

 **HINDUSTHAN CHEMICALS COMPANY**
(An enterprise of THE HINDUSTHAN GROUP) CIN: U93000WB1998PLC086303

G.I.D.C. INDUSTRIAL ESTATE OLPAD-394 540. DIST SURAT GUJARAT (INDIA) Website: www.hcc-cyanides.com
TELEPHONE : 02621-221081 TO 221683 324222 FAX : 02621-221235. E-MAIL : hcc.oip@hcc-cyanides.com

F: HCC:TECH: 17: RPS/ 143

20th January, 2021

To,
The Additional Director,
Ministry of Environment & Forest,
Regional Office (Western Region),
Kendriya Paryavaran Bhavan,
E-5, Ravishankar Nagar,
Bhopal- 462 016

Sub: Submission of Six Monthly Environmental Clearance Compliance Report for M/s. Hindusthan Chemicals Company (Formerly known as Cyanides & Chemicals Company).

Ref: Environmental Clearance No. J-11011/466/2011-IA II (I) dated 13/03/2020

Respected Sir,

With reference to above Environmental Clearance order, we are submitting herewith point wise compliance report of said Environmental Clearance for the period of **June 2020 to November 2020**. We hope to have satisfied from us & do needful at your end & oblige us.

Thanking You,

Yours faithfully,

For, Hindusthan Chemicals Company



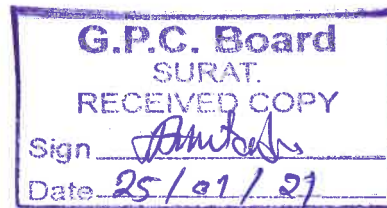
(R P Sharma)

Asst. Vice President (Plant)

Encl: As below

C.C to:

- 1) **The Chairman,**
Gujarat Pollution Control Board,
Paryavaran Bhavan, Sector – 10A,
Gandhinagar – 382 010
- 2) **The Chairman,**
Central Pollution Control Board Parivesh Bhavan,
Opp. VMC Ward Office no. 10, Subhanpura Road, Vadodara – 390 023
- 3) **The Regional Officer**
Gujarat Pollution Control Board
388, Belgium Square, Typical First Floor, Silver Plaza Complex,
Near Linear Bus Stand, Ring Road, Surat – 395003



भारतीय डाक



EG606481911IN IVR:697160648
SPP SURAT RMS COUNTER <395003>
Counter No:1,23/01/2021,18:56
To:THE CHAIRMAN,VADODARA
PIN:390023, Subhanpura 50
From:HINDUSTHAN ,SURAT
Wt:950gms
Amt:76.70(Cash)Tax:11.70
<Track on www.indiapost.gov.in>
<Dial 1600266666> <Wear Masks, Stay Safe>

भारतीय डाक



EG606481797IN IVR:697160648
SPP SURAT RMS COUNTER <395003>
Counter No:1,23/01/2021,18:56
To:THE ADDITIONAL DIRECTOR,BHOPAL
PIN:462016, R.S.Nagar S.O
From:HINDUSTHAN ,SURAT
Wt:925gms
Amt:106.20(Cash)Tax:16.20
<Track on www.indiapost.gov.in>

HINDUSTHAN CHEMICALS COMPANY
GIDC OLPAD, TALUKA: OLPAD,
DIST: SURAT, GUJARAT

**Six Monthly Environmental
Compliance Report**
(From June 2020 to November 2020)

Prepared by:

M/s. EARTHCARE ENVIRO SOLUTIONS PVT. LTD.

**Moradia House, Plot No.: 31-32,
Shiv Ashish Industrial Estate Co.Op.Society-II,
Opp. SMC Community Hall, B/h. Raj Carrying Cargo Pvt. Ltd.
Near Chosath Jogni Mata Mandir,
South Zone Road, Udhna, Surat-394210
E-mail: office@earthcare.org.in / info@earthcare.org.in**

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19.	EC intimation to Panchayat

MEMBERS ASSOCIATED WITH REPORT

Project Proponent

Mr. A. K. Singh (Executive Director Technical)

Team leader

Mr. Suresh Moradia (Director – Earthcare Enviro Solutions Pvt. Ltd.)

Team Member (EESPL):

Environmental Monitoring & Data Collection : Team Leader – Mr. Chirag Dhaduk
Team Member –1. Mr. Kenu Tailor
2. Mr. Rahul Vankar

Sample Analysis : Lab. Incharge – Mrs. Dipali Thesiya
Chemist – 1. Mr. Satish Bhoi

Report Preparation By: Mr. Vikram lolaniya
Report Checked By: Mr. Hardik Moradiya
Report Approved By: Mr. Suresh Moradia

INTRODUCTION

Hindusthan Engineering & Industries Ltd. (HEIL) (previously Hindusthan Development Corporation) was set up in 1944 with track materials plant at Tiljala. In the year 1964, Sri R. P. Mody acquired the company which had only one plant at Tiljala producing fabricated points, switches and turnouts, steel sleepers and other railway track components. The company witnessed aggressive and all round growth in 1970's when the expansion in the Indian Railways took place for industrialization in the country. HEIL became the major supplier of railway track materials and enjoyed a major market share with Indian Railways. In tune with the demand of economic growth, HEIL continued its thrust on further diversification and in the process either acquired existing projects in the Core Sector or set up Greenfield Projects in a wide spectrum of industrial activities. HEIL acquired a Wagon Building Plant at Santragachi while a Green field Project for manufacture of Cyanide and Calcined Petroleum Coke was established in Olpad in the state of Gujarat & Haldia in the state of West Bengal, respectively.

The company was also in the forefront for bringing state of the art technology from global leaders for the benefit of the Indian Economy. It has brought to India CMS Crossings tie-up with Bethlehem Steel Corporation, USA, Steel Wire tie-up with Kokon Company, Japan, Electro Porcelain tie-up with Reinsinch Werke, Germany, Calcium Coke Calcination from Alcom International, Canada. During this period, HEIL was instrumental in providing a vision for globalization in the areas of its operation. HEIL made rapid inroads in the International Market with its products. HEIL products viz. Steel Castings Cyanides, Track materials found ready acceptance all over the world. HEIL developed a parallel export market for many of its products.

With the spread of globalization and emergence of fierce competition, HEIL realized the need to restructure and is in the process of reorienting its priorities to become a cost effective, customer friendly industrial conglomerate with focus on Research & Development. The Govt. of India has recognized its Research and Development Cell in the Steel foundry as an accredited Research and Development Center for carrying out all the research in the areas of Steel Castings. In the domestic market, HEIL primarily caters to Indian Railways, Ministry of Defence and other Public Sector undertakings. HEIL is the market leader in the area it operates. HEIL is the sole supplier of special containers to CONCOR for the last ten years and no other Indian Company can claim this unique distinction.

Quality Policy:

"It is the quality policy of HEIL's Points & Crossing, Steel Sleeper and wagon division to provide products that satisfy the customer quality requirements. It strives to achieve and maintain excellence through development and absorption of appropriate technologies." - Mr. A. K. Singh (Executive Director Technical)

Achievements:

HEIL has received prestigious export order worth \$18 Crores from a USA based company for supply of Steel Castings. The company has also been receiving Export Excellence Awards given by the Ministry of Commerce, Government of India for the last 8 years in a row. We have received the Export Excellence Award for the year 2001-02 from Shri Arun Jaitley, Honorable Minister of Commerce in New Delhi on 26th September 2003. In India very few companies can claim the distinction of receiving Export Excellence Awards for 8 years in a row.

Hindusthan Chemicals Company (HCC) - Project Proponent Unit

Hindusthan Chemical Company, formerly known as Cyanides & Chemicals Company, is a unit of HEIL. The unit was set up in the year 1982 in GIDC Industrial Estate at Olpad Taluka of Surat District in Gujarat State. The unit is engaged in manufacture of Hydrogen Cyanide (HCN) and Cyanide based products. The unique feature of the HCN manufacturing technology is that the whole system of manufacturing process is working under vacuum hence in any case hazardous gas is not released-out into the atmosphere from the production system. The unit manufactured Sodium Cyanide and Potassium Cyanide for the first time in our country. Thus the unit is pioneer in manufacture of HCN and its derivatives in India. The unit is primarily engaged in the manufacturing of Hydrogen cyanide, Sodium Cyanide, Potassium Cyanide, Sodium/Potassium Ferro Cyanide, Diphenyl Guanidine, Heat Treatment Salt, Sodium Dicyanamide, Cyanohydrins, Nitriles, Cyanide based products, Mandelonitrile and Natural Gas based Captive Power Plant. The present sales turnover of HCC is approximately Rs. 178.37 Crore. We are currently exporting different types of cyanide derivatives to countries like Zimbabwe, Thailand, Indonesia, Morocco etc. Exports account for around Rs. 7895.56 lac (from June 2020 to November-2020) of the total turnover of the Unit.

