to external fire keep the container cool by spraying with water.
7. Mark Roads and warn other road users.

First Aid
1. Remove the contaminated clothing immediately and wash the affected body parts with plenty with water.
2. If the material has got into eyes, immediately flush the eyes with continuous running water for at least 15 minutes.
3. Seek medical assistance when anyone has symptoms apparently due to serious inhalation or contact with skin or eyes.

LANXESS India Private Limited
BIRLAGRAM 456 331 NAGDA (M. P.) (INDIA)
PHONE : (07366) 245104, 245447, 245433, 248503
FAX : 07366-246283

LANXESS

Issued On: 11/01/2022 Certificate No. TEPL-HG-1390

Due Date: 10/01/2023 Approval Letter No. 01/GWL/2020

CERTIFICATE

(Approved Training Centre Under provision of the Motor Vehicle Act, 1988 and the Central Motor Vehicles Rules, 1989 by Department of Regional Transport Officer (M.P.) for Providing Training to Drivers of Goods Carriages Carrying Dangerous or Hazardous Goods (As per Rule 09))

We Hereby Certify That

Mr./Ms. Babulal S/o Nagu Ji

Of Lanxess India Pvt. Ltd. (Birlagram Nagda)

has successfully undergone Training on driving of Good Carriages carrying Dangerous or Hazardous Goods (As per Rule 9)

Presented on 11/01/2022 this date.

Technofire Engineers Pvt. Ltd.

Driving License No. MP13R-2021-0320122

Director

Important: This certificate is not valid for 1 years and only valid till the validity of existing driving license if the license is not renewed in time by the driver.

Exhibit 11: HCL Road Tanker markings as per IS Standards

Chapter 5: Quality Assurance and Quality Control

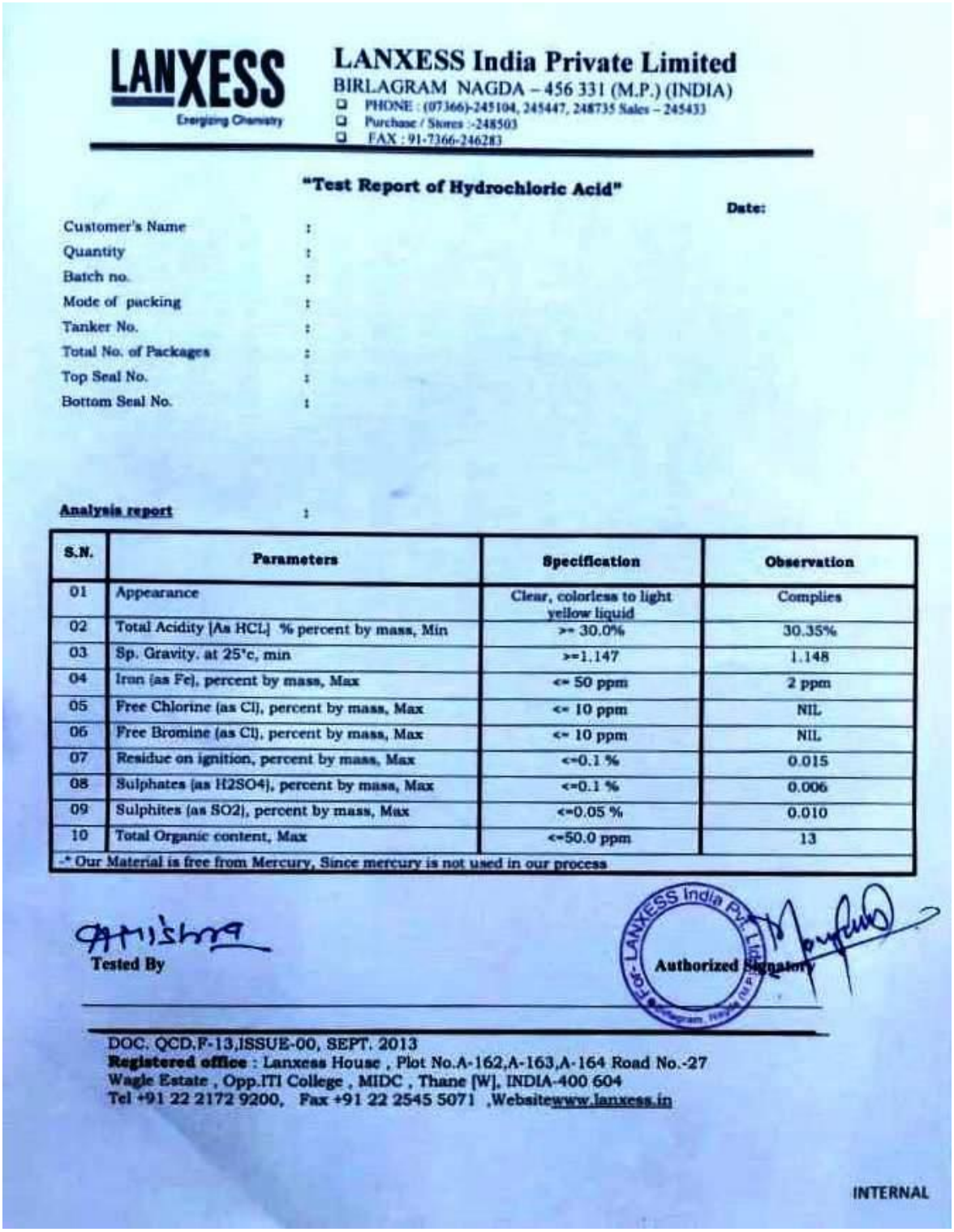
5.1 IS Specification Quality Assurance for HCL

According to the information supplied by Lanxess, the Hydrochloric acid (31% HCL) product manufactured at LANXESS India Pvt Ltd, Birlagram Nagda, District Ujjain (M.P) is - Hydrochloric acid 31.0% (of Technical Grade), verifying the (BIS - Indian Standard) IS Specification- IS 265:1993 (Reaffirmed 1995, 2010) Revision 4 (Page – 8, Table -1) as per internal Lanxess as well as external NABL certified lab reports.

Table 5.1: IS Specification for HCL

Sr. No.	Parameter	Unit	IS Specification-IS 265:1993 (Reaffirmed 1995, 2010) Revision 4 (Page – 8, Table - 1)	IS test Method Code & Page No	LANXESS Specifica-tion	LANXESS test method	Frequency
1.	Appearance	NA	Pale yellow to yellow, clear liquid	NA	Pale yellow to yellow, clear liquid	PROC-000125504	Every Batch
2.	Total acidity (as HCl), percent by mass, Min	%	30.0	B-2 (Page -9)	30.0	B-2 (Page -9)	Every Batch
3.	Residue on ignition, percent by mass, Max	%	0.1	B-3 (Page -10)	0.1	B-3 (Page -10)	Every Batch
4.	Sulphates (as H_2SO_4), percent by mass, Max	%	0.1	B-4 (Page -10)	0.1	B-4 (Page -10)	Every Batch
5.	Iron (as Fe), percent by mass, Max	ppm	50.0	B-5 (Page -11)	50.0	B-5 (Page -11)	Every Batch
6.	Free Chlorine (as Cl), percent by mass, Max	ppm	10.0	B-6 (Page -13)	10.0	B-6 (Page -13)	Every Batch
7.	Free Bromine (as Cl), percent by mass, Max	ppm	10.0	B-6 (Page -13)	10.0	B-6 (Page -13)	Annually (External Lab)
8.	Sulphites (as SO_2), percent by mass, Max	%	0.05	B-7 (Page -13)	0.05	B-7 (Page -13)	Annually (External Lab)
9.	Mercury (as Hg), ppm, Max	ppm	3	B-11 (Page-15)	3	B-11 (Page-15)	Annually (External Lab)
10.	Total Organic content, Max	ppm	NA	NA	50.0	PROC-000125504	Every Batch
11.	Sp.Gravity at 25°C, Min	-	NA	NA	1.1470	PROC-000125504	Every Batch

The HCL (finished product) samples are regularly analysed for their quality. Attached is a sample test report for finished product HCL (**Exhibit 12**).



LANXESS
Energizing Chemistry

LANXESS India Private Limited
BIRLAGRAM NAGDA – 456 331 (M.P.) (INDIA)
PHONE : (07366)-245104, 245447, 248735 Sales – 245433
Purchase / Stores :-248503
FAX : 91-7366-246283

"Test Report of Hydrochloric Acid"

Date:

Customer's Name :
Quantity :
Batch no. :
Mode of packing :
Tanker No. :
Total No. of Packages :
Top Seal No. :
Bottom Seal No. :

Analysis report :

S.N.	Parameters	Specification	Observation
01	Appearance	Clear, colorless to light yellow liquid	Complies
02	Total Acidity [As HCL] % percent by mass, Min	>= 30.0%	30.35%
03	Sp. Gravity. at 25°c, min	>=1.147	1.148
04	Iron (as Fe), percent by mass, Max	<= 50 ppm	2 ppm
05	Free Chlorine (as Cl), percent by mass, Max	<= 10 ppm	NIL
06	Free Bromine (as Cl), percent by mass, Max	<= 10 ppm	NIL
07	Residue on ignition, percent by mass, Max	<=0.1 %	0.015
08	Sulphates (as H2SO4), percent by mass, Max	<=0.1 %	0.006
09	Sulphites (as SO2), percent by mass, Max	<=0.05 %	0.010
10	Total Organic content, Max	<=50.0 ppm	13

-* Our Material is free from Mercury, Since mercury is not used in our process

Tested By

For LANXESS India Pvt. Ltd.
Authorized Signatory

DOC. QCD.F-13,ISSUE-00, SEPT. 2013
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INTERNAL

Exhibit 12: Test Report of Hydrochloric Acid (final product)

5.2 Process Sampling Plan for HCL

The Lanxess QC Dept. regularly takes HCL samples from intermediate sampling points in the plant and tests them for important parameters. These are presented in **table 5.2**.

Table 5.2: Hydrochloric Acid analysis for In-process sample

Plant	No. of Samples per day	Parameters					
		Acidity	Sp.Gr.@25°C	Iron Content	Free. Chlorine	Sulphate as SO_4	Organic Content
BOH Plant	3	5% IS 265:1993	As per IS 265:1993	As per IS 265:1993	As per IS 265:1993	As per IS 265:1993	In-house GLC
BCL Plant	2	8% & 20% IS 265:1993	As per IS 265:1993	As per IS 265:1993	As per IS 265:1993	As per IS 265:1993	In-house GLC
BCHO Plant	2	21% & 31% IS 265:1993	As per IS 265:1993	As per IS 265:1993	As per IS 265:1993	As per IS 265:1993	In-house GLC
HCL Plant	5	5% to 21% IS 265:1993	As per IS 265:1993	As per IS 265:1993	As per IS 265:1993	As per IS 265:1993	In-house GLC
	12 Nos.						

In-Process Sample: Hydrochloric acid 5.0%

Sr. No.	Product Name	Parameters	Unit	IS Specification	LANXESS Specification
1	Hydrochloric Acid 5%	Appearance	NA	NA	Pale yellow to yellow, clear liquid
		Total acidity (as HCl), percent by mass	%	NA	4.5 - 5.5

Sampling Plan:

Sr. No.	Product Name	Sampling point	No of Samples/day	Sampling practices Reference
1	Hydrochloric Acid 5%	Benzyl Alcohol Plant	3	IS Specification-IS 265:1993 (Reaffirmed 1995, 2010) Revision 4 (C-1, page no.17)
		Benzyl Chloride Plant	2	
		Benzaldehyde	2	
		HCL Plant	5	

Exhibit 13: Sampling of 21% HCL

Chapter 6: Conclusions and Recommendations

6.1 Conclusions

This project study identified all HCL containing streams in the plant facility and categorized the identified HCL containing streams as useful by-product streams or hazardous waste streams (per hazardous waste management rules 2016). No HCL hazardous waste streams were observed in the premises and all HCL generated in the plant was processed towards 31% HCL commercial product. The field visits were conducted during the study for HCL specific operations and activities such as sampling, etc. to review the generation as well as concentration of Hydrochloric Acid in the plant premises. This study was limited to HCL containing streams. It was found that the produced HCL does meet the criteria of “intended to be produced” by the chemical processes and is not produced by any side-reactions or undesired or unintended reactions. Lanxess has already obtained “Environmental Clearance" which includes 288700 TPA production of Hydrochloric acid. CSIR-NEERI had also recommended testing of the 31% product HCL from NABL Accredited labs. The reports from the 2 NABL accredited labs (Azis Lab and Kadam Environmental Consultants - Annexure G) showed that the 31% HCL verified IS:265 norms with traces of organic raw material contamination. The study concluded that Lanxess is manufacturing the Hydrochloric acid and further selling it commercially (adhering to Indian Standards IS 265:1993 (Reaffirmed 1995, 2010) Revision 4). **Therefore, as per the study, 31% HCL can be categorized as “by-product” of the production process**.

6.2 Recommendations

The following recommendations are advised for the HCL related process operation:

1. HCL containing reactors / lines need to be colour-coded frequently, so that the colours do not rust away.
2. Any HCL leakage can also be detected by spraying dilute NH_4OH at the suspected site. Such portable dilute NH_4OH sprayers can be made available to all shift employees working in the plant sites.
3. HCL gas monitors may be fitted in more locations throughout the plant.

4. During the repair or maintenance of HCL containing reactors / lines, the line-HCL must be collected properly and put back in the appropriate HCL lines in the plant. Any washing water left after the cleaning/washing operation must be neutralized with caustic or lime, and made pH neutral. Such water can be further sent to ETP.
5. All HCL gas lines must terminate to a chilled water scrubber, followed by a caustic scrubber and HCL gas monitor at the exhaust point of the caustic scrubber. The HCL gas monitoring data and quantity of caustic soda consumption may be regularly submitted to the MPPCB. The HCL alarms should be calibrated and checked regularly. In event of triggering of HCL alarm, information must be sent to the MPPCB. An online HCL monitoring system can be installed at scrubber outlets.
6. The data of generation of commercial HCL in the plant, HCL tanker loading, HCL sales with detailed QC reports must be submitted regularly to the MPPCB.
7. The data of Chlorinated waste generated in the BCL/BCL2 plants and their disposal to the CPCB authorised pre-processor must be regularly sent to the MPPCB authorities.
8. Commercial HCL (31%) manufactured and sold by Lanxess, adheres to the IS:265 norms as per reports of NABL accredited labs also contains traces of organics reactants used in the process. Detailed chemical analysis report listing all the impurities present in the 31% HCL product must be made available to all the buyers.
9. The process study concluded that HCL is generated in the process as a by-product and hence Lanxess may request MPPCB to grant a “By-product” authorization to the commercial “HCL product (31% HCL as per IS 265:1993) which is sold in tankers.

ANNUXURE A - IS Standard for HCL

Indian Standard

HYDROCHLORIC ACID — SPECIFICATION

(Fourth Revision)

1 SCOPE

This standard prescribes requirements and methods of sampling and test for hydrochloric acid.

2 REFERENCES

The Indian Standards listed below are necessary adjuncts to this standard:

IS No.	*Title*
266 : 1993	Sulphuric acid (*third revision*)
1070 : 1992	Reagent grade water (*third revision*)
1260 (Part 1) : 1973	Pictorial marking for handling and labelling of goods (*first revision*)
2088 : 1983	Methods for determination of arsenic (*second revision*)
4905 : 1968	Methods for random sampling

3 GRADES

There shall be following four grades of hydrochloric acid:

a) Technical grade (Tech),
b) Chemical pure grade (CP),
c) Analytical reagent grade (AR), and
d) Boiler water grade (BW).

4 REQUIREMENTS

4.1 Description

4.1.1 *Technical Grade and Boiler Water Grade*

The material shall be a clear, colourless or light yellow liquid free from dirt and other visible impurities.

4.1.2 *Chemically Pure and Analytical Reagent Grade*

The material shall be a colourless fuming liquid free from dirt and other visible impurities.

4.2 The material shall also comply with the requirements given in Table 1 when tested according to the methods prescribed in Annex B. Reference to the relevant clause of Annex B is given in col 7 of Table 1.

5 PACKING AND MARKING

5.1 Packing

5.1.1 The material shall be packed in containers as agreed to between the purchaser and the supplier, and subject to the relevant provisions of Red Tariff No. 18 of 1960 issued by the Indian Railways Conference Association with any alterations or additions made thereafter.

5.1.1.1 When hydrochloric acid is supplied in screw-stoppered stone bottles, glass carboys, polyethylene carboys or hard-rubber drums, the containers shall be fitted with leak-proof stoppers.

5.1.1.2 Hydrochloric acid of analytical reagent grade shall be supplied in glass bottles or polyethylene containers or glass carboys fitted with tight-fitting HDPE or other suitable stoppers. The use of HDPE or other suitable caps over the stopper is recommended.

5.1.1.3 The bottles and jars shall be packed in suitable pent-top packing cases. They shall be placed in an upright position on saw dust, straw, chalk or dry earth, and the empty surrounding space shall also be filled with the same material to prevent movement. Carboys shall be packed in suitable iron hampers or wooden crates, the interspace being sufficiently stuffed with whiting *kiselguhr* or other non-combustible absorbent material.

5.2 Marking

5.2.1 The packages shall be suitably marked in red letters not less than 25 mm high showing the name of the acid; indication of the source of manufacture; and the grade and mass of the material. They shall prominently display the words 'CORROSSIVE, HANDLE WITH CARE'.

5.2.2 In case of analytical reagent grade, the actual analysis of the material with respect to the characteristics laid down in col 6 of Table-1 shall also appear on the label.

5.2.3 The packages shall be labelled as shown in Fig. 15 of IS 1260 (Part 1) : 1973.

6 SAMPLING

Representative sample of the material shall be drawn and conformity of a lot to the standard determined as prescribed in Annex C.

ANNEX B

(*Clause* 4.2)

METHODS OF TEST FOR HYDROCHLORIC ACID

B-1 QUALITY OF REAGENTS

B-1.1 Unless specified otherwise, pure chemical and distilled water (*see* IS 1070 : 1992) shall be used in tests.

NOTE — 'Pure chemicals' shall mean chemicals that do not contain impurities which affect the results of analysis.

B-2 DETERMINATION OF TOTAL ACIDITY

B-2.0 Outline of the Method

A known mass of the acid is carefully dissolved in water and titrated against standard alkali using methyl orange indicator.

B-2.1 Apparatus

B-2.1.1 *Lunge-Rey Pipette*

Lunge-Rey pipette shall be of shape and dimensions as shown in Fig. 1. If this pipette is not available, a weighing bottle of a glass ampoule of the type shown in Fig. 2 may be used.

B-2.2 Reagents

B-2.2.1 *Standard Sodium Hydroxide Solution* — 1 N.

B-2.2.2 *Methyl Orange Indicator Solution*

0·05 g of methyl orange dissolved in 100 ml of water.

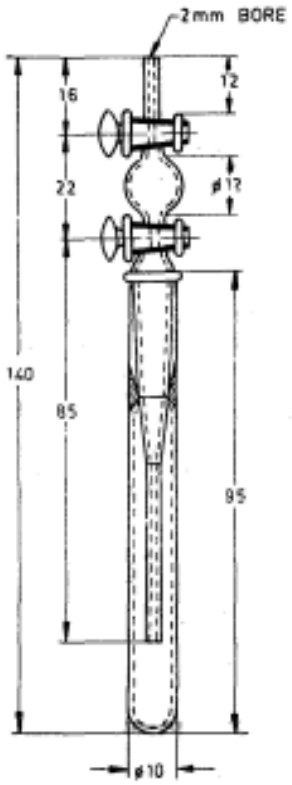
B-2.3 Procedure

B-2.3.1 If Lunge-Rey pipette or an ordinary weighing bottle is used for weighing the sample, accurately weigh about 2 to 3 g of the material in it.

If a glass ampoule is used, take sufficient amount of sample in a beaker or flask. Slightly heat on flame, the bulb of the glass ampoule, previously weighed to the nearest 0·1 mg. Immerse the capillary end of the ampoule into the beaker or flask containing the test sample and ensure that the bulb is filled up to about two-thirds of its volume during cooling (2 to 3 ml approximately). Withdraw the ampoule and carefully wipe the capillary end with filter paper. Seal the capillary end in an oxidizing flame without loss of glass. Remove the glass ampoule from the flame and allow to cool. Wash the capillary and wipe carefully with filter paper. Weigh the ampoule to the nearest 0·1 mg and calculate by difference the mass of the test portion.

B-2.3.2 If the sample was weighed in the Lunge-Rey pipette or weighing bottle, transfer the sample to a conical flask and dilute to 100 ml with water. If the sample was weighed in the ampoule, place it into the conical flask containing 200 ml of cold water. Stopper the flask and while cooling, shake to break the ampoule containing the test portion. Keep cooling and shaking until the vapours are completely absorbed. Remove the stopper and rinse it with water, collecting the washings in the conical flask. By means of a glass rod, mince the fragments of the ampoule and in particular the capillary which may have remained intact inspite of shaking. Withdraw the glass rod and wash it with water, collecting the washings in the conical flask.

B-2.3.3 Add two drops of methyl orage indicator to the solution in the beaker or flask and titrate to the end point with standard sodium hydroxide solution.



All dimensions in millimetres.

FIG. 1 LUNGE-REY PIPETTE

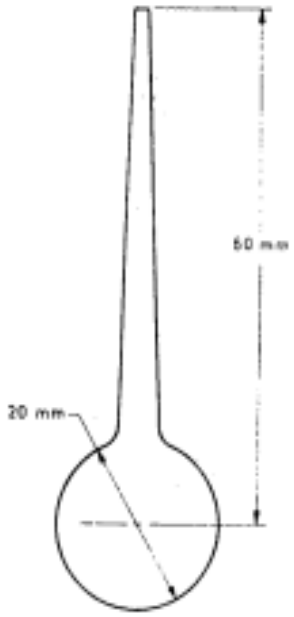


FIG. 2 SPHERICAL GLASS AMPOULE

B-2.4 Calculation

$$\text{Total acidity (as HCl), percent by mass} = \frac{V \times N \times 3{\cdot}646}{M}$$

where

V = volume in ml of standard sodium hydroxide solution used in titration,

N = normality of standard sodium hydroxide solution, and

M = mass in g of the sample taken for the test.

B-3 DETERMINATION OF RESIDUE ON IGNITION

B-3.0 Outline of the Method

A known mass of the acid is evoporated, dried, and the residue weighed.

B-3.1 Reagent

B-3.1.1 *Concentrated Sulphuric Acid — See* IS 266 : 1993.

B-3.2 Procedure

In a platinum dish previously ignited at 800°C, cooled in a desiccator and weighed, weigh to the nearest 10 mg approximately 100 g of the test sample. Evaporate most of the acid (the final volume should amount to about 5 to 10 ml) by carefully heating the dish containing the test portion (on a sand bath, for example) in a fuming cup board. Then allow to cool to room temperature, add 1 ml of concentrated sulphuric acid and heat to dryness. Place the dish containing the residue in an electric furnace at 800 ± 5°C and keep at this temperature for about 15 minutes. Remove the dish from the furnace, cool in a desiccator and weigh. Repeat the heating, cooling and weighing to constant mass.

B-3.3 Calculation

$$\text{Residue on ignition, percent by mass} = \frac{M_1 \times 100}{M_2}$$

where

M_1 = mass in g of the residue, and

M_2 = mass in g of the sample taken for the test.

B-4 DETERMINATION OF SULPHATES

B-4.0 Outline the Method

The sulphate in acid is precipitated as barium sulphate, dried and weighed.

B-4.1 For Technical and Boiler Water Grades

B-4.1.1 *Reagents*

B-4.1.1.1 *Sodium carbonate* — analytical reagent grade.