DATASHEET

1.	Project Type: River-valley/Mining/Industry/Thermal/Nuclear /Other (Specify)	Industry Project category – 5 (b) "A"
2.	Name of the Project	M/s. Hindusthan Chemicals Company
3.	Clearance letter (s)/OM No. and date	EC order No. J-11011/466/2011-IA II (I) dated 13/03/2020
4.	Location: a) District(s) b) State(s) c) Location Latitude/Longitude	Plot No. 26-37, 54-57, 122, 143, Village: Asnabad, Tehsil: Olpad, Dist: Surat, State: Gujarat. Latitude: 21⁰19'8.40" N Longitude: 72⁰45'3.73" E
5.	Address for correspondence a) Address of the Concerned Project chief Engineer (with pin code & telephone/telex/fax numbers) b) Address of the Executive Project Engineer /Manager (with pin code & telephone/telex/fax numbers)	Mr. A. K. Singh (Executive Director Technical) Hindusthan Chemicals Company, GIDC Industrial Estate, Olpad – 394 540 District: Surat, Gujarat. Phone: 02621 221681-83, 324222 Fax: 02621-221235 E-mail : aks@hcc-cyanides.com As Above
6.	Salient features a) Of the project b) Of the Environmental management plans	Salient feature of the project and EMP is enclosed at Annexure-1. <ul style="list-style-type: none"> • The whole plant is working under vacuum and all vents are connected to the incinerator. • We have full-fledged Effluent Treatment Plants (2 Nos.) for the treatment of cyanide contaminated effluent and high TDS effluent with adequate capacity. • We have implemented Zero Liquid Discharge scheme from 1st April, 2016 with waste minimization for the existing ETP plants. • We have a valid membership of TSDf site – NECL, Nandesari and BEIL, Ankleshwar/Dahej for incineration,



		<p>treatment and disposal of hazardous waste & landfill waste.</p> <ul style="list-style-type: none"> We have developed greenbelt area which is approx. 45% of the total plot area. We have facility for in-house monitoring and analysis of effluent and air pollutant parameters. Environmental Audit and Environment Monitoring through third party are being conducted regularly.
7.	<p>Breakup of the project area</p> <p>a) Submergence area: forest & non-Forest b) Others</p>	<p>Total Land: 2,04,995 m² Green Belt Area: 92,247 m²</p> <p>Not Applicable (NA)</p> <p>NA</p>
8.	<p>Breakup of the project affected population with enumeration of those losing houses/dwelling units (only agricultural land, both dwelling units & agricultural land) SC/ST/Adivasi a) Others (Please indicate whether these figures are based on any scientific and systematic survey carried out or only provisional figures, if a survey is carried out give details & year of survey)</p>	Not Applicable.
9.	<p>Financial details: Project cost as originally planned and subsequent revised estimates and the year of price reference</p> <p>a) Allocation made for environmental management plans with item wise and year wise break-up b) Benefit cost ratio/Internal rate of return and the year of assessment c) Whether it includes the cost of environmental management as shown in the above d) Actual expenditure incurred on the project so far e) Actual expenditure incurred on the environmental management plans so far</p>	<p>Project Cost : Rs. 202.50 Crores</p> <p>Allocation made for environmental management plans with item-wise & year wise break up is attached as per Annexure - 2.</p>
10.	Forest land requirement	Not Applicable.



	<p>a) The status of approval for diversion of forest land for non-forestry use</p> <p>b) The status of clearing felling</p> <p>c) The status of compensatory afforestation, if any</p> <p>d) Comments on the viability & sustainability of compensatory afforestation program in the light of actual field experience so far</p>	
11.	The status of clear felling in non-forest areas (Such as submergence area or reservoir, approach roads.), if any with quantitative information required.	Not Applicable.
12.	<p>Status of Construction (Actual &/or planned)</p> <p>a) Date of commencement (Actual &/or planned)</p> <p>b) Date of completion (Actual &/or planned)</p>	This expansion project is on hold due to covid-19 effect.
13.	Reason for the delay If the project is yet to Start.	This expansion project is on hold due to covid-19 effect.
14.	<p>Dates of site visits</p> <p>a. The dates on which the project was monitored by the Regional office on previous occasion, if any</p> <p>b. Date of site visit for this monitoring report</p>	<p>20/05/2020</p> <p>Analysis reports of GPCB are attached as Annexure – 3.</p> <p>Dates of sampling are mentioned in respective analysis report.</p>
15.	Details of correspondence with project authorities for obtaining action plans / information on status of compliance to safeguards other than the routine letters for logistic support for site visits (The first manufacturing report may contain the details of all the letters issued so far, but the letter reports may cover only the letters issued subsequently)	<p>Last Six Monthly Reports (June-2020 to November- 2020) was submitted.</p> <p>Form–V-Environmental Audit Statement for the financial year 2019– 2020 was submitted to MoEF.Copy of the same is attached as Annexure – 4.</p>



ENVIRONMENTAL CLEARANCE (EC) BY MOEF&CC, NEW DELHI
F.No. J-11011/466/2011-IA II (I) dated 13/03/2020



सत्यमेव जयते

By Speed Post/Online

**F. No. J-11011/466/2011- IA II(I)
Government of India
Ministry of Environment, Forest and Climate Change
(IA-II Section)**

Indira Paryavaran Bhawan
Jorbagh Road, New Delhi - 3

Dated: 13th March, 2020

To

M/s Hindustan Chemicals Company Ltd
Plot No.26-37, 54-57, 122, 143,
Village Asnabad, Tehsil Olpad,
District **Surat** (Gujarat)

Sub: Manufacturing of Sodium Cyanide Other Cyanide based products by M/s Hindustan Chemicals Company Ltd at Plot No.26-37, 54-57, 122, 143, Village Asnabad, Tehsil Olpad, District Surat (Gujarat) - Environmental Clearance - reg.

Sir,

This proposal was considered by the Ministry for grant of environmental clearance as per the direction of Hon'ble National Green Tribunal (Western Zone) Bench, Pune vide order dated 7th December, 2017 in Appeal No.17/2016 (WZ) in the matter of 'Gujarat Khedut Samaj & othrs Vs MoEF&CC & othrs. The Hon'ble NGT vide order dated 7th December, 2017 has set aside the EC dated 22nd January, 2016 and directed to EAC and Ministry to give recommendation and take decision in accordance with law.

2. The Ministry of Environment, Forest and Climate Change has examined the proposal for environmental clearance to the project for Manufacturing of Sodium Cyanide & other Cyanide based products by M/s Hindustan Chemicals Company Ltd located at Plot No.26-37, 54-57, 122, 143, Village Asnabad, Tehsil Olpad, District Surat (Gujarat).

3. List of existing and proposed products is as under:

S. No.	Product	Existing MT/Annum	Proposed MT/Annum	Total MT/Annum
1	Hydrogen Cyanide	5100	--	5100
2	Sodium Cyanide	6372	15000	21372
3	Potassium Cyanide	2000	-	2000
4	Sodium / Potassium Ferro Cyanide	1000	-	1000
5	Diphenyl Guanidine	1260	-	1260
6	Sodium Dicyanide	300	-	300
7	Mandelonitrile	2500	-	2500
8	Heat Treatment Salt	720	-	720
9	Cyanohydrines	5000	2000	7000
10	Nitriles	3000	300	3300
11	Cyanide Based Products	3500	6300	9800
	Total	30752	23600	54352

EC for M/s Hindustan Chemicals Company Ltd

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12	Ammonium Sulphate (By-product)	2649	-	2649
13	NG based CPP	2 MW	-	2 MW

Bifurcation of Product List

S. No.	Product	Existing MT/Annum	Proposed MT/Annum	Total MT/Annum
1	Hydrogen Cyanide	5100	--	5100
2	Sodium Cyanide	6372	15000	21372
3	Potassium Cyanide	2000	-	2000
4	Sodium Ferro Cyanide	1000	-	1000
5	Potassium Ferro Cyanide			
6	Diphenyl Guanidine	1260	-	1260
7	Sodium Dicyanide	300	-	300
8	Mandelonitrile	2500	-	2500
9	Heat Treatment Salt	720	-	720
10	Cyanohydrines Group			
i)	Meta Phenoxy Benzaldehyde Cyanohydrin (MPBAD Cyanohydrin)	5000	-	5000
ii)	Formaldehyde Cyanohydrin (Glycolonitrile)			
iii)	Acetone Cyanohydrin			
iv)	Methyl Ethyl Ketone Cyanohydrin			
v)	Acetaldehyde Cyanohydrin (Lactonitrile)			
vi)	Para Anisaldehyde Cyanohydrin			
vii)	Cyclohexanone Cyanohydrin			
viii)	Methyl Propyl Ketone Cyanohydrin			
ix)	Methyl Mercapto Butyronitrile (Methyl MercaptoPropopnaldehyde Cyanohydrin)			
x)	Cyclo Pentanone Cyanohydrin	-	500	500
xi)	2-Chloro Benzaldehyde Cyanohydrin (2-Chloro Mandelonitrile)	-	500	500
(xii)	Ortho Toly Benzaldehyde Cyanohydrin (Ortho Toly Mandelonitrile)	-	1000	1000
	Total of Cyanohydrines Group	5000	2000	7000
11	Nitriles Group			
i)	Isophoron Nitrile	3000	-	3000
ii)	Imino Diacetoneitrile			
iii)	Succinonitrile			
iv)	3-Hydroxy Propionitrile			

v)	Methyl Amino Acetonitrile Hydrochloride			
vi)	Methylene Amino Aceto Nitrile (MAAN)	-	300	300
	Total of Nitriles Group	3000	300	3300
12	Cyanide Based Products			
i)	Sodium Cyano Acetate	3500	-	3500
ii)	Cyanamide (Crystals & Aqueous Solution)			
iii)	Para Anisaldehyde Cyanohydrin			
iv)	DiorthoTolyl Guanidine (DOTG)			
v)	Zinc Cyanide	-	300	300
vi)	Isophoron Diamine	-	6000	6000
	Total of Cyanide Based Products	3500	6300	9800
	Total	30752	23600	54352
13	NG Based CPP	2 MW	--	2 MW
14	Ammonia Sulphate (By-Product)	2649	--	2649

4. Total land area is 204995 sqm. Industry will develop greenbelt in 33% area of the total project area.

5. There are no National Parks, Wildlife Sanctuaries, Biosphere Reserves, Tiger/Elephant Reserves, Wildlife Corridors, etc. within 10 km from the project site. Tapi River flows at a distance of 9.5 km.

6. The project/activity is covered under category A of item 5(b) 'Pesticides industry and pesticide specific intermediates (excluding formulation)' of Schedule of Environment Impact Assessment (EIA) Notification, 2006, and requires appraisal at central level by the sectoral EAC in the Ministry.

7. The ToR for the project was granted on 17th February, 2012 and the public hearing was conducted on 14th November, 2014 by the Gujarat Pollution Control Board. However, the proposal for environmental clearance was appraised by the EAC, considering the project site located in notified Industrial area (Olpad Industrial Area) and thus exempting from public consultation/hearing. The EC dated 22nd January, 2016 granted to the project finds mention that public consultation/hearing was exempted as per section 7(i), III stage (3) Para (i)(b) of the EIA Notification, 2006.

8. As per the direction of Hon'ble NGT vide order dated 7th December, 2017 and subsequent approval of the Ministry the proposal was considered by the Expert Appraisal Committee (Industry-2) in its meetings held during 27-28 March, 2018, 24-26 April, 2018, 25-27 June, 2018, 27-29 August, 2018 and 29-31 October, 2018 in the Ministry, wherein the EAC recommended the proposed expansion project for grant of environmental clearance.

9. The proposal was further examined in the Ministry and the project proponent submitted an undertaking and declared that the Sodium Cyanide manufactured by them shall not be used as insecticidal purpose nor it shall be used for manufacturing of banned pesticide mentioned in the Notification issued on 18th August, 2018 by the Ministry of Agriculture & Farmers Welfare.

For M/s Hindustan Chemicals Company Ltd

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10. The project proponent also confirmed that they will ensure that the customers to whom they sell their Sodium Cyanide shall not use it for insecticidal purpose nor their end use shall be for insecticidal purpose and they shall not use it for manufacturing of pesticide. The project proponent has also submitted the list of buyers and undertaking from them in this regard.

11. The proponent has also submitted the import permit for Sodium Cyanide issued by Secretary, Central Insecticide Board and Registration Committee on dated 11th January, 2019.

12. Based on the proposal submitted by the project proponent, recommendations of the EAC (Industry-2) and further examination in the Ministry, the Ministry of Environment, Forest and Climate change hereby accords environmental clearance to the project for Manufacturing of Sodium Cyanide & other Cyanide based products by M/s Hindustan Chemicals Company Ltd located at Plot No.26-37, 54-57, 122, 143, Village Asnabad, Tehsil Olpad, District Surat (Gujarat), under the provisions of the EIA Notification, 2006, subject to the compliance of additional terms and conditions as under:-

A. Specific conditions:

- (i) *Online Gas Detector for Hydrogen Cyanide to be calibrated to 1 ppm level from 4 ppm at present to have further safety assurance.*
- (ii) *At least 5% of total cost of the project to be earmarked towards the Enterprise Social Commitment based on local needs and action plan with financial and physical breakup/details should be prepared and submitted to the Ministry's Regional Office of MoEF & CC. Implementation of such program should be ensured accordingly in a time bound manner.*
- (iii) *National Emission Standards for Pesticides Manufacturing Industry issued by the Ministry vide G.S.R.446(E) dated 13th June, 2011, as amended from time to time, shall be followed.*
- (iv) *Adequate stack height shall be provided to gas fired boilers.*
- (v) *All the gas from the process containing HCN shall be incinerated in the incinerator. Scrubber and Stack of adequate height shall be provided to incinerator. Bag filter, waste scrubber and stack of adequate height shall be provided to heat treatment salt plant, ammonia absorption column to ammonium sulphate recovery plant and Cyclone separator to control particulate emissions. Efficiency of pollution control device shall be monitored regularly and maintained properly. Scrubbers vent shall be provided with on-line detection and alarm system to indicate higher than permissible value of controlled parameters. At no time, the emission levels shall go beyond the prescribed standards. The system should be interlocked with the pollution control equipments so that in case of any increase in pollutants beyond permissible limits, plant should be automatically stopped.*
- (vi) *In plant control measures for checking fugitive emissions from all the vulnerable sources shall be provided. Fugitive emissions shall be controlled by providing closed storage, closed handling & conveyance of chemicals, materials, multi cyclone separator and water sprinkling system. Dust suppression system including water sprinkling system shall be provided at loading and unloading areas to control dust emissions. Fugitive emissions in the work zone environment, product, raw materials*


EC for M/s Hindustan Chemicals Company Ltd

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- storage area etc. shall be regularly monitored and records maintained. The emissions shall conform to the limit stipulated by the GPCB.
- (vii) For further control of fugitive emissions, following steps shall be followed:
 - (a) Closed handling system shall be provided for chemicals.
 - (b) Reflux condenser shall be provided over reactor.
 - (c) System of leak detection and repair of pump/pipeline based on preventive maintenance.
 - (d) The acids shall be taken from storage tanks to reactors through closed pipeline. Storage tanks shall be vented through trap receiver and condenser operated on chilled water.
 - (e) Cathodic protection shall be provided to the underground solvent storage tanks.
 - (viii) A proper Leak Detection and Repair (LDAR) Program for pesticide industry shall be prepared and implemented as per CPCB guidelines. Focus shall be given for prevention of fugitive emissions for which preventive maintenance of pumps, valves, pipelines are required. Proper maintenance of mechanical seals of pumps and valves shall be given. A preventive maintenance schedule for each unit shall be prepared and adhered to.
 - (ix) Continuous monitoring system for HCN, Chlorine, HCl and NH₃ as well as VOCs, shall be installed at all important places/areas. Effective measures shall be taken immediately, when monitoring results indicate above the permissible limits. All necessary steps should be taken for monitoring of HCN, chlorine, HCl and NH₃ as well as VOCs in the proposed Plant.
 - (x) Alarm for chlorine leakage if any in the liquid chlorine storage area shall be provided along with automatic start of the scrubbing system.
 - (xi) The gaseous emissions from DG set shall be dispersed through adequate stack height as per CPCB standards. Acoustic enclosure shall be provided to the DG sets to mitigate the noise pollution.
 - (xii) Ambient air quality data shall be collected as per NAAQES standards notified by the Ministry vide G.S.R. No.826 (E) dated 16th September, 2009. The levels of PM_{2.5}, PM₁₀, SO₂, NO_x, CO and VOC shall be monitored in the ambient air and displayed at a convenient location near the main gate of the Company and at important public places. The Company shall upload the results of monitored data on its website and shall update the same periodically. It shall simultaneously be sent to the Regional office of MOEF, the respective Zonal office of CPCB and GPCB.
 - (xiii) Solvent management shall be carried out as follows:
 - (a) Chilled brine circulation system shall be provided to condensate solvent vapors and reduce solvent losses. It shall be ensured that solvent recovery should not be less than 95%.
 - (b) Reactor and solvent handling pump shall have mechanical seals to prevent leakages.
 - (c) The condensers shall be provided with sufficient HTA and residence time so as to achieve more than 95% recovery.
 - (d) Solvent shall be stored in a separate space specified with all safety measures.
 - (e) Proper earthing shall be provided in all the electrical equipment wherever solvent handling is done.