B-4.1.1.2 *Barium chloride solution* — approximately 10 percent (*m/v*).

B-4.1.2 *Procedure*

Weigh to the nearest 0·01 g about 10 g of the material (M_1) in a porcelain dish, add 0·5 g of sodium carbonate and evaporate to dryness. Moisten the residue with about 1·00 g of the material accurately weighed (M_2), add 200 ml of boiling water and filter, if necessary. Bring the contents to boil over a low flame and add slowly, with stirring, 5 ml of hot barium chloride solution. Boil the contents for 2 minutes and allow the precipitate to settle for 4 hours. Filter the supernatant liquid through a tared sintered glass crucible (G No. 4) or a tared Gooch crucible and transfer the precipitate carefully into the crucible. Wash thoroughly with hot water till the washings are free from chloride. Heat the crucible at 105 to 110°C to constant mass.

B-4.1.3 *Calculation*

$$\text{Sulphates (as } H_2SO_4\text{), percent by mass} = \frac{42{\cdot}02\,M}{(M_1 + M_2)}$$

where

M = mass in g of the precipitate,

M_1 = mass in g of the sample taken for the test initially, and

M_2 = mass in g of the sample added subsequently.

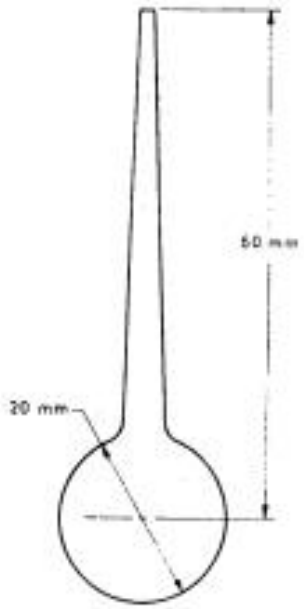


FIG. 2 SPHERICAL GLASS AMPOULE

B-2.4 Calculation

$$\text{Total acidity (as HCl) percent by mass} = \frac{V \times N \times 3{\cdot}646}{M}$$

where

V = volume in ml of standard sodium hydroxide solution used in titration,

N = normality of standard sodium hydroxide solution, and

M = mass in g of the sample taken for the test.

B-3 DETERMINATION OF RESIDUE ON IGNITION

B-3.0 Outline of the Method

A known mass of the acid is evoporated, dried, and the residue weighed.

B-3.1 Reagent

B-3.1.1 *Concentrated Sulphuric Acid — See* IS 266 : 1993.

B-3.2 Procedure

In a platinum dish previously ignited at 800°C, cooled in a desiccator and weighed, weigh to the nearest 10 mg approximately 100 g of the test sample. Evaporate most of the acid (the final volume should amount to about 5 to 10 ml) by carefully heating the dish containing the test portion (on a sand bath, for example) in a fuming cup board. Then allow to cool to room temperature, add 1 ml of concentrated sulphuric acid and heat to dryness. Place the dish containing the residue in an electric furnace at 800 ± 5°C and keep at this temperature for about 15 minutes. Remove the dish from the furnace, cool in a desiccator and weigh. Repeat the heating, cooling and weighing to constant mass.

B-3.3 Calculation

$$\text{Residue on ignition, percent by mass} = \frac{M_1 \times 100}{M_2}$$

where

M_1 = mass in g of the residue, and

M_2 = mass in g of the sample taken for the test.

B-4 DETERMINATION OF SULPHATES

B-4.0 Outline the Method

The sulphate in acid is precipitated as barium sulphate, dried and weighed.

B-4.1 For Technical and Boiler Water Grades

B-4.1.1 *Reagents*

B-4.1.1.1 *Sodium carbonate* — analytical reagent grade.

B-4.1.1.2 *Barium chloride solution* — approximately 10 percent (*m/v*).

B-4.1.2 *Procedure*

Weigh to the nearest 0·01 g about 10 g of the material (M_1) in a porcelain dish, add 0·5 g of sodium carbonate and evaporate to dryness. Moisten the residue with about 1·00 g of the material accurately weighed (M_2), add 200 ml of boiling water and filter, if necessary. Bring the contents to boil over a low flame and add slowly, with stirring, 5 ml of hot barium chloride solution. Boil the contents for 2 minutes and allow the precipitate to settle for 4 hours. Filter the supernatant liquid through a tared sintered glass crucible (G No. 4) or a tared Gooch crucible and transfer the precipitate carefully into the crucible. Wash thoroughly with hot water till the washings are free from chloride. Heat the crucible at 105 to 110°C to constant mass.

B-4.1.3 *Calculation*

$$\text{Sulphates (as } H_2SO_4\text{), percent by mass} = \frac{42{\cdot}02\,M}{(M_1 + M_2)}$$

where

M = mass in g of the precipitate,

M_1 = mass in g of the sample taken for the test initially, and

M_2 = mass in g of the sample added subsequently.

B-4.2 For Chemically Pure Grade

B-4.2.1 *Reagents* — as in **B-4.1.1**.

B-4.2.2 *Procedure*

Follow the procedure as given for technical grade in **B-4.1.2**, using about 50·0 g of the material, weighed to the nearest 0·01 g, instead of 10 g.

B-4.2.3 *Calculation* — calculate as in **B-4.1.3**.

B-4.3 For Analytical Reagent Grade

B-4.3.1 *Reagents*

B-4-3.1.1 *Sodium carbonate* — analytical reagent grade.

B-4.3.1.2 *Hydrochloric acid* — approximately 1N, sulphate-free.

B-4.3.1.3 *Barium chloride solution* — approximately 10 percent (*m/v*).

B-4.3.1.4 *Standard sulphate solution*

Dissolve 0·178 g of potassium sulphate in water and make up the volume to 1 000 ml. Dilute 100 ml of this solution in a graduated flask to 1 000 ml. One millilitre of the diluted solution contains 0·01 mg of sulphate (as H_2SO_4).

B-4.3.2 *Procedure*

Add 20 mg of sodium carbonate to 20·00 g of the material and evaporate to dryness. Take up the residue with 5 ml of water and 0·5 ml of hydrochloric acid. Filter, wash with water to make up to 10 ml and add 1 ml of barium chloride solution. Carry out a control test in the same manner using 4 ml of standard sulphate solution in place of the material. Stir the two solutions and compare the turbidity produced.

B-4.3.3 The limit prescribed in Table 1 shall be taken as not having been exceeded if the turbidity produced with the material is not greater than that produced in the control test.

B-5 DETEMINATION OF IRON

B-5.0 Two methods are prescribed. Method A shall be the referee method and Method B the alternative method.

B-5.1 Method A (Bipyridyl Method)

B-5.1.0 *Outline of the Method*

Iron is separated as coloured complex with 2,2′—bipyridyl and estimated spectrophotometrically.

B-5.1.1 *Apparatus*

B-5.1.1.1 *Photometer*

Any spectrophotometer suitable for measurement at a wavelength of about 522 nm, or a photoelectric absorptiometer.

B-5.1.2 *Reagents*

B-5.1.2.1 *Dilute hydrochloric acid* — 1 N approximately.

B-5.1.2.2 *Hydroxylammonium chloride solution*

Dissolve 10 g of hydroxylammonium chloride in water and dilute to 100 ml.

B-5.1.2.3 *2, 2′-Bipyridyl solution*

Dissolve 1 g of 2, 2′-bipyridyl in 10 ml of dilute hydrochloric acid (1 n) and dilute to 100 ml with water.

B-5.1.2.4 *Standard iron solution A*

Dissolve 0·702 2 g of ferrous ammonium sulphate [$FeSO_4 (NH_4)_2 SO_4.6H_2O$] in water in a 1 000-ml volumetric flask, add 4 ml of concentrated sulphuric acid and make up to the mark with water. One millilitre of this solution contains 0·1 mg of iron (as Fe).

B-5.1.2.5 *Standard iron solution B*

Take 100 ml of the standard iron solution A (*see* **B-5.1.2.4**) and dilute to 1 000 ml with water in a 1 000-ml volumetric flask. This dilute solution should be prepared fresh. One millilitre of this solution contains 0·01 mg of iron (as Fe).

B-5.1.2.6 *Ammonium acetate solution*

Dissolve 30 g of ammonium acetate in water and dilute to 100 ml.

B-5.1.3 *Procedure*

B-5.1.3.1 Weigh accurately about 50 g of the sample in a platinum or silica dish (100-ml capacity), place on a boiling water bath and carefully evaporate to dryness. Cool, take up with 2 ml of dilute hydrochloric acid and 25 ml of water, and heat to facilitate dissolution. Transfer quantitatively to a 100-ml one-mark volumetric flask, dilute to the mark, mix and filter, if necessary. Transfer an aliquot of the sample solution containing between 50 and 500 µg of iron to a 100-ml one-mark volumetric flask. Dilute to approximately 50 ml, if necessary, and then add successively 2 ml of dilute hydrochloric acid solution, 2 ml of hydroxylammonium chloride solution and, after 5 minutes, 5 ml of ammonium acetate solution and 1 ml 2, 2′-bipyridyl solution. Dilute to the mark, mix and wait for 10 minutes. Carry out the measurement on the spectrophotometer at a wavelength of about 522 nm, adjusting the instrument to zero optical density using as reference the blank test.

B-5.1.3.2 *Blank test*

At the same time, carry out a blank test using the same procedure and quantities of all reagents employed in the test.

B-5.1.3.3 Prepare a calibration curve by taking the quantities of standard iron solution indicated below in a series of eleven 100-ml volumetric flasks:

Volume of Standard Iron Solution B	*Corresponding Mass of Iron* (Fe)
ml	µg
0 (Compensation Solution)	0
5·0	50
10·0	100
15·0	150
20·0	200
25·0	250
30·0	350
40·0	400
45·0	450
50·0	500

Add to each volumetric flask an amount of water sufficient to dilute to approximately 50 ml then 2 ml of dilute hydrochloric acid solution, 2 ml of hydroxylammonium chloride solution and, after 5 minutes, 5 ml of ammonium acetate solution and 1 ml of 2, 2'-bipyridyl solution. Dilute to the mark, mix thoroughly and wait for 10 minutes.

B-5.1.3.4 Carry out the photometric measurement as in **B-5.1.3.1**, adjusting the instrument to zero optical density using as reference the compensation solution. Prepare a calibration curve having, for example, the iron content in micrograms per 100 ml of the standard matching solution as abscissa and the corresponding values of absorbance as ordinate.

B-5.1.4 *Calculation*

$$\text{Iron content (as Fe), percent by mass} = \frac{m \times 100 \times 100}{V \times M}$$

where

m — mass in g of iron determined in the aliquot of sample solution,

V — volume in ml of the sample taken for colour reaction, and

M — mass in g of the material taken for test.

B-5.2 Method B (Thiocyanate Method)

B-5.2.0 *Outline of the Method*

Iron is extracted with butanolic potassium thiocyanate and estimated by comparing colorimetrically.

B-5.2.1 *Apparatus*

B-5.2.1.1 *Nessler cylinders* — 50-ml capacity.

B-5.2.2 *Reagents*

B-5.2.2.1 *Ammonium persulphate*

B-5.2.2.2 *Butanolic potassium thiocyanate solution*

Dissolve 10 g of potassium thiocyanate in 10 ml of water. Add sufficient *n*-butanol to make up to 100 ml and shake vigorously till the solution is clear.

B-5.2.2.3 *Standard iron solution B*

Take 100 ml of standard iron solution A (*see* **B-5.1.2.4**), add dilute potassium permanganate solution (0·2 percent, *m/v*) until a slight pink colour persists after stirring and dilute to the mark in a 1 000-ml volumetric flask. This dilute solution should be prepared afresh. One millilitre of this solution contains 0·01 mg of iron (as Fe).