- (f) Entire plant shall be flame proof. The solvent storage tanks should be provided with breather valve to prevent losses.
- (xiv) Total water requirement from Kakrapar Canal shall not exceed 600.3 cum/day after expansion in effect of ZLD scheme submitted by PP and prior permission should be obtained from the Competent Authority.
- (xv) Industrial effluent generation should not exceed 512 cum per day. Effluent will be segregated into high TDS/COD and low COD /TDS effluent streams. High TDS/COD effluent stream will be evaporated in multiple effect evaporators (MEE). Condensate will be treated in the condensate treatment unit. Low TDS/COD Effluent stream will be treated in the effluent treatment plant (ETP) comprising primary, secondary and tertiary treatment (reverse osmosis). Permeate will be reused/ recycled for cooling tower makeup. The proposed effluent treatment scheme for the existing as well as propose expansion is based on 'zero effluent discharge'. Water quality of treated effluent should meet the norms prescribed by CPCB/SPCB.
- (xvi) 'Zero' effluent discharge shall be adopted and no effluent shall be discharged outside the premises.
- (xvii) Automatic/ online monitoring system (24x7 monitoring devices) for flow measurement and relevant pollutants in the treatment system to be installed. The data to be made available to the respective SPCB and in the company's website.
- (xviii) Process effluent/any waste water shall not be allowed to mix with storm water. Storm water drain shall be passed through guard pond.
- (xix) Incinerator should be design as per CPCB guidelines SO₂, NO_x, HCN, HCL and emission shall be monitor in the stack regularly.
- (xx) Hazardous chemicals shall be stored in tanks in Tank farms, drums, carboys etc. flame arrestor shall be provided on tank farm. Solvent transfer shall be by pumps.
- (xxi) The company shall obtain authorisation for collection, storage and disposal of hazardous waste under the Hazardous waste (Management Handling and Trans Boundary Movement rules, 2008 and amended as on date for the management of hazardous waste and prior permission from GPCB shall be obtained for disposal of solid/ hazardous waste in the TSDF. Measure shall be taken for fire fighting facilities in case of emergency. Membership of TSDF for hazardous waste disposal shall be obtained.
- (xxii) As proposed ETP sludge, incineration ash and evaporation residue shall be sent to TSDF site. High calorific value waste such as spent organic shall be sent to cement factory/ incinerated.
- (xxiii) The company shall strictly comply with the rules and guidelines under Manufacture Storage and Import of hazardous chemicals rules (MSIHC) 1989 as amended in October 1994 and January 2000. All Transportation of Hazardous Chemicals shall be as per the motor vehicle act MVA 1989.
- (xxiv) The company shall undertake following waste minimization measures.
 - (a) Metering and control of quantities of active ingredients to minimise waste.
 - (b) Reuse of by- product from the process as raw materials or as raw material substitute in other processes.

EC for M/s Hindustan Chemicals Company Ltd

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- (c) Use of automated filling to minimise spillage.
- (d) Use of close feed system in to batch reactors.
- (e) Venting equipment through Vapour recovery system.
- (f) Use of high pressure hoses for equipment clearing to reduce wastewater generation.
- (xxv) The unit shall make the arrangement for protection of possible fire hazards during manufacturing process in material handling. firefighting system shall be as per the norms.
- (xxvi) Occupational health surveillance of the worker shall be done on a regular basis and record maintained as per the Factories Act.
- (xxvii) As proposed Green Belt over 33 % total project area should be developed within plant premises with at least 10 meter wide green belt on all sides along the periphery of project area, in downward direction and along roadside etc. Selection of plant species as per the CPCB guideline in consultation with DFO.
- (xxviii) The company shall make the arrangement for protection of possible fire and explosion hazards during manufacturing process in material handling.
- (xxix) Provision shall be made for the housing for the construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile sewage treatment plant, safe drinking water, Medical Health Care, crèche etc. The housing may be in the form of temporary structure to be removed after the completion of the project. All the construction waste shall be manage so that there is no impact on the surrounding environment.
- (xxx) The project proponent shall strictly comply the sector specific conditions as mentioned in the Ministry's Office Memorandum No. 22-34/2018-IA.III, dated 9th August, 2018. The said OM is available at the Ministry's website (PARIVESH portal i.e. www.parivesh.nic.in). The grant of Environmental Clearance is further subject to compliance of generic conditions as mentioned in the Ministry's Office Memorandum No. 22-34/2018-IA.III, dated 9th August, 2018.

B. General Conditions:

- (i) The Project Proponent shall obtain all other statutory/necessary permissions/recommendations/NOCs prior to start of construction/operation of the project, which inter alia include, permission/approvals under the Forest (Conservation) Act, 1980; the Wildlife (Protection) Act, 1972; the Coastal Regulation Zone Notification, 2019, as amended from time to time, and other Office Memoranda/Circular issued by the Ministry of Environment, Forest and Climate Change from time to time, as applicable to the project.
- (ii) The project proponent shall ensure compliance of 'National Emission Standards', as applicable to the project, issued by the Ministry from time to time. The project proponent shall also abide by the rules/regulations issued by the CPCB/SPCB for control/abatement of pollution.
- (iii) The project authorities shall adhere to the stipulations made by the State Pollution Control Board/Committee, Central Pollution Control Board, State Government and any other statutory authority.
- (iv) The project proponent shall prepare a site specific conservation plan and wildlife management plan in case of the presence of Schedule-1 species in the study area, as applicable to the project, and submit to Chief Wildlife Warden for approval. The

- recommendations shall be implemented in consultation with the State Forest/Wildlife Department in a time bound manner.
- (v) No further expansion or modifications in the plant, other than mentioned in the EIA Notification, 2006 and its amendments, shall be carried out without prior approval of the Ministry of Environment, Forest and Climate Change. In case of deviations or alterations in the project proposal from those submitted to this Ministry for clearance, a fresh reference shall be made to the Ministry to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any.
 - (vi) The energy source for lighting purpose shall be preferably LED based, or advance having preference in energy conservation and environment betterment.
 - (vii) The locations of ambient air quality monitoring stations shall be decided in consultation with the State Pollution Control Board (SPCB) and it shall be ensured that at least one station each is installed in the upwind and downwind direction as well as where maximum ground level concentrations are anticipated.
 - (viii) The National Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16th November, 2009 shall be followed.
 - (ix) The overall noise levels in and around the plant area shall be kept well within the standards by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels shall conform to the standards prescribed under Environment (Protection) Act, 1986 Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time).
 - (x) The Company shall harvest rainwater from the roof tops of the buildings and storm water drains to recharge the ground water and to utilize the same for process requirements.
 - (xi) Training shall be imparted to all employees on safety and health aspects of chemicals handling. Pre-employment and routine periodical medical examinations for all employees shall be undertaken on regular basis. Training to all employees on handling of chemicals shall be imparted.
 - (xii) The company shall also comply with all the environmental protection measures and safeguards proposed in the documents submitted to the Ministry. All the recommendations made in the EIA/EMP in respect of environmental management, and risk mitigation measures relating to the project shall be implemented.
 - (xiii) The company shall undertake all relevant measures for improving the socio-economic conditions of the surrounding area. CER activities shall be undertaken by involving local villages and administration and shall be implemented.
 - (xiv) The company shall undertake eco-developmental measures including community welfare measures in the project area for the overall improvement of the environment.
 - (xv) A separate Environmental Management Cell (having qualified person with Environmental Science/Environmental Engineering/specialization in the project area) equipped with full fledged laboratory facilities shall be set up to carry out the Environmental Management and Monitoring functions.
 - (xvi) The company shall earmark sufficient funds towards capital cost and recurring cost per annum to implement the conditions stipulated by the Ministry of Environment, Forest and Climate Change as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds so earmarked for environment management/ pollution control measures shall not be diverted for any other purpose.
 - (xvii) A copy of the clearance letter shall be sent by the project proponent to concerned Panchayat, Zilla Parishad/Municipal Corporation, Urban local Body and the local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal.
 - (xviii) The project proponent shall also submit six monthly reports on the status of compliance of the stipulated Environmental Clearance conditions including results of

monitored data (both in hard copies as well as by e-mail) to the respective Regional Office of MoEF&CC, the respective Zonal Office of CPCB and SPCB. A copy of Environmental Clearance and six monthly compliance status report shall be posted on the website of the company.

- (xix) The environmental statement for each financial year ending 31st March in Form-V as is mandated shall be submitted to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental clearance conditions and shall also be sent to the respective Regional Offices of MoEF&CC by e-mail.
- (xx) The project proponent shall inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB/Committee and may also be seen at Website of the Ministry and at <https://parivesh.nic.in/>. This shall be advertised within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same shall be forwarded to the concerned Regional Office of the Ministry.
- (xxi) The project authorities shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of start of the project.
- (xxii) This Environmental clearance is granted subject to final outcome of Hon'ble Supreme Court of India, Hon'ble High Court, Hon'ble NGT and any other Court of Law, if any, as may be applicable to this project.

13. The Ministry reserves the right to stipulate additional conditions, if found necessary at subsequent stages and the project proponent shall implement all the said conditions in a time bound manner. The Ministry may revoke or suspend the environmental clearance, if implementation of any of the above conditions is not found satisfactory.

14. Concealing factual data or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.

15. Any appeal against this environmental clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

16. The above conditions will be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, the Hazardous Waste (Management, Handling and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 read with subsequent amendments therein.

17. This EC is issued in supersession of EC dated 22nd January, 2016 as the Hon'ble NGT has set aside the EC dated 22nd January, 2016 and directed to EAC and Ministry to give recommendation and take decision in accordance with law.

18. This issues with the approval of the competent authority.


(Dr. R. B. Lal)
Scientist 'E' / Additional Director

(Dr. R. B. Lal)
वैज्ञानिक 'ई' / Scientist 'E'
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय
Min. of Environment, Forest and Climate Change
भारत सरकार, नई दिल्ली
Govt. of India, New Delhi

EC for M/s Hindustan Chemicals Company Ltd

Copy to: -

1. The Deputy DGF (C), MoEF&CC Regional Office (WZ), E-5, Kendriya Paryavaran Bhawan, E-5 Arera Colony, Link Road-3, Ravishankar Nagar, **Bhopal** -16
2. The Secretary, Forests and Environment Department, Government of Gujarat, Block 14, 8th Floor, Sachivalaya, **Gandhinagar** (Gujarat) -10
3. The Member Secretary, Central Pollution Control Board, Parivesh Bhawan, CBD-cum-Office Complex, East Arjun Nagar, **Delhi** - 32
4. The Member Secretary, Gujarat Pollution Control Board, Paryavaran Bhawan, Sector-10A, **Gandhinagar** (Gujarat) - 10
5. Monitoring Cell, Ministry of Environment, Forest and Climate Change, Indira Paryavaran Bhawan, Jor Bagh Road, **New Delhi** - 3
6. The District Collector, District **Surat** (Gujarat)
7. Guard File/Monitoring File/Website/Record File

(Dr. R. B. Lal)
Scientist 'E'/Additional Director

Six Monthly Compliance of conditions stipulated by MoEF for M/s. Hindusthan Chemicals Company

With reference to: EC order No. J-11011/466/2011-IA II (I) dated 13/03/2020

COMPLIANCE REPORT OF ENVIRONMENTAL CLEARANCE

Name of unit: M/s. Hindusthan Chemicals Company, Plot No. 26-37, 54-57, 122, 143, Village: Asnabad, Tehsil: Olpad, Dist: Surat, State: Gujarat

SR. NO.	DESCRIPTION OF CONDITION	COMPLIANCE STATUS	CORRECTIVE & PREVENTATIVE ACTION TAKEN																																																		
1.	Order No. J-11011/466/2011-IA II (I) dated 13/03/2020		--																																																		
2.	The Ministry of Environment, forests and Climate change has examined the proposal for EC to the project for manufacturing of Sodium Cyanide & other cyanide based products by M/s. Hindusthan Chemicals Company located at plot no. 26-37, 54-57, 122, 143, Village Asnabad, Tehsil Olpad, District Surat, Gujarat	Complied	Our production Capacity is within the consent Limit. We submit monthly report to GPCB.																																																		
3.	List of existing & proposed products is as under:																																																				
	<table border="1"> <thead> <tr> <th rowspan="2">Sr. no.</th> <th rowspan="2">Name of Product</th> <th colspan="3">Production Capacity (MT/Annum)</th> </tr> <tr> <th>Existing</th> <th>Proposed</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Hydrogen Cyanide</td> <td>5100</td> <td>--</td> <td>5100</td> </tr> <tr> <td>2</td> <td>Sodium Cyanide</td> <td>6372</td> <td>1500 0</td> <td>2137 2</td> </tr> <tr> <td>3</td> <td>Potassium Cyanide</td> <td>2000</td> <td>--</td> <td>2000</td> </tr> <tr> <td>4</td> <td>Sodium Ferro Cyanide</td> <td rowspan="2">1000</td> <td rowspan="2">--</td> <td rowspan="2">1000</td> </tr> <tr> <td>5</td> <td>Potassium Ferro Cyanide</td> </tr> <tr> <td>6</td> <td>Diphenyl Guanidine</td> <td>1260</td> <td>--</td> <td>1260</td> </tr> <tr> <td>7</td> <td>Sodium Dicyanamide</td> <td>300</td> <td>--</td> <td>300</td> </tr> <tr> <td>8</td> <td>Mandelonitrile</td> <td>2500</td> <td>--</td> <td>2500</td> </tr> <tr> <td>9</td> <td>Heat Treatment</td> <td>720</td> <td>--</td> <td>720</td> </tr> </tbody> </table>	Sr. no.	Name of Product	Production Capacity (MT/Annum)			Existing	Proposed	Total	1	Hydrogen Cyanide	5100	--	5100	2	Sodium Cyanide	6372	1500 0	2137 2	3	Potassium Cyanide	2000	--	2000	4	Sodium Ferro Cyanide	1000	--	1000	5	Potassium Ferro Cyanide	6	Diphenyl Guanidine	1260	--	1260	7	Sodium Dicyanamide	300	--	300	8	Mandelonitrile	2500	--	2500	9	Heat Treatment	720	--	720		
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9	Heat Treatment	720	--	720																																																	



SR. NO.	DESCRIPTION OF CONDITION				COMPLIANCE STATUS	CORRECTIVE & PREVENTATIVE ACTION TAKEN
	salt					
10	CYNOHYDRINES GROUP					
(i)	Meta phenoxy Benzaldehyde cyanohydrin (MPBAD cyanohydrin)					
(ii)	Formaldehyde Cyanohydrin (Glyconitrile)					
(iii)	Acetone cyanohydrin					
(iv)	Methyl ethyl ketone cyanohydrin					
(v)	Acetaldehyde cyanohydrin (Lactonitrile)	5000	--	5000		
(vi)	Para Anisaldehyde cyanohydrin					
(vii)	Cyclohexanone cyanohydrin					
(viii)	Methyl propyl ketone cyanohydrin					
(ix)	Methyl MercaptoButyronitrile (Methyl MercaptoPropionaldehyde Cyanohydrin)					
(x)	Cyclo pentanone cyanohydrin	--	500	500		
(xi)	2-Chloro Benzaldehyde cyanohydrin (2-chloro Mandelonitrile)	--	500	500		
(xii)	Ortho Toly	--	1000	1000		



7

SR. NO.	DESCRIPTION OF CONDITION				COMPLIANCE STATUS	CORRECTIVE & PREVENTATIVE ACTION TAKEN
	Benzaldehyde Cyanohydrin (Ortho Toly Mandelonitrile)					
	Total of Cyanohydrines Group	5000	2000	7000		
11	NITRILES GROUP					
i)	Isophoron nitrile	3000	--	3000		
ii)	IminoDiacetonitrile					
iii)	Succinonitrile					
iv)	3-Hydroxy propionitrile					
v)	Methyl Amino Acetonitrile Hydrochloride					
vi)	Methylene Amino Aceto Nitrile (MAAN)	--	300	300		
	Totals of Nitriles Group	3000	300	3300		
12	CYANIDE BASE PRODUCTS					
i)	Sodium cyano Acetate	3500	--	3500		
ii)	Cyanamide (Crystals & Aqueous Solution)					
iii)	Para Anisaldehyde Cyanohydrin					
iv)	Diortho Toly Guanidine (DOTG)					
v)	Zinc Cyanide	--	300	300		
vi)	Isophoron Diamine	--	6000	6000		
	Total of Cyanide Based Products	3500	6300	9800		
13	N G based CPP	2 MW	--	2 MW		