B-5.2.3 *Procedure*

B-5.2.3.1 *For technical and boiler water grades*

Dilute 1·00 g of the technical grade material (20·00 g in case of boiler water grade) to 100 ml with water. Transfer 10 ml of this solution to a Nessler cylinder, add about 30 mg of ammonium persulphate, boil for a few minutes, cool and add 15 ml of butanolic potassium thiocyanate solution. Make up to 50 ml, shake vigorously for about 30 seconds and allow the layers to separate. Carry out a control test in another Nessler cylinder using the same reagents and maintaining the same total volume with 2 ml dilute hydrochloric acid and 2 ml of the standard iron solution B in place of the material. Compare the intensity of the colour produced in the butanol layers in the two cylinders.

B-5.2.3.2 *For chemically pure grade*

Weigh 50·0 g of the material and evaporate it almost to dryness. Dilute it to 30 ml, add about 30 mg of ammonium persulphate and 15 ml of butanolic potassium thiocyanate solution. Make up to 50 ml, shake vigorously for about 30 seconds and allow layers to separate. Carry out a control test in another Nessler cylinder using 5 ml of standard iron solution B. Compare the intensity of the colour produced in the butanol layers in the two cylinders.

B-5.2.3.3 *For analytical reagent grade*

Carry out the test as given for chemically pure grade in **B-5.2.3.2**, using 2 ml of the standard iron solution B for the control test.

B-5.2.4 The limit prescribed in Table 1 shall be taken as not having been exceeded if the intensity of colour produced with the material is not greater than that produced in the control test.

B-6 DETERMINATION OF FREE CHLORINE AND BROMINE

B-6.0 Outline of the Method

The material is shaken witn potassium iodide starch solution and estimated iodimetrically.

B-6.1 For Technical Grade

B-6.1.1 *Reagents*

B-6.1.1.1 *Potassium iodide* — crystals.

B-6.1.1.2 *Starch solution*

Make a paste of 0·5 g of starch with 2·5 ml of water. Pour the paste in small quantities into 200 ml of water. Boil for 15 minutes with stirring. Preserve in small containers previously sterilized in boiling water for 2 hours.

B-6.1.1.3 *Potassium iodide solution* — 10 percent.

B-6.1.1.4 *Standard sodium thiosulphate solution*— 0·1 N.

B-6.1.2 *Procedure*

B-6.1.2.1 *Preliminary test*

Place about 20 ml of the test sample in a 100-ml conical flask, add 50 ml of water, one crystal of potassium iodide, 0·5 ml of starch solution and stir. If a blue colour indicating iodine liberation appears, follow the procedure prescribed in **B-6.1.2.2** for determination of free chlorine and bromine. If no colour appears, proceed for the determination of sulphites as in **B-7**.

B-6.1.2.2 Fill a ground glass stoppered weighing bottle with test sample and take a portion of approximately 50 g, weighing by difference to the nearest 10 mg. Transfer the test portion to a conical flask fitted with ground glass stopper of capacity 500-ml containing 100 ml of water. Stopper the flask and cool. Add to the conical flask, 10·0 ml of potassium iodide solution, stopper and flask and shake. Allow to stand for 2 minutes and then add 1 ml of starch solution. Allow to stand for two minutes and then titrate with standard sodium thiosulphate solution until the blue colour disappears.

B-6.1.2.3 Since iron may interfere in the determination, carry out a blank determination using 100 ml of water, and adding to it a water-soluble ferric iron salt equivalent to that contained in 50 g of the sample. Add other reagents as added to the sample. Subtract the volume of sodium thiosulphate solution required for titration from the volume required with sample (**B-6.1.2.2**).

B-6.1.3 *Calculation*

$$\text{Free chlorine and bromine (as Cl), percent by mass} = \frac{V \times m \times 100}{M}$$

where

V = volume in ml of 0·1 sodium thiosulphate solution used in titration (corrected for the blank);

m = mass in g of chlorine corresponding to 1 ml of 0·1 sodium thiosulphate solution (theoretical value, 1 ml = 0·003 55 g of Cl); and

M = mass in g of the test portion.

B-6.2 For Boiler Water, Chemically Pure and Analytical Reagent Grades

B-6.2.1 *Apparatus*

B-6.2.1.1 *Microburette*

B-6.2.2 *Reagents*

B-6.2.2.1 *Cadmium iodide solution*

Dissolve 9·2 g of cadmium iodide in 100 ml of water.

B-6.2.2.2 *Starch solution* — *See* **B-6.1.1.2.**

B-6.2.2.3 *Standard sodium thiosulphate solutions* — 0·05 N and 0·005 N.

B-6.2.3 *Procedure*

Dilute 4 ml of the material with 20 ml of freshly boiled and cooled water. Add 1 ml of cadmium iodide solution and 1 ml of starch solution, and allow to stand in the dark for 10 minutes.

B-6.2.4 The limit prescribed in Table 1 shall be taken as not having been exceeded if any blue colour produced on treating the material as in **B-6.2.3** is discharged by the addition of not more than 0·05 ml of 0·05 N sodium thiosulphate solution for chemically pure grade, not more than 0·125 ml of 0·005 N sodium thiosulphate solution in the case of boiler water grade and not more than 0·05 ml of 0·005 N sodium thiosulphate solution in the case of analytical reagent grade.

B-7 DETERMINATION OF SULPHITES

B-7.0 Outline of the Method

The material is shaken with standard iodine solution and estimated iodimetrically.

B-7.1 For Boiler Water, Technical and Chemically Pure Grades

B-7.1.1 *Reagents*

B-7.1.1.1 *Standard iodine solution* — 0·1 N, freshly standardized.

B-7.1.1.2 *Standard sodium thiosulphate solution* — 0·1 N, freshly standardized.

B-7.1.1.3 *Starch solution* — *See* **B-6.1.1.2.**

B-7.1.2 *Procedure*

Introduce successively into a 500 ml glass stoppered conical flask 100 ml of freshly boiled water and 10 ml of standard iodine solution. Add, while cooling, about 50 g of the material weighed to ± 0·01 g. Stopper the flask, mix and after 2 minutes titrate the excess iodine with standard sodium thiosulphate solution, adding 5 ml of starch solution towards the end of the titration.

B-7.1.3 *Calculation*

$$\text{Sulphites (as } SO_2\text{), percent} = \frac{0{\cdot}320\,3\,(10 - V)}{M}$$

where

V = volume in ml of standard sodium thiosulphate solution used in titration, and

M = mass in g of the material taken for the test.

B-7.2 For Analytical Reagent Grade

B-7.2.1 *Reagents*

B-7.2.1.1 *Potassium iodine solution* — 10 percent (*m/v*).

B-7.2.1.2 *Standard iodine solution* — 0·01 N.

B-7.2.1.3 *Starch solution* — *See* **B-6.1.1.2.**

B-7.2.2 *Procedure*

To 400 ml of freshly boiled and cooled water, add 1·5 ml of potassium iodide solution, 5 ml of hydrochloric acid and 2 ml of starch solution and titrate with 0·01 N iodine solution to a faint permanent blue colour. Add 100 g of the sample and titrate with 0·01 N iodine solution to the same end point. The limit prescribed in Table 1 shall be taken as not having been exceeded if not more than 0·25 ml of 0·01 N iodine is required for the titration.

B-8 DETERMINATION OF HEAVY METALS

B-8.0 Outline of the Method

The presence of heavy metals is indicated from the turbidity formed when hydrogen sulphide is passed through the material.

B-8.1 Apparatus

B-8.1.1 *Nessler Cylinders* — 50 ml capacity.

B-8.2 Reagents

B-8.2.1 *Dilute Hydrochloric Acid* — 1 : 1 (*v/v*).

B-8.2.2 *Dilute Ammonia Solution*

Dilute 280 ml of strong ammonia solution to 1 000 ml with water.

B-8.2.3 *Dilute Acetic Acid* — Dilute 285 ml of acetic acid to 1 000 ml with water.

B-8.2.4 *Standard Iron Solution* — *See* **B-5.1.2.4.**

B-8.2.5 *Standard Lead Solution*

Dissolve 0·160 g of lead nitrate in water, add 1 ml of concentrated nitric acid and make up the solution to 1 000 ml. Pipette out 10 ml of the solution and dilute again to 100 ml with water. One millilitre of this solution contains 0·01 mg of lead (as Pb).

B-8.2.6 *Hydrogen Sulphide Gas*

B-8.3 Procedure

Accurately weigh 2·5 g of the material in the case of boiler water grade, 10 g in the case of chemically pure grade and 50 g in the case of analytical reagent grade in a platinum or silica crucible (100-ml capacity) and evaporate to dryness on a steam bath. Dissolve the residue by heating to boiling with a mixture of 3 ml dilute hydrochloric acid and 10 ml of water. Cool, dilute with 20 ml of water and transfer to a Nessler cylinder. Add 10 ml of dilute ammonia solution and standard iron solution equivalent to the amount of iron present in 50 g of the sample as determined in accordance with **B-5**, and make the volume to 50 ml with water. In another Nessler cylinder, take 5 or 4 ml of standard lead solution according as the material is of boiler water grade, chemically pure grade or analytical reagent grade, for control test. Add 3 ml of dilute acetic acid solution, the same amount of standard iron solution as taken in the case of sample, and 10 ml of dilute ammonia solution. Make the volume to 50 ml. Pass hydrogen sulphide in both the Nessler cylinders for a few seconds.

B-8.4 The limit prescribed in Table 1 shall be taken as not having been exceeded if the turbidity produced in the test with the sample is not greater than that produced in the control test.

B-9 DETERMINATION OF ARSENIC

B-9.0 Outline of the Method

Arsenic is extracted with silver diethyl dithiocarbamate as a red complex and measured spectrophotometrically.

B-9.1 Take a suitable quantity of the material so that the test solution contains 1 to 10 µg of arsenic in a final volume of 5·0 ± 0·5 ml. Determine arsenic by silver diethyl dithiocarbamate method as prescribed in IS 2088 : 1983.

B-10 DETERMINATION OF AMMONIUM COMPOUNDS

B-10.0 Outline of the Method

The material is made slightly alkaline and shaken well with Nessler's reagent and the colour developed is compared with a standard.

B-10.1 Reagents

B-10.1.1 *Sodium Hydroxide Solution* — 5 N, ammonia-free.

B-10.1.2 *Standard Ammonium Solution*

Dissolve 2·97 g of ammonium chloride in water and dilute to 1 000 ml. One millilitre of this solution contains 1 mg of ammonium. Dilute 1 ml of this solution to 100 ml with water immediately before use to get 0·01 mg of ammonium per ml.

B-10.1.3 *Nessler's Reagent*

Dissolve 35 g of potassium iodide and 12·5 g of mercuric chloride in 800 ml of water and add a saturated solution of mercuric chloride until a slight permanent precipitate is produced. Then add 120 g of sodium hydroxide and dissolve. Add a little more mercuric chloride solution and sufficient water to make up to 1 000 ml. Shake the solution occasionally for several days. Allow to settle and decant the clear liquid.

B-10.2 Procedure

Dilute 2·8 ml (3·3 g) of the material to about 20 ml with water and add sodium hydroxide solution until alkaline to litmus paper (about 7 ml is required). Dilute to 50 ml with water. Prepare a standard by diluting 1 ml of standard ammonium solution to 50 ml with water. To both solutions, add 2 ml of Nessler's reagents and compare after 1 minute.

B-10.3 The limit prescribed in Table 1 shall be taken as not having been exceeded if the yellow colouration produced, if any, with the test material is not deeper than that of the standard.

B-11 DETERMINATION OF MERCURY

B-11.0 Two methods have been specified, namely, dithizone method and mercury analyzer method. In case of dispute, the mercury analyzer method shall be taken as the referee method.

B-11.1 Dithizone Method

B-11.1.0 *Outline of the Method*

Mercuric mercury forms a complex with dithizone in the form of orange/red colour depending upon its concentration.