SR. NO.	DESCRIPTION OF CONDITION					COMPLIANCE STATUS	CORRECTIVE & PREVENTATIVE ACTION TAKEN
	14	Ammonia Sulphate (By-Product)	2649	--	2649		
4.	Total Land Area is 204995 Sqm. Industry will developed greenbelt in 33 % area of the total project area.					Complied	We have developed greenbelt area which is approx. 45% of the total plot Area.
5.	There are no National parks, Wildlife Sanctuaries, Biosphere Reserves, Tiger/Elephant Reserves, Wildlife Corridors, etc. within 10 km from the Project site. Tapi river Flows at a distance of 9.5 Km.					Complied	National parks, wildlife sanctuaries, Biosphere Reserves, tiger/elephant reserves, wildlife corridors etc. are not cover within 10 km from the project site.
6.	The project/activity is covered under category A of item 5(b) 'Pesticides industry and pesticide specific intermediates (Excluding formulation)' of schedule of Environment Impact Assessment (EIA) Notification, 2006 and requires appraisal at central level by the sectoral EAC in the Ministry.					Complied	Our project is covered under category A of item 5(b).
7.	The ToR for the project was granted on 17 th February 2012 and the public hearing was conducted on 14 th November, 2014 by the GPCB. However, the proposal for EC was appraised by the EAC, considering the project site located in notified Industrial Area (Olpad Industrial area) and Thus exempting from public consultation/Hearing. The EC dated 22 nd January 2016 granted to the project finds mention that public consultation/Hearing was exempted as per section 7(i), III stage (3) Para (i)(b) of the EIA Notification, 2006.					Noted & Complied	EC has been granted on the advice of Hon'ble NGT vide order dated 7 th Dec, 2017, after considering all aspects of Public Hearing, which was held on 14 th Nov, 2014.
8.	As per the direction of Hon'ble NGT vide order dated 7 th December, 2017 and subsequent approval of the Ministry the proposal was considered by the experts Appraisal Committee(Industry-2) in its meetings held during 27-28 March 2018, 24-26 April, 2018, 25-27 June, 2018, 27-29 august, 2018 and 29-31 october, 2018 in the ministry, wherein the EAC recommended					Noted & Complied	We have received latest EC copy on dated: 13/03/2020 by MoEF.



SR. NO.	DESCRIPTION OF CONDITION	COMPLIANCE STATUS	CORRECTIVE & PREVENTATIVE ACTION TAKEN
	the proposed expansion project for grant of environmental clearance.		
9.	The proposal was further examined in the Ministry and the project proponent submitted an undertaking and declared that the Sodium Cyanide Mfg. by them shall not be used as insecticidal purpose nor it shall be used for Mfg. of banned pesticide mentioned in the Notification issued on 18 th August, 2018 by the Ministry of Agriculture & Farmers welfare.	Noted & complied	We have follow notification issued on dated 18 th august, 2018 by the Ministry of Agriculture & Farmers Welfare.
10.	The project proponent also confirmed that they will ensure that customers to whom they sell their Sodium cyanide shall not use it for insecticidal purpose not their and use shall be for insecticidal purpose and they shall not use it for manufacturing of pesticides. The project proponent has also submitted the list of buyers and undertaking from them in this regard.	Noted & complied	We follow as per same.
11.	The proponent has also submitted the import permit for sodium cyanide issued by secretary, central insecticides board and regulation committee on dated 11 th January, 2019.	Noted & Complied	We follow as per same.
12.	Based on the proposal submitted by the project proponent, recommendation of the EAC (Industry-2) and further examination in the Ministry, the Ministry of Environment Forest and Climate change hereby accords EC to the project for Mfg. Sodium cyanide & other Cyanide based products by M/s. Hindusthan Chemicals Company located at plot No. 26-37, 54-57, 122, 143, village Asnabad, Tehsil-Olpad, district-Surat(Gujarat), under the provisions of the EIA Notification, 2006, subject to the compliance of additional terms and conditions as under:-	Noted & Complied	We follow all conditions as per mention in EC copy.
A	<u>SPECIFIC CONDITIONS:</u>		
i)	Online Gas Detector for hydrogen cyanide to be calibrated to 1 ppm level from 4 ppm at present to have further safety assurance.	Noted & Complied	We are regularly carried out & calibrate to 1 ppm level of online gas detector for hydrogen cyanide.



X

SR. NO.	DESCRIPTION OF CONDITION	COMPLIANCE STATUS	CORRECTIVE & PREVENTATIVE ACTION TAKEN
ii)	At least 5% of total cost of the project to be earmarked towards the Enterprise social commitment based on local needs and action plan with financial and physical breakup/details should be prepared and submitted to the Ministry's Regional office of MoEF & CC. Implementation of such program should be ensured accordingly in a time bound manner.	Complied	Please Refer Annexure-18
iii).	National Emission Standard for Pesticide Manufacturing Industry issued by the Ministry vide G.S.R 446(E) dated 13 th June, 2011 as amended from time to time shall be followed.	Complied	Industry meets with the National Emission Standard for Pesticide Manufacturing and Formulation Industry issued by the Ministry vide G.S.R 446(E) dated 13 th June, 2011.
iv)	Adequate stack height shall be provided to gas fired boiler.	Complied	Adequate stack height <i>i.e.</i> 30 m has been provided for gas fired boiler.
v)	All the gas from the process containing HCN shall be incinerated in the incinerator. Scrubber and Stack of adequate height shall be provided to incinerator. Bag filter, Water scrubber and stack of adequate height shall be provided to heat treatment salt plant, ammonia absorption column to ammonium sulphate recovery plant and cyclone separator to control particulate emissions. Efficiency of pollution control device shall be monitored regularly and maintained properly. Scrubber vent shall be provided with on-line detection and alarm system to indicate higher than permissible value of controlled parameters. At no time, the emission levels shall go beyond the prescribed standards. The system should be interlocked with the pollution control equipment so that in case of any increase in pollutants beyond permissible limits, plant should be automatically stopped.	Complied	Proper air pollution control equipment has been provided at adequate stack height to check the flue gas emission as well as process gas emission from Tail Gas Incinerator Boilers. HCC has installed and commissioned online stack monitoring gas analyzer and TOC meter. Waste gas from all plants is driven under vacuum to existing Incinerator. HCN content in flue gas and efficiency of pollution control devices are being monitored on monthly basis by external NABL approved laboratory and also by internal Environmental Quality Lab, twice in a month basis. Bag Filter & Water Scrubber have been provided at Incinerator while Cyclone Separator has also been



SR. NO.	DESCRIPTION OF CONDITION	COMPLIANCE STATUS	CORRECTIVE & PREVENTATIVE ACTION TAKEN
			provided at auxiliary boiler. Interlocking system has been provided with the pollution control equipment to plant automatically Stopped in case of any increase in pollution level. Stack Monitoring Reports are attached as per Annexure 12.
vi).	In plant control measures for checking fugitive emissions from the entire vulnerable source shall be provided. Fugitive emissions shall be controlled by providing closed storage, closed handling & conveyance of chemicals/materials, multi cyclone separator and water sprinkling system. Dust suppression system including water sprinkling system shall be providing at loading and unloading areas to control dust emissions. Fugitive emissions in the work zone environment, products, raw materials storage area etc. shall be regularly monitored and records maintained. The emissions shall confirm to the limits stipulated by the GPCB.	Complied	Fugitive emissions in the work zone environment, raw-material storage area are being regularly monitored by on-line detectors like HCN Detectors in HCN, NaCN, and DPG & Mandelonitrile /Cyanohydrin plant. Portable gas detectors are also available at all plants. Company has also engaged a third party for monitoring of finished go-down for HCN, HCl, VOC, Moisture and ventilation. Water sprinkling system is provided in HCN / ammonia / Chlorine at storage loading and unloading areas to control emissions. Work place Monitoring Reports are attached as per Annexure 10.
vii)	For further control of fugitive emissions, following steps shall be followed: a) Closed handling system shall be Provided for chemicals. b) Reflux condenser shall be provided over reactor. c) System of leak detection and repair of pump/pipeline based on preventive Maintenance. d) The acids shall be taken from storage tanks to reactors through closed pipeline. Storage tanks shall be vented through trap receiver and condenser Operated on chilled water.	Complied	Point wise all control measure has been taken to prevent fugitive emission.