B-11.1.1 *Reagents*

B-11.1.1.1 *Dithizone*

Concentrated stock solution (25 to 30 mg) in 500 ml of chloroform; 25 mg of dithizone is dissolved in 100 ml of chloroform and extracted with 250 ml of 2 N ammonia. Most of the dithizone will pass into the aqueous layer and change colour from green to orange. The oxidation products and contaminants are retained in the chloroform layer which is separated and discarded. 500 ml of chloroform are added to the aqueous layer in the separating funnel and the solution is mixed with 6 ml of glacial acetic acid and gradually 1 : 1 sulphuric acid is added till the orange phase loses its colour. The solution is shaken well. When precipitated dithizone dissolved in the chloroform layer, this is separated and filtered. The volume is made up to 500 ml and the solution is stored in an amber coloured bottle. Stability of the prepared reagent is 10 days.

B-11.1.1.2 *Diluted dithizone*

Dilute 2 ml of the concentrated dithizone solution to 100 ml with chloroform (1 ml = 1 microgram of Hg). Stability of this reagent is 1 day.

B-11.1.1.3 *EDTA (5 percent)*

Dissolve 5 g of disodium salt of EDTA in 100 ml of water.

B-11.1.1.4 *Potassium thiocyanate solution* — 10 percent (*m/v*).

B-11.1.1.5 *Sodium acetate buffer (pH 5)*

Weigh 56 g of sodium acetate and dissolve in water. Add 24 ml of glacial acetic acid. Make up to 100 ml with water.

B-11.1.1.6 *Sulphuric acid* — 10 percent.

B-11.1.1.7 *Standard mercury solution (1 ml = 1 microgram of mercury)*

Dissolve 0·135 4 g of pure mercuric chloride in water and make up to 1 000 ml. 10 ml of this solution is further diluted to 1 000 ml. 1 ml of this solution contains 1 microgram of mercury.

B-11.1.1.8 *Ammonia solution* — 1 : 4.

B-11.1.1.9 *Potassium permanganate solution (4 percent)*.

Dissolve 4 g of potassium permanganate in 100 ml of water.

B-11.1.1.10 *Hydroxylamine hydrochloride (2 percent)*

Dissolve 2 g of hydroxylamine hydrochloride in 100 ml of water.

B-11.1.1.11 *Chloroform*

B-11.1.1.12 *Glacial acetic acid*

B-11.1.2 *Procedure*

Neutralize 10 ml of the sample with 1 : 4 ammonia solution in a 250 ml beaker. Add 10 ml of 10 percent sulphuric acid followed by 1 ml of 4 percent potassium permanganate solution. Digest the same for half an hour, cool and neutralize the excess potassium permanganate with 2 percent hydroxylammonium chloride solution.

Transfer the solution in a 500-ml separating funnel. Dilute to 100 ml. Now add 10 ml of sodium acetate buffer, 10 ml of 5 percent EDTA solution and 2 ml of 10 percent potassium thiocyanate solution. The solution is now saturated with 5 ml chloroform. Drain off the organic layer. Add 5 ml of glacial acetic acid and mix the solution thoroughly. Now add diluted dithizone solution (1 ml = 1 microgram of Hg) in small quantities and extract separately till the dithizone solution remains green in colour. Collect the dithizone extract and not the volume. By known quantities of standard mercury solution, running a blank and following the same method of extraction standardized the dithizone solution.

B-11.1.3 *Calculation*

$$\text{Mercury (as Hg), ppm} = \frac{V \times N}{10 \times d}$$

where

V = volume in ml of dithizone solution,

N = strength of dithizone solution in μg, and

d = relative density of hydrochloric acid.

B-11.2 Mercury Analyzer Method

B-11.2.0 *Outline of the Method*

Mercury analyzer works on the principle of cold vapour atomic absorption spectrometry technique. Mercury ions are reduced to elemental state by stannous chloride and the solution is stirred vigorously so that an equilibrium is achieved between the mercury in solution and air phase. The vapour is then purged into the absorption cell which is located in the light path of the spectrometer.

As the cold vapour absorption technique of mercury is based on absorption of UV radiation by mercury atoms, all substances which absorb UV radiation will cause the positive error. Vapours of organic compounds like alcohols, ketones, esters, and acids and water also absorb UV radiation. These can be avoided with suitable trap provided along with the instrument.

B-11.2.1 *Mercury in the Chemically Pure Grade*

B-11.2.1.1 *Apparatus*

Mercury analyzer EC MA/5 800 A or equivalent.

B-11.2.1.2 *Reagents*

a) *Nitric acid* — 10 percent (*v/v*),

b) *Stannous chloride* — 20 g in 10 percent hyhrochloric acid (*m/v*),

c) *Potassium permanganate* — 1 percent (*m/v*),

d) *Hydroxylamine hydrochloride* — 10 percent (*m/v*),

e) *Nitric acid* — 5 percent (*m/v*), and

f) *Potassium dichromate solution* — 1 percent (*m/v*).

B-11.2.1.3 *Preparation of sample solution*

Take 50 ml of the sample in a 100 ml standard volumetric flask. Add potassium permanganate solution drop-wise till the purple colour remains, add 2 to 3 drops of concentrated nitric acid. Keep it for 5 to 10 minutes after shaking flask. Decolourize the solution by adding hydroxylamine hydrochloride solution drop-wise. Make up the volume to 100 ml with mercury free water.

Similarly, make the blank solution (B. S.) by using 50 ml mercury free water instead of hydrochloric acid and using the same quantity of reagents.

B-11.2.1.4 *Preparation of Standard Graph*

a) *Preparation of stock solution*

Dissolve 0·135 4 g of mercuric chloride AR or GR grade in 25 ml of 2 percent of nitric acid (*v/v*). Add 2 ml of 1 percent (*m v*) potassium dichromate solution of and make up to 100 ml with 5 percent nitric acid (*v/v*).

1 ml of this stock solution = 1 mg of Hg.

b) *Preparation of standard solution*

By successive dilution of the above stock solution, prepare the standard solution of 1 ml = 100 nanogram of Hg, keeping 5 percent nitric acid (*v/v*) and 0·10 percent potassium dichromate (*m/v*) concentration. This standard solution is generally stable for a period of at least one month.

c) *Procedure*

Using the above standard solution, find out the transmission for 10, 20, 40, 60, 80, 100, 120, 140 and 150 nanogram of mercury. By following the procedure prescribed in **B-11.2.1.5**, prepare the standard graph indicating Hg in ng against absorbance.

B-11.2.1.5 *Procedure*

Add 8 ml of 10 percent nitric acid and 2 ml of stannous chloride solution to the reaction vessel and stir the mixture for 5 minutes. Remove the blank transmission. Add 5 ml of prepared solution (**B-11.2.1.3**). Volume in the reaction vessel should not be more than 15 ml in any case. Stir for 5 minutes and find out the transmission. This gives 'Back reading' (BR). Take the transmission for 5 ml of blank solution following same procedure. This gives 'Blank reading' (BLR).

Difference in the two readings (BR and BLR) corresponds to mercury content in the sample which can be obtained by referring the chart of absorbance v/s mercury in nanograms.

B-11.2.1.6 *Calculation*

$$\text{Mercury (as Hg), ppm by mass} = \frac{0{\cdot}0004 \times X}{rd}$$

where

X = mercury in nanograms for transmission from the graph (BR – BLR), and

rd = relative density (*see* Annex A).

B-11.2.2 *Mercury in Technical and Boiler Water Grades*

B-11.2.2.1 *Preparation of sample solution*

Take 5 ml of technical grade of the material (5 ml for boiler water grade also) and follow the procedure prescribed for the preparation of sample solution for pure grade acid as also for the blank solution.

B-11.2.2.2 *Procedure*

Take 1 ml of sample solution (**B-11.2.2.1**) and follow the procedure prescribed for pure grade acid (**B-11.2.1.4**).

B-11.2.2.3 *Calculation*

$$\text{Mercury (as Hg), ppm by mass} = \frac{0{\cdot}02 \times X}{rd}$$

where

X and rd have the same significance as indicate in **B-11.2.1.6.**

ANNEXURE B - Hazardous Waste Authorization and Consent 2019

M.P. Pollution Control Board
E-5, Arera Colony
Paryavaran Parisar, Bhopal - 16 MP
Tele : 0755-2466191, Fax-0755-2463742

Authorization Order

Outward [illegible],20/11/2019	CCA-Re Apply	CONSENT NO. [illegible]734	PCB ID: 19244

To,

The Occupier,
M/s. Lanxess India Private Limited,
Plot No. 256 to 261, Vill. Mehtwas,
Birlagram, Nagda ,
Dist Ujjain PIN- 456331 (M.P.)

Subject: Grant of Authorization under Hazardous and other Waste (Management & Transboundary Movement) Rule, 2016

Ref: Your Application Receipt No. 858703 Dt. 16/08/2019 and last communication received on Dt.05/11/2019.

With reference to your above subject, the application has been considered under the aforesaid Acts and existing rules therein. The M. P. Pollution Control Board has agreed to grant Authorisation under Hazardous and other Waste (Management & Transboundary Movement) Rule, 2016 Up to **31/08/2024**, subject to the fulfillment of the provisions of the rule & CPCB guidelines issue in this regard alongwith terms & conditions, enclosed with this letter

SUBJECT TO THE FOLLOWING CONDITIONS :-

a. Location: 256 to 261, Mehtwas, Birlagram, Nagda , Dist Ujjain (M.P.)

b. The capital investment in lakhs: Rs. 650 Crs

Enclosures:-

* Conditions under Hazardous Rules
* General conditions

Note :-

(1) This authorization is being granted without prejudice to the Criminal proceeding pending against the industry in the Court of Law. This authorization in no way be taken as measures of proof that the industry has not violated any pollution control laws at any time in the past. Hence, whatsoever may be decision of the Hon'ble Court shall be binding to the industry and this Board.

(2) The hydrochloric acid generated from control arrangement shall be treated as hazardous waste and same shall be handled and transported as per category 35.1 of the Hazardous and Other Wastes (Management & Transboundary Movement Rules, 2016.

(30 The industry shall handle and manage the HCl (Hydro Chloric Acid) generated from the process and scrubbing - Air Pollution control arrangements as hazardous waste as per CPCB guidelines and record in this regard shall be maintained as per Hazardous and other Waste (Management & Transboundary Movement) Rule, 2016

e-Signed On 20/11/2019 14:10:25
(Organic Authentication on AADHAR from UIDAI Server)
TPAV # W9RVMCK19W

R.S. KORI
Member Secretary

e-Signed (Physical Signature NOT requires)

Page: 1 / 6 N 1 C

M.P. Pollution Control Board
E-5, Arera Colony
Paryavaran Parisar, Bhopal - 16 MP
Tele : 0755-2466191, Fax-0755-2463742

Authorization Order

CONDITIONS PERTAINING TO THE HAZARDOUS AND OTHER WASTES (MANAGEMENT AND TRANSBOUNDARY MOVEMENT) RULES, 2016:-

FORM-2
[See rule 6 (2)]

FORM FOR GRANT OR RENEWAL OF AUTHORISATION BY STATE POLLUTION CONTROL BOARD TO THE OCCUPIERS, RECYCLERS, REPROCESSORS, REUSERS, USER AND OPERATORS OF DISPOSAL FACILITIES

1. Number of authorisation and date of issue :

2. Reference of application (No. and date) : **COR-858703, dt: 16/08/2019**

3. The Occupier, of M/s. Lanxess India Private Limited is hereby granted an authorisation based on the enclosed signed inspection report for generation, collection, reception, storage, transport, reuse, recycling, recovery, pre-processing, co-processing, utilisation, treatment, disposal or any other use of hazardous or other wastes or both on the premises situated at 256 to 261, Vill. Mehtwas, Birlagram, Tehsil Nagda , Dist Ujjain , PIN - 456331, (M.P.)

Details of Authorisation

S.No.	Category of Hazardous Waste as per the Schedules I, II and III of these rules		Authorised mode of disposal or recycling or utilisation or co-processing, etc.	Quantity (ton/annum)
1.	Used or Spent Oil	(I-5.1)	To be sold to authorized Re-processors/ Recycler authorized with SPCB.	6.000-M.T
2.	Oily rages/DG-filters etc.	(I-5.2)	M.P. Waste Management Project, Pithampur, Dist. Dhar (M.P.) or pre processing or Co-processing.	0.600 M.T.
3.	Chemical-containing residue Arising from decontamination.	(I-34.1)	M.P. Waste Management Project, Pithampur, Dist. Dhar (M.P.) or pre processing.	5.000-M.T
4.	Sludge From Treatment Of Waste Water Arising Out Of Cleaning / Disposal Of Barrels / Containers	(I-34.2)	M.P. Waste Management Project, Pithampur, Dist. Dhar (M.P.) or pre processing.	5.000-M.T
5.	Empty barrels/containers/liners contaminated with hazardous chemicals /wastes	(I-33.1)	At Captive Incinerator or M.P. Waste Management Project, Pithampur, Dist. Dhar (M.P.) or To be sold to authorized Re-processors/ Recycler authorized with SPCB.	10.000-M.T
6.	Ash from incinerator and flue gas cleaning residue	(I-37.2)	M.P. Waste Management Project, Pithampur, Dist. Dhar (M.P.) or pre processing .	0.500-M.T
7.	Chemical sludge from waste water treatment	(I-35.3)	M.P. Waste Management Project, Pithampur, Dist. Dhar (M.P.) or pre processing .	2000.000-M.T
8.	Spent ion exchange resin containing toxic metals	(I-35.2)	M.P. Waste Management Project, Pithampur, Dist. Dhar (M.P.) or pre processing .	8.000-M.T
9.	Distillation Residues	(I--20.3)	At Captive Incinerator or M.P. Waste Management Project, Pithampur, Dist. Dhar (M.P.) or pre processing	5200.000-M.T
10.	Chemical sludge from waste water treatment	(I-35.3)	M.P. Waste Management Project, Pithampur, Dist. Dhar (M.P.) or pre processing with due permission from the disposal destination SPCB.	1500.000-M.T
11.	Any process or distillation residue	(I-36.1)	CTSDF/Pre-processing.	3800.00 MT
12.	Any process or distillation residue	(I-36.1)	Captive Incinerator/CTSDF/Pre-processing.	2300.00 MT
13.	Any process or distillation residue	(I-36.1)	CTSDF/Pre-processing	5200.00 MT
14.	Spent Carbon or filter medium	(I-36.2)	M.P. Waste Management Project, Pithampur, Dist. Dhar (M.P.) or pre processing .	510.000-M.T
15.	Exhaust Air or Gas cleaning residue	(I-35.1)	M.P. Waste Management Project, Pithampur, Dist. Dhar (M.P.) or pre processing .	6000.000-M.T
16.	Oil And Grease, Skimming	(I-35.4)	M.P. Waste Management Project, Pithampur, Dist. Dhar (M.P.) or pre processing .	5.000-M.T

Consent No:CE-58734

e-Signed (Physical Signature NOT requires) Page: 2 / 6 N 1 C

M.P. Pollution Control Board
E-5, Arera Colony
Paryavaran Parisar, Bhopal - 16 MP
Tele : 0755-2466191, Fax-0755-2463742

Authorization Order

(1) The authorisation shall be valid for a period of **01/09/2019~31/08/2024**

(2) The authorisation is subject to the following general and specific conditions (Please specify any conditions that need to be imposed over and above general conditions, if any):

Incineration of Hazardous Wastes :

(i) The incinerator should meet the norms and monitoring schedule decided by the CPCB, New Delhi as per "Guidelines for common Hazardous Waste Incineration" (Series HAZWAMS/30/2005-06).
(ii) Emissions from incinerator should confirm the emission limits prescribed by MoEF in. Environment (Protection) Second Amendment Rules 2009 published in Gazette of India dated 04.03.09.
(iii) During incineration of hazardous wastes the operation condition such as temperature, air feed rate, retention time etc. must be met out to achieve complete destruction of wastes and to avoid generation of toxic emission.
(iv) Incinerator shall be attached with efficient scrubbing system or particulate trap device to nullify the effects of pollutants generated during incineration.
(v) Submit the monitoring report of pollutants arising due to incineration process. If the emissions are not within threshold limit then a scrubber or a particulate trap device may be attached with the incinerator to nullify the effects or toxic emissions from incinerator.
(vi) Generated incinerated ash should be analyzed after each shift of generation to ensure that ash is not toxic in nature. Non toxic incinerated ash shall be stored and disposed off in secured disposal facility.
(vii) The occupier or operator of a facility shall also comply with the terms& conditions laid down in the permission issued for establishment of captive on-site incineration facility.
(viii) The authorized person shall follow the guidelines of Mr. R. K. Garg Committee title as "Storage of incinerable hazardous wastes by the operators of Common Hazardous Wastes Treatment, Storage and Disposal Facilities and captive H.W. incinerators". Published by CPCB - Hazardous Waste Management Series : HAZWAMS/2005-2006.

A. General conditions of authorisation:

1. The authorised person shall comply with the provisions of the Environment (Protection) Act, 1986, and the rules made there under.

2. The authorisation or its renewal shall be produced for inspection at the request of an officer authorised by the State Pollution Control Board.

3. The person authorised shall not rent, lend, sell, transfer or otherwise transport the hazardous and other wastes except what is permitted through this authorisation.

4. Any unauthorised change in personnel, equipment or working conditions as mentioned in the application by the person authorised shall constitute a breach of his authorisation.

5. The person authorised shall implement Emergency Response Procedure (ERP) for which this authorisation is being granted considering all site specific possible scenarios such as spillages, leakages, fire etc. and their possible impacts and also carry out mock drill in this regard at regular interval of time;

6. The person authorised shall comply with the provisions outlined in the Central Pollution Control Board guidelines on Implementing Liabilities for Environmental Damages due to Handling and Disposal of Hazardous Waste and Penalty

7. It is the duty of the authorised person to take prior permission of the State Pollution Control Board to close down the facility.

8. The imported hazardous and other wastes shall be fully insured for transit as well as for any accidental occurrence and its clean-up operation.

M.P. Pollution Control Board
E-5, Arera Colony
Paryavaran Parisar, Bhopal - 16 MP
Tele : 0755-2466191, Fax-0755-2463742

Authorization Order

9. The record of consumption and fate of the imported hazardous and other wastes shall be maintained.

10. The hazardous and other waste which gets generated during recycling or reuse or recovery or pre-processing or utilisation of imported hazardous or other wastes shall be treated and disposed of as per specific conditions of authorisation.

11. The importer or exporter shall bear the cost of import or export and mitigation of damages if any.

12. An application for the renewal of an authorisation shall be made as laid down under these Rules.

13. Any other conditions for compliance as per the Guidelines issued by the Ministry of Environment, Forest and Climate Change or Central Pollution Control Board from time to time.

14. Annual return shall be filed by June 30th for the period ensuring 31st March of the year.

15. The non hazardous solid waste arresting in the industry/unit/unit premises sweeping, etc. be disposed off scientifically so as not to cause any nuisance/pollution. The applicant shall take necessary permission from civic authorities for disposal to dumping site. If required.

B. Specific conditions:

1. The industry shall display the information on hazardous waste generated on notice board of size 6' x 4' (in Hindi & English) outside the unit main gate along with quantity and nature of hazardous chemicals being handled in the plant, including wastewater, air emission and hazardous wastes.

2. The authorisation or its renewal shall be produced for inspection at the request of an officer authorised by the State Pollution Control Board.

3. The industry shall comply with the provisions of guidelines issued by CPCB for identifying the wastes and by products.

4. The industry shall comply with the provisions of transportation and manifest system for hazardous wastes in accordance with CPCB transportation guidelines.

M.P. Pollution Control Board
E-5, Arera Colony
Paryavaran Parisar, Bhopal - 16 MP
Tele : 0755-2466191, Fax-0755-2463742

Authorization Order

GENERAL CONDITIONS :-

Non Hazardous Solid wastes:-
The non hazardous solid waste arresting in the industry/unit/unit premises sweeping, etc. be disposed off scientifically so as not to cause any nuisance/pollution. The applicant shall take necessary permission from civic authorities for disposal to dumping site. If required.

Type of waste	Quantity	Disposal
Scrap/ Plastic packing material wood, card board, gunny begs etc		Sale to authorized party/As Per CPCB. MoEF Guide lines.

2. The applicant shall allow the staff of Madhya Pradesh Pollution Control Board and/or their authorized representative, upon the representation of credentials:
   a. To inspect raw material stock, manufacturing processes, reactors, premises etc to perform the functions of the Board.
   b. To enter upon the applicant's premises where an effluent source is located or in which any records are required to be kept under the terms and conditions of this Consent.
   c. To have access at reasonable times to any records required to be kept under the terms and conditions of this Consent.
   d. To inspect at reasonable times any monitoring equipment or monitoring method required in this Consent: or,
   e. To sample at reasonable times any discharge or pollutants.

3. This consent/authorisation is transferable, in case of change of ownership/management and addresses of new Owner/partner/Directors/proprietor should immediately apply for the same.

4. The issuance of this Consent does not convey any property rights in either real or personal property or any exclusive privileges, nor does it authorise any invasion of personal rights, nor any infringement of Central, State or local laws or regulations.

5. This consent is granted in respect of Water pollution control Act 1974 or Air Pollution Control act, 1981 or Authorization under the provisions of Hazardous and other Waste (Management & Transboundary movement) Rules 2016 only and does not relate to any other Department/Agencies. License required from other Department/Agencies have to be obtained by the unit separately and have to comply separately as per there Act / Rules.

6. Balance consent/authorisation fee, if any shall be recoverable by the Board even at a later date.

7. The applicant shall submit such information, forms and fees as required by the board not letter than 180 day prior to the date of expiration of this consent/authorisation

8. Knowingly making any false statement for obtaining consent or compliance of consent conditions shall result in the imposition of criminal penalties as provided under the section 42(g) of the Water Act or section 38 (g) of the Air Act.

9. After notice and opportunity for the hearing, this consent may be modified, suspended or revoked by the Board in whole or in part during its term for cause including, but not limited to, the following :
   (a) Violation of any terms and conditions of this Consent.
   (b) Obtaining this Consent by misrepresentation of failure to disclose fully all relevant facts.
   (c) A change in any condition that requires temporary or permanent reduction or elimination of the authorized discharge.

10. On violation of any of the above-mentioned conditions the consent granted will automatically be taken as canceled and necessary action will be initiated against the industry.

Consent No:H-50734

e-Signed (Physical Signature NOT requires) Page: 5 / 6 N 1 C

M.P. Pollution Control Board
E-5, Arera Colony
Paryavaran Parisar, Bhopal - 16 MP
Tele : 0755-2466191, Fax-0755-2463742

Authorization Order

Additional condition:-

Packing, Labeling & Transportation of Hazardous wastes

(i) The occupier or operator of the Treatment, Storage and Disposal Facility or recycler shall ensure that the hazardous waste are packaged and labeled, based on the composition in a manner suitable for safe handling, storage and transport as per the guidelines issued by the Central Pollution Control Board vide - October 2004 & conditions issues from time to time.
(ii) The labeling and packaging shall be easily visible and be able to withstand physical conditions and climate factors.
(iii) The transport of the hazardous wastes shall be in accordance with the provision of these rules and the rules made by the Central Govt. under the Motor Vehicle Act 1988 and other guidelines issued from time to time in this regard.
(iv) In case of transportation of hazardous wastes through a State other than the State of origin or destination, the occupier shall intimate the concerned State Pollution Control Board before he hands over the hazardous wastes to the transporter.
(v) The occupier shall provide the transporter with seven copies of the manifest as per the colour codes as per rule 19(1).
(vi) The occupier shall forward copy 1 (white) to the State Pollution Control Board and in case the hazardous wastes is likely to be transported through any transit State, the occupier shall prepare an additional copy each for intimation to such State and forward the same to the concerned SPCB before he hands over the hazardous wastes to the transporter.
(vii) No transporter shall accept hazardous wastes from an occupier for transport unless copies 3 to 7 of the manifest accompany it.
(viii) The transporter shall submit copies 3 to 7 of the manifest duly signed with date to the operator of the facility along with the waste consignment.