P

SR. NO.	DESCRIPTION OF CONDITION	COMPLIANCE STATUS	CORRECTIVE & PREVENTATIVE ACTION TAKEN
	e) Cathodic protection shall be provided to the underground solvent storage tanks.		
viii)	A proper leak detection and repair (LDAR) program for pesticide industry shall be prepared and implemented as per CPCB guidelines. Focus shall be given for prevention of fugitive emission for which preventive maintenance of pumps, valves, pipelines are required. Proper maintenance of mechanical seals of pumps and valves shall be given. A preventive maintenance schedule for each unit shall be prepared and adhered to.	Complied	<p>Intermediate storage/dosing tank of HCN in HCN Plant, NaCN Plant, and DPG & Mandelonitrile/Cyanohydrin plant have been kept under vacuum and vent is connected to the existing incinerator. Hence, there is no chance of any leakage.</p> <p>All the joints of pipe lines and pumps are tongue & groove. All the pumps in HCN plant are submersible to avoid any gland leakage. Magnetic Seals have been installed at all raw material pumps. Reactors of other plants are closed and connected under vacuum to the incinerator. No pump is used for HCN transfer; it is done by gravity through double walled chilled brine cooled SS 316 pipe line.</p> <p>Condensers with chilled brine cooling at -5°C are provided wherever required (e.g. Reactors of Mandelonitrile/Cyanohydrin) to prevent emission or vent to incinerator.</p>
ix)	Continuous monitoring system for HCN, chlorine, HCL and NH3 as well as VOCs shall be installed at all important places/areas. Effective measures shall be taken immediately, when monitoring results indicate above the permissible limits. All necessary steps should be taken for monitoring of HCN, chlorine, HCL and NH3 as well as VOCs in the Proposed plant.	Complied	<p>We have installed continuous monitoring system at all important places/areas.</p> <p>We are carryout work place Monitoring by third party Report of the same attached as per Annexure 10.</p>
x)	Alarm of chlorine leakage if any in the liquid chlorine storage area shall be provided along with automatic	Complied	Online detector has been provided for any leakage



A

SR. NO.	DESCRIPTION OF CONDITION	COMPLIANCE STATUS	CORRECTIVE & PREVENTATIVE ACTION TAKEN
	start of the scrubbing system.		occurred in the liquid chlorine storage area.
xi).	The gaseous emissions from DG set shall be dispersed through adequate stack height as per CPCB standards. Acoustic enclosure shall be provided to the DG sets to mitigate the noise pollution.	Complied	Adequate preventive measures have been taken to minimize gaseous emission from DG sets by providing air pollution control equipment and stacks at adequate height (as per CPCB norms).
xii)	Ambient air quality data shall be collected as per NAAQES standards notified by the Ministry vide G.S.R. No. 826(E) dated 16 September, 2009. The levels of PM2.5, PM10, SO2, NOx, CO and VOC shall be monitored in the ambient air and displayed at a convenient location near the main gate of the company and at important public places. The company shall upload the results of monitored data on its website and shall update the same periodically. It shall simultaneously be sent to the Regional office of MOEF, the respective Zonal office of CPCB and GPCB.	complied	Ambient air Monitoring Reports are attached as per Annexure 10 . Results of Ambient Air quality monitoring parameters are displayed near the main gate and summary of the report will be updated on company website & sent to the Regional office of MOEF, the respective Zonal office of CPCB and GPCB.
xiii).	Solvent management shall be carried out as follows: a) Chilled brine circulation system shall be provided to condensate solvent vapors and reduce solvent losses, it shall be ensured that solvent recovery should not be less than 95%. b) Reactor and solvent handling pump shall have mechanical seals to prevent leakages. c) The condensers shall be provided with sufficient HTA and residence time so as to achieve more than 95% recovery. d) Solvents shall be stored in a separate space specified with all safety measures. e) Proper earthing shall be provided in all the electrical equipment wherever solvent handling is done.	Complied	Chilled brine circulation system has been provided to condensate solvent vapors and reduce solvent losses. Mechanical seals are provided wherever required in reactors and pumps. Condensers are provided with sufficient HTA & residence time to achieve more than 95% recovery. Separate space has been already provided as per requirement of Petroleum Act for storage of solvent. Unit has been provided with proper earthing for all electrical equipment.



7

SR. NO.	DESCRIPTION OF CONDITION	COMPLIANCE STATUS	CORRECTIVE & PREVENTATIVE ACTION TAKEN
	f) Entire plant shall be flame proof. The solvent storage tanks should be provided with breather valve to prevent losses.		Where ever flammable chemicals are being used, flame proof motors & fitting are provided.
xiv).	Total water requirement from Kakrapar Canal shall not exceed 600.3 m ³ /day after expansion in effect of ZLD scheme submitted by PP and prior permission should be obtained from the Competent Authority.	Complied	Total water requirement has been increased from 651.2 m ³ /day to 1105.2 m ³ /day after expansion. Out of which, fresh water requirement from Kakrapar canal are only 600.3 m ³ /day and remaining water requirement are being met through recycled water i.e. 505 m ³ /day. Total average wastewater generation is nil as company has implemented ZLD scheme from 1st April, 2016.
xv).	Industrial effluent generation should not exceed 512 m ³ /day. Effluent will be segregated into high TDS/COD and Low COD/TDS effluent streams. High TDS/COD effluent stream will be evaporated in Multiple Effect Evaporator (MEE). Condensate will be treated in the condensate treatment unit. Low TDS/COD effluent stream will be treated in the effluent treatment plant (ETP) comprising primary, secondary and tertiary treatment (Reverse Osmosis). Permeate will be reused/recycled for cooling tower make up. The proposed effluent treatment scheme for the existing unit as well as proposed expansion is based on "Zero effluent discharge". Water quality of treated effluent should meet the norms prescribed by CPCB/SPCB.	Complied	Effluent generated from different plants of HCC are segregated & divided for the treatment in two schemes. Scheme - 1: Cyanide containing effluent with Ammonical Nitrogen, low TDS & very low COD-BOD: Effluent from following plants is combined for the treatment- HCN, NaCN, & SFCN - partly (only condensate water, which is major). Scheme - 2: Effluent containing high TDS & high COD - BOD: a. SFCN Plant - Mother liquor after removing SFCN. b. DPG Plant - Alkaline effluent. c. SDCN Plant d. DOTG



SR. NO.	DESCRIPTION OF CONDITION	COMPLIANCE STATUS	CORRECTIVE & PREVENTATIVE ACTION TAKEN
			<p>Both schemes are successfully implemented & treated effluent meets all norms of GPCB.</p> <p>Industry have implemented Zero Liquid Discharge scheme from 1st April, 2016 with waste minimization for the existing ETP plants. Which is attached as Annexure – 5. Analysis reports of GPCB are also attached as Annexure –3.</p>
xvi).	"Zero" effluent discharge shall be adopted and no effluent shall be discharged outside the premises.	Complied	Industry has implemented Zero Liquid Discharge scheme from 1st April, 2016 with waste minimization for the existing ETP plants. which is attached as Annexure – 5 . The total treated water is being recycled to Cooling Tower/in process. No effluent is being discharged outside the premises.
xvii).	Automatic /online monitoring system (24x7 monitoring devices) for flow measurement and relevant pollutants in the treatment system to be installed. The data to be made available to the respective SPCB and in the Company's website.	Complied	Automatic /online monitoring system (24x7 monitoring devices) for flow measurement and relevant pollutants in the treatment system has been already installed.
xviii)	Process effluent/any wastewater shall not be allowed to mix with storm water. Storm water drain shall be passed through guard pond.	Complied	<p>Atmost care is taken to avoid spillage of chemicals.</p> <p>All the plant area has been already covered with Dyke Wall and floor pit has also been provided to recycle/transfer spillage back to plant or to ETP.</p>
xix).	Incinerator should be designed as per CPCB guidelines. SO ₂ , NO _x , HCN, HCl and CO emissions shall be monitored in the stack regularly.	Complied	Strictly follow the CPCB guidelines for any environmental concern. Gaseous pollutants like SO ₂ , NO _x , HCN, HCl and CO emissions in flue gas emission and process emission are