Authorization as required under the Hazardous and other Wastes (Management & Transboundary Movement) Rule, 2016 is granted to your industry subject to fulfillment of all the conditions mentioned above. For renewal purpose you shall have to make an application to this Board through XGN at least Six months before the date of expiry of this Authorisation. The applicant without valid Authorisation (for operation) of the Board shall not bring in to use any outlet for the discharge of effluent and gaseous emission.

For and on behalf of
M.P. Pollution Control Board

e-Signed On 20/11/2019 14:10:25
(Organic Authentication on AADHAR from UIDAI Server)
TPAV # W9RVMCK19W

R.S. KORI
Member Secretary

Consent No:H-50734

ANNEXURE C - Raw Materials/Products and Storage

- **Raw Materials storage at Site:**

Product Name	Raw Material	Storage Capacity	
			Unit
Benzyl Chloride NGD	Toluene Nitration Grade	1392	MT
	Liquid Chlorine	36	MT
	AZDN	2	MT
	Caprolactum	5	MT
Benzyl Alcohol NGD	Benzyl Chloride NGD (Captive)	158	MT
Benzyl Acetate (BCl Route)	Sodium Acetate (Tri - Hydrated)	120	MT
	TBAB	5	MT
	Boric Acid	10	MT
Benzyl Acetate (DBE Route)	Di Benzyl Ether NGD(Captive)	17	MT
	Acetic Anhydride	80	KL
Benzyl Benzoate (FR Grade)	Sodium Benzoate (Captive)	50	MT
Benzaldehyde	BenzalchlorideNgd (Captive)	75	MT
	Tea	1.5	MT
	98% Sulfuric Acid	20	MT
	Light Soda Ash Assay As Na2co3	50	MT
Cinnamic Aldehyde	Acetaldehyde	20	KL
	Caustic Soda Lye	24	MT
	Acetic Acid	2	MT
	Diesel	40	KL

- **Product Storage at Site:**

List Of Finished Product	Maximum Storage Capacity
Benzyl Chloride	170 KL
Benzal Chloride	60 KL
Benzaldehyde	213 KL
Benzyl Alcohol	300 KL
Benzyl Acetate	80 KL
Di Benzyl Ether	20 KL
Benzyl Benzoate	60 KL
Cinnamaldehyde	40 KL
Hydrochloric Acid	1200 KL
Sodium Benzoate	20 MT

Annexure D - SOP for testing of Hydrochloric Acid

1.0 OBJECTIVE :-

To lay down a procedure for testing of Hydrochloric Acid.

2.0 SCOPE :-

The SOP is applicable to Hydrochloric Acid analyzed in Quality control lab of LANXESS India Pvt Ltd, Nagda Plant

3.0 ABBREVIATIONS AND DEFINATIONS : -

Sr. Chemist	Senior Chemist (Lab)
FP	Finished Products
Dy. M gr. QA & QC	Deputy Manager (Quality Assurance and Quality control)
SOP	Standard Operating Procedure
Sr. M gr. Quality and R&D	Senior Manager (Quality and Research & Development).

4.0 RESPONSIBILITY :-

The below table defines the overall responsibilities for the process to be followed testing and report filling of Hydrochloric Acid in QC lab.

Function/ Role	Responsibility
Chemist & Sr. Chemist	Shall be responsible for following of the steps mentioned in the SOP.
Dy. M gr. QA & QC	Shall be responsible for implementation of this SOP.

5.0	**PROCEDURE :-** 5.1 DETERMINATION OF IRON CONTENT IN HYDROCHLORIC ACID: 5.1.1 Take about 10 ml into a clean 100 ml Nessler cylinder and add 40 ml of distilled water. 5.1.2 Mix well and add 100 mg of Ammonium per sulphate to convert and ferrous iron into ferric iron and heat for 5 minutes and cool to room temperature. 5.1.3 Add 10 ml of 30% Ammonium thiocyanate. 5.1.4 Take 10 ml of iron free HCL into another 100 ml Nessler cylinder, add 40 ml of distilled water and 100 mg of Ammonium per sulphate and add 10 ml of 30% ammonium thiocyanate. 5.1.5 Titrate with standard iron solution of strength 0.01mg of Fe/ ml until red color matches with that of sample. Note the titer value. 5.1.6 CALCULATION T.V x 10 Iron in ppm = ---------- Wt. of sample Where T.V = Volume of standard ferric iron solution of 0.01mg of Fe / ml.

	5.2 DETERMINATION OF SPECIFIC GRAVITY: 5.2.1 (By Hydrometer): Take 100 ml sample under the test in a measuring cylinder and cool to the desired temperature (Temp. at which Sp.gr is to be determined) in a water bath. Immerse hydrometer of suitable range into the sample along with the thermometer. Observe the hydrometer reading & record. 5.3 APPERANCE: 5.3.1 Take 50 ml test sample in a Nessler cylinder having capacity 100 ml. 5.3.2 Place a white paper under the cylinder and observe the test sample. 5.3.3 The material should be a clear, colorless or light yellow liquid free from dirt and other visible impurities. 5.4 TOTAL ACIDITY [As HCL], PERCENTAGE BY MASS: 5.4.1 (By Hydrometer) - Take 100 ml sample under the test in a measuring cylinder and cool to the desired temperature (Temp. at which Sp.gr is to be determined) in a water bath. Immerse hydrometer of suitable range into the sample along with the thermometer. Observe the hydrometer reading & record. 5.4.2 Check the purity of HCl at the specific gravity from the chart provided in the ANNEXURE-II.

6.0	**DOCUMENTATION & RECORDS** 6.1 FORM -000122120.
7.0	**REFERENCES** 7.1 IS Documents.
8.0	**Use PPE as Per PPE Matrix** 8.1 Area Specific PPEs applicable.
9.0	**ANNEXURE** I. SPECIFICATION:

S.N.	Parameters	Specification	Observation
01	Description	The material shall be a clear, colourless or light yellow liquid free from dirt and other visible impurities	Complies
02	Total Acidity [As HCL], Percentage By Mass, [Min.]	30.15%	
03	Sp. Gravity. at 25°c, [Min.]	1.147	
04	Iron [As Fe],Percent by mass, [Max.]	0.0050%	

Sampling Plan of Hydrochloric Acid

SAMPLING PLAN

Sr. No.	Product Name	BSR Tank No. / Day Tank	Frequency
1	Hydrochloric Acid	TK-16-21 (21% HCL)	Once in a day
		TK-16-22 (21% HCL)	
		TK-16-23 (21% HCL)	
		TK-16-55 (30% HCL)	Twice in a day
		TK-16-56 (30% HCL)	
		TK-16-57 (30% HCL)	
		TK-16-58 (30% HCL)	
		TK-16-60 (30% HCL)	
		TK-16-61 (30% HCL)	
		TK-16-61 (30% HCL)	

Annexure E - Data of Specific Gravity of Hydrochloric Acid

Hydrochloric Acid % at Different Temperature and Specific Gravity:

Sp.Gr.	20°C	25°C	30°C	35°C	40°C	45°C	50°C	55°C	60°C	65°C	70°C	75°C	80°C
1.1440	28.95	29.55	30.10	30.70	31.30	31.90	32.50	33.10	33.70	34.30	34.90	35.50	36.10
1.1445	29.05	29.65	30.20	30.80	31.40	32.00	32.60	33.20	33.80	34.40	35.00	35.60	36.20
1.1450	29.15	29.75	30.30	30.90	31.50	32.10	32.70	33.30	33.90	34.50	35.10	35.70	36.30
1.1455	29.25	29.85	30.40	31.00	31.60	32.20	32.80	33.40	34.00	34.60	35.20	35.80	36.40
1.1460	29.35	29.95	30.50	31.10	31.75	32.30	32.90	33.50	34.10	34.70	35.30	35.90	36.50
1.1465	29.45	30.05	30.65	31.25	31.85	32.45	33.05	33.65	34.25	34.85	35.45	36.05	36.65
1.1470	29.55	30.15	30.75	31.35	31.95	32.55	33.15	33.75	34.35	34.95	35.55	36.15	36.75
1.1475	29.65	30.25	30.85	31.45	32.05	32.65	33.25	33.85	34.45	35.05	35.65	36.25	36.85
1.1480	29.75	30.35	30.95	31.55	32.15	32.75	33.35	33.95	34.55	35.15	35.75	36.35	36.95
1.1485	29.85	30.45	31.05	31.65	32.25	32.85	33.45	34.05	34.65	35.25	35.85	36.45	37.05
1.1490	29.95	30.55	31.15	31.75	32.35	32.95	33.55	34.15	34.75	35.35	35.95	36.55	37.15
1.1495	30.05	30.65	31.25	31.85	32.45	33.05	33.65	34.25	34.85	35.45	36.05	36.65	
1.1500	30.15	30.75	31.35	31.95	32.55	33.15	33.75	34.35	34.95	35.55	36.15	36.75	
1.1505	30.25	30.85	31.45	32.05	32.65	33.25	33.85	34.45	35.05	35.65	36.25	36.85	
1.1510	30.35	30.95	31.55	32.15	32.75	33.35	33.95	34.55	35.15	35.75	36.35	36.95	
1.1515	30.45	31.05	31.65	32.25	32.85	33.45	34.05	34.65	35.25	35.85	36.45	37.05	
1.1520	30.55	31.15	31.75	32.35	32.95	33.55	34.15	34.75	35.35	35.95	36.55	37.15	
1.1525	30.65	31.25	31.85	32.45	33.10	33.70	34.30	34.90	35.50	36.10	36.70		
1.1530	30.75	31.35	31.95	32.55	33.20	33.80	34.40	35.00	35.60	36.20	36.80		
1.1535	30.85	31.45	32.05	32.65	33.30	33.90	34.50	35.10	35.70	36.30	36.90		
1.1540	30.95	31.55	32.15	32.75	33.40	34.00	34.60	35.20	35.80	36.40	37.00		
1.1545	31.05	31.65	32.25	32.90	33.50	34.10	34.70	35.30	35.90	36.50	37.10		
1.1550	31.15	31.75	32.35	33.00	33.60	34.20	34.80	35.40	36.00	36.70	37.20		
1.1555	31.25	31.85	32.50	33.10	33.70	34.30	34.90	35.50	36.10	36.80			
1.1560	31.35	31.95	32.60	33.20	33.80	34.40	35.00	35.60	36.20	36.90			
1.1565	31.45	32.05	32.70	33.30	33.90	34.50	35.10	35.70	36.30	37.00			
1.1570	31.55	32.15	32.80	33.40	34.00	34.60	35.20	35.80	36.40	37.10			
1.1575	31.65	32.25	32.90	33.50	34.10	34.70	35.30	35.90	36.50	37.20			
1.1580	31.75	32.35	33.00	33.60	34.20	34.80	35.40	36.00	36.70	37.30			
1.1585	31.85	32.50	33.10	33.70	34.30	34.90	35.50	36.10	36.80				
1.1590	31.95	32.60	33.20	33.80	34.40	35.00	35.60	36.20	36.90				
1.1595	32.05	32.70	33.30	33.90	34.50	35.10	35.70	36.30	37.00				
1.1600	32.15	32.80	33.40	34.00	34.60	35.20	35.80	36.40	37.10				
1.1605	32.25	32.90	33.50	34.10	34.70	35.30	35.90	36.50	37.20				
1.1610	32.35	33.00	33.60	34.20	34.80	35.40	36.00	36.60					
1.1615	32.45	33.10	33.70	34.30	34.90	35.50	36.10	36.70					
1.1620	32.55	33.20	33.80	34.40	35.00	35.60	36.20	36.80					
1.1625	32.65	33.30	33.90	34.50	35.10	35.70	36.30	36.90					
1.1630	32.75	33.40	34.00	34.60	35.20	35.80	36.40	37.00					

Annexure F - Environmental Clearance for Lanxess project

By Speed Post/Online

F.No. IA-J-11011/350/2018-IA-II(I)
Government of India
Ministry of Environment, Forest and Climate Change
(Impact Assessment Division)
***

Indira Paryavaran Bhawan
Jorbagh Road, New Delhi - 110003

Dated: 17th June, 2021

To,

M/s Lanxess India Pvt Ltd
Birlagram, Tehsil Nagda, District Ujjain
Madhya Pradesh – 456 331

Email: lanxessindia20@gmail.com

Sub: Expansion of Chemical Industry at Birlagram, Tehsil Nagda, District Ujjain, Madhya Pradesh by M/s Lanxess India Pvt Ltd - Environmental Clearance - reg.

Sir,

This has reference to your proposal No. IA/MP/IND2/83152/2018 dated 5th January, 2021 and further ADS reply on 18th April 2021submitting the EIA/EMP report on the above subject matter.

2. The Ministry of Environment, Forest and Climate Change has examined the proposal for environmental clearance to the project for Expansion of Chemical Industry by M/s Lanxess India Pvt Ltd at Plot No. 161/2, 162, 163/1, 164/1, 164/2, 165/2/2, 166/2, 167/4, 192/1, 196/2, 220, 221,222, 223, 224, 225, 227/1, 227/3, 256/2, 257, 258, 259/1/2, 259/2, 260/1, 261/3/1, 191/1, 191/2/1, 191/3/1, 191/3/2, 191/4, 192/3, 192/4, 192/5, 215/1, 227/4, 230/1, 230/3, 230/4, 230/5/2, 230/6, 230/7, 230/8, 230/9, 230/10, 232/2, 234/1, 244/1, Birlagram, Tehsil Nagda, District Ujjain, Madhya Pradesh.

3. The details of products and capacity are as under:

S. No.	Product	Capacity (TPA)		
		Existing	Additional	Total
1	Benzyl Chloride	54750	25550	80300
2	Benzyl Alcohol	36000	0	36000
3	Benzyl Acetate	7200	7800	15000
4	Benzaldehyde	19000	13250	32250

EC for M/s Lanxess India Pvt Ltd

Page 1 of 10

5	Hydochloric Acid	212400	76300	288700
6	Sulphur Di Chloride	12400	-11800	600
7	Sodium Benzoate	2500	-150	2350
8	Thionyl Chloride	50000	20000	70000
9	Di Benzyl Ether	3600	1400	5000
10	Cinnamaldehyde	3000	7000	10000
11	Benzyl Benzoate	3000	6000	9000
12	Benzyl Salicylate	3000	7000	10000
13	Cinnamyl Alcohol	3000	0	3000
14	Hexyl Cinnamaldehyde	3000	5000	8000
15	Fraction Finished Goods	9250	4250	13500
16	Industrial Salt	2675	9575	12250
17	Sodium HypoChlorite	---	250	250
18	Alpha amyl Cinnamaldehyde	---	2000	2000
19	Sulphuric Acid	---	6000	6000
	Total	4,24,775	1,79,425	6,04,200

4. It is reported that the existing land area is 234680 sqm, which will cater to the proposed expansion. Industry will develop greenbelt in an area of 88,300 sqm covering 37.63% of total project area. The estimated project cost is Rs 390 crores. Total capital cost earmarked towards environmental pollution control measures is Rs. 55.0 crores and the recurring cost (operation and maintenance) will be about Rs. 5.5 crores per annum. The project will lead to employment for 1020 persons directly & indirect after expansion. Industry proposes to allocate Rs. 2.92 crores towards Corporate Environmental Responsibility.

5. It is reported that there are no National parks, Wildlife sanctuaries, Biosphere Reserves, Tiger/Elephant Reserves, Wildlife Corridors etc. within 10 km from the project site. Chambal river flows at a distance of 300 m in West direction from the boundary 7of the project site.

6. It is noted that the total water requirement is estimated to be 5064 KLD, out of which 3048 KLD is proposed to be met by Domestic wastewater from local areas treated by in-house STP of 3500 KLD, 766 KLD is proposed to be met by steam Condensate water from external steam, 9 KLD of drinking water demand is met by external water suppliers and Recycled water from STP will be 1241 KLD.

Total 1241 KLD waste water quantity will be recycled after required treatment through ETP, Reverse Osmosis (RO) Separation and Multiple Vapor Reclaimer (MVR) Evaporator. The plant will be based on Zero Liquid discharge system.

Power requirement after expansion will be 10.3 MW including existing units and will be met from MP Paschim Kshetra Vidyut Vitaran Company and 1x3.95 MW

Annexure G – 31% HCL testing reports from NABL Accredited Labs

AzisLabs
Works : Plot No. M-43, Sector-3, Pithampur 454774, Dist. Dhar, (M.P.) India
City Office : 3/26, Vijay Nagar, Opp. Sayaji Hotel, Indore (M.P.) India, Tel. No.: 0731-4068173
Lab Contact No. : 96698 89318, 98270 08819, 7089333892, 7292299431, 7292299432
Email : info@azislabs.com, j.dingwani@azislabs.com, Visit : www.azislabs.in

ISO 9001:2015, ISO 14001:2015, ISO 45001:2018 (OH&S) CERTIFIED LAB

Test Report

Format No. AL/FM/51A-03

Report No.	EN-20220831001
Report Issue Date	08/09/2022

1. Report issued by	Azis Labs, Plot No. M-43, Sector-3, Pithampur 454774, Dist. Dhar, (M.P.) India	
2. Report issued to (Name & Address)	Name of the manufacturer	Mfg. Lic. No.
Lanxess India Pvt. Ltd. Chemical Road Mehatwada Ujjain Nagda, Madhya Pradesh Ujjain Madhya Psradesh	Lanxess India	NA
3. Sample forwarding letter no. & date	4. Sample received Date	5. Sample Quantity Received
NA	31/08/2022	2 x 1 Liter
6. Sample Name	7. Sample Condition	8. Packing / 9. Sealed/Unsealed
31% HCL Sample	Good	Plastic bottle / Sealed
10. Sampling done by	11. Sampling Method	
Azis labs	NA	

12. Details of sample as obtained from manufacturer

A. Original Manufacturer Name (in case of Product)	B. Batch No.	C. Batch Size as represented by the sample	D. Date of Mfg.	E. Date of Exp.
NA	NA	NA	NA	NA

13. Analysis Start Date	03/09/2022	14. Analysis End Date	08/09/20222

15. Chemical & Physical Parameters

Sr. No.	Test Parameter	Unit	Result	Specification	Test Method
01.	Total Acidity	%	30.96	31%	
02.	Residue on ignition	ppm	90.73	<1000 ppm	IS 265:1993
03.	Sulphates (as H2SO4)	ppm	127.99	<1000 ppm	
04.	Iron (as Fe)	ppm	2.8	<50 ppm	
05.	Heavy Metals (Lead as Pb)		Nil	-	
06.	Mercury (as Hg)	ppm	Nil	<03 ppm	
07.	Free Chlorine and bromine	ppm	4.6	<10 ppm	
08.	Sulphites	ppm	332	<500 ppm	

Checked by

Person In-charge Testing

AzisLabs
Works: Plot No. M-43, Sector-3, Pithampur 454774, Dist. Dhar, (M.P.) India
City Office: 3/26, Vijay Nagar, Opp. Sayaji Hotel, Indore (M.P.) India, Tel. No.: 0731-4068173
Lab Contact No.: 96698 89316, 98270 08819, 7089333892, 7292299431, 7292299432
Email: info@azislabs.com, j.dingwani@azislabs.com, Visit: www.azislabs.in

ISO 9001:2015, ISO 14001:2015, ISO 45001:2018 (OH&S) CERTIFIED LAB

Test Report

Format No. AL/FM/51A-03

09.	Organic (Hydrocarbons)	ppm	12.04	-	In-house By GLC
I	Toluene	ppm	4	-	
II	Benzaldehyde	ppm	3	-	
III	Benzyl alcohol	ppm	2	-	
IV	Unknow	ppm	3	-	
10.	(Specific gravity)	-	1156	-	In-house By Pycnometer

Note:
1. The legal liabilities limited up to the analytical charges only.
2. The results are related only to the sample tested.
3. This reports shall not be reproduced without the written approval of Azis Labs.
4. 31% HCL sample verifies the IS:265 Norms.

Checked by

Person In-charge Testing

KADAM ENVIRONMENTAL CONSULTANTS
An ISO 9001-2015 Certified Company (MoEF Approved)
871/B/3, Near Himalaya Machinery, GIDC Makarpura, Vadodara-10.
Phone : (O) 0265 - 6131000, 6131001

ENVIRONMENTAL MONITORING REPORT

LABORATORY TEST REPORT

REPORT NO.: AUG22/200/01

SAMPLE DETAILS

1.	Name & Address of Client: M/s. Lanxess India Pvt. Ltd. Industrial Area, Chemical Road, Mehtwas, Nagda, Dist: Ujjain, Madhya Pradesh Pin Code – 456331.		
2.	Sample ID: 200AU22HW01	3.	Client Representative: Mr. Sunil Shah
4.	Sample Date: 26.08.2022	5.	Sampling location: 31% HCL Sample – Tank Farm
6.	Analysis commenced on: 29.08.2022	7.	Analysis Completed on: 06.09.2022
8.	Reporting Date: 12.09.2022	9.	Sample Collected By: Mr. Jitendra Sinha
10.	Physical Status : Liquid	11.	Discipline: Chemical
12.	Sample Category : -	13.	Group: Environment
14.	Colour: Pale Yellow	15.	Product: 31 % HCl
16.	Description of sample: Packed and sealed in Plastic Carbo.		
17.	Sample Received Date: 29.08.2022		

TEST RESULTS

S.No.	Parameters	Unit (SI)		Results	Specification/ SPCB Norms/ BIS Standards	Method Used
1.	Total Acidity (as HCL)	%	:	30	31%	APHA 23rd Edition 2310 B
2.	Residue on Ignition	ppm	:	56	<1000	Furnace Method
3.	Sulphate (as H2SO4)	ppm	:	84	<1000	APHA 23rd Edition 4500 SO^4 E
4.	Iron (as Fe)	ppm	:	05	<50	APHA 23rd Edition 3111 B
5.	Free Chlorine and Bromine	ppm	:	07	<10	IS 3025 (Part – 26): 1986
6.	Sulphites (as So2)	ppm	:	268	<500	APHA 23rd Edition 4500 SO32- - B
7.	Heavy Metals (as pb)	ppm	:	N.D.	N.A.	APHA Method
8.	Arsenic (as As)	ppm	:	N.D.	N.A.	APHA 23rd Edition 3500 As - B
9.	Mercury (as Hg)	ppm	:	N.D.		APHA 23rd Edition 3112-B
10.	Organic (Hydrocarbon)		:			
10.1	Toluene	ppm	:	3	N.A.	Gas Chromatography
10.2	Benzaldehyde	ppm	:	4	N.A.	Gas Chromatography
10.3	Benzyl Alcohol	ppm	:	3	N.A.	Gas Chromatography
10.4	Unknown	ppm	:	3	N.A.	Gas Chromatography
11.	Specific Gravity		:	1156	N.A.	ASTM D445 (P-32)

Remark: Sample is verified as per IS 265 Standard.

Authorised By -

Name : Sapana Amin **Designation : Lab Incharge**

NOTE: 1) Reports may be reproduced, if required, but only in full and only with written approval of the laboratory.
2) Re analysis of sample will be done, if requested within 15 days from the date of Reporting of sample if the samples are not consumed during analysis.
3) The results reported above relate to the sample identified under Sample Details.

----------**END OF REPORT**----------

LABORATORY TEST REPORT		
DOC. NO.: LAB-FMT-053	Issue No.: 02	Revision No.: 03
Effective Date:. 01.03.2021	Issue Date: 01-01-2015	Revision Date: 01.03.2021

Page 1 of 1