SR. NO.	DESCRIPTION OF CONDITION	COMPLIANCE STATUS	CORRECTIVE & PREVENTATIVE ACTION TAKEN
			being monitored on monthly basis by external NABL approved laboratory and also by internal Environmental Quality Lab, twice in a month basis.
xx).	Hazardous chemicals shall be stored in tanks in tank farms, drums, carboys etc. Flame arresters shall be provided on tank farm. Solvent transfer shall be by pumps.	Complied	Hazardous chemicals are being stored with proper care in tank farm, drums etc. transfer of liquid material is transferred by pipes through pumps. Please Refer Annexure-17
xxi).	The company shall obtain Authorization for collection, storage and disposal of hazardous waste under the Hazardous Waste (Management, Handling and Trans Boundary Movement) Rules, 2008 and amended as on date for management of Hazardous wastes and prior permission from GPCB shall be obtained for disposal of solid / hazardous waste in the TSDF. Measures shall be taken for firefighting facilities in case of emergency. Membership of TSDF for hazardous waste disposal shall be obtained.	Complied	The industry has obtained authorization for the storage and disposal from GPCB and has valid membership of Nandesari Environment Control Ltd. (NECL), Baroda & Bharuch Enviro Infrastructure Ltd. (BEIL), Ankleswar/ Dahej. Membership copies of the same are enclosed as Annexure - 6.
xxii).	As proposed, ETP sludge, incineration ash and evaporation residue shall be sent to TSDF site. High calorific value waste such as spent organic shall be sent to cement factory/incinerated.	Complied	The industry has obtained authorization for the storage and disposal of incineration ash, treatment and disposal of hazardous waste from GPCB and has valid membership of Nandesari Environment Control Ltd. (NECL), Baroda and Bharuch Enviro Infrastructure Ltd. (BEIL), Ankleswar & Dahej. Membership copies of the same are enclosed as Annexure -6.
xxiii)	The Company shall strictly comply with the rules and guidelines under Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) Rules, 1989 as amended in October, 1994 and January, 2000. All Transportation of Hazardous Chemicals shall be as	Complied	• Company has carried out various technical studies like HAZOP, Risk Assessment, Safety Audit etc. to understand work operation



SR. NO.	DESCRIPTION OF CONDITION	COMPLIANCE STATUS	CORRECTIVE & PREVENTATIVE ACTION TAKEN
	per the. Motor Vehicle Act (MVA), 1989.		<p>and their hazards to minimize the potential risk.</p> <ul style="list-style-type: none"> • Company has a comprehensive emergency action plan, contingency report and is also member of the District Crisis Group. • Company regularly conducts Mock Drills for various scenarios such as ON-SITE Mock Drill and observations are evaluated and implemented.1 • Company has got adequate firefighting & hydrant system network to cope with the emergency. • Company has freeze assembly points at strategic locations & emergency escape routes. Due to low movement of vehicle, HCC used to operate one gate out of two for entry and exit purpose of employees & vehicle and the second gate is being kept as an emergency exit. • Company has got 3 bed OHC within the premises which is managed by qualified Doctor and trained nurse round the clock. Also sufficient stock of Cyanide antidote kits is available in OHC. • Company organizes training on various topics regarding occupational hazard to create awareness among the workforce. • Company has organized various awareness



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SR. NO.	DESCRIPTION OF CONDITION	COMPLIANCE STATUS	CORRECTIVE & PREVENTATIVE ACTION TAKEN
			programmes for local Students, Teachers & Doctors.
xxiv)	The company shall undertake following waste minimization measures :-	Complied	
a)	Metering and control of quantities of active ingredients to minimize waste		Industry has already implemented sophisticated close charging system with instrumentation for metering & control of active ingredients.
b)	Reuse of by-products from the process as raw materials or as raw material substitutes in other processes.		Industry is already recycling the low purity NaCN generated from scrubber-absorbers / air stripping to NaCN plant after proper filtration / de-clourization. Sodium Cyanide waste & mother liquor of NaCN are used for Sodium Ferro-cyanide manufacturing process. Acidic waste water (dilute HCl) generated from DPG Plant during the manufacture of Ferrous Chloride is being used as a raw-material.
c)	Use of automated filling to minimize spillage.		To minimize the spillage, all finished products, e.g. Sodium Cyanide, Diphenyl Guanidine & Sodium Dicyanamide etc. are filled in drums/bags automatically. Spillage is almost eliminated.
d)	Use of Close Feed system into batch reactors.		Raw-materials and process chemicals feeding system into batch reactors are in a closed system with sophisticated instrumentation.
e)	Venting equipment through vapour recovery system		Venting equipments, e.g. condensers, scrubbers & incinerators have been provided to the reactor to destruct hazardous vapour & hence there will be no



SR. NO.	DESCRIPTION OF CONDITION	COMPLIANCE STATUS	CORRECTIVE & PREVENTATIVE ACTION TAKEN
			toxic/hazardous release to atmosphere.
f)	Use of high pressure hoses for equipment clearing to reduce wastewater generation.		Company is already using water at high pressure for cleaning the equipment.
xxv)	The unit shall make the arrangement for protection of possible fire hazards during Manufacturing process in material handling. Firefighting system shall be as per the norms.	Complied	Company has made arrangement for the protection of possible fire hazard right from the beginning. Fire water pipe line network with fire water pond & pumps have been provided to meet any emergency. Different types of required fire extinguishers have been provided in all plants & other strategic locations. Firefighting training is also given to employees.
xxvi)	Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.	Complied	Occupational Health Surveillance of all workers & employees is being done regularly by industry at least Twice in a year by qualified medical officer & also by an external agency, Dr. Agarwal Diagnostic Centre, Kalyan, Mumbai. Records of the same are maintained as per the Factories Act.
xxvii)	As proposed, green belt over 33 % of the total project area should be developed within plant premises with at least 10 meter wide green belt on all sides along the periphery of the project area, in downward direction, and along road sides etc. Selection of plant species shall be as per the CPCB guidelines in consultation with the DFO.	Complied	Total plot area is 2,04,995 m ² out of which Greenbelt has already been developed in 92,247 sq. m., which is 45% of total land. Selected plant species is as per the CPCB guidelines in consultation with the DFO.
xxvii i)	The company shall make the arrangement for protection of possible fire and explosion hazards during manufacturing process in material handling.	Complied	Company has made arrangement for the protection of possible fire hazard right from the beginning. Fire water pipe line network with fire water



SR. NO.	DESCRIPTION OF CONDITION	COMPLIANCE STATUS	CORRECTIVE & PREVENTATIVE ACTION TAKEN
			<p>pond & pumps have been provided to meet any emergency. Different types of required fire extinguishers have been provided in all plants & other strategic locations. Firefighting training is also given to employees.</p> <ul style="list-style-type: none"> • Safety training is given to all employees on joining, followed by written test and refresher safety training is also given to all employees once in a period of two years, which includes use of PPEs. • Pre-employment and routine medical examination for all employees handling chemicals is conducted regularly.
xxix)	Provision shall be made for the housing for the construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile sewage treatment plant, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structure to be removed after the completion of the project. All the construction waste shall be manage so that there is no impact on the surrounding environment.	Complied	Industry has already made provision for the housing of construction laborers in the company's housing colony, which is nearby the plant & has all required facilities.
xxx)	The project proponent shall strictly comply the sector specific conditions as mentioned in the Ministry's office Memorandum No. 22-34/2018-IA. III, dated 9 th August, 2018. The said OM is available at the Ministry's website (Parivesh Portal i.e. www.Parivesh.nic.in) The grant of EC is further subject to compliance of generic conditions as mentioned in the Ministry's Office Memorandum No. 22-34/2018-IA. III, Dated 9 th August, 2018.	Complied	We have complied to all conditions as mentioned in the Ministry's office memorandum No. 22-34/2018-IA. III dated 9 th August, 2018.
B	GENERAL CONDITIONS		
i)	The project proponent shall obtain all other statutory/necessary permissions/recommendations/	Complied	We have obtained necessary permission from the Board.



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SR. NO.	DESCRIPTION OF CONDITION	COMPLIANCE STATUS	CORRECTIVE & PREVENTATIVE ACTION TAKEN
	NOCs prior to start of construction/operation of the project, which inter alia include, permissions/approvals under the Forest (Conservation) Act, 1980; the wildlife (Protection) Act, 1972; the Coastal regulation Zone Notification, 2019 as amended from time to time, and other office Memoranda/Circular issued by the Ministry of Environment, forest and climate change from time to time, as applicable to the project.		
ii)	The project proponent shall ensure compliance of 'National Emission Standards' as applicable to the project, issued by the ministry from time to time. The project proponent shall also abide by the rules/regulations issued by the CPCB/SPCB for control/abatement of pollution.	Complied	We follow National emission standards & norms within prescribe limit. We follow rules/regulations issued by the CPCB/SPCB for control/abatement of pollution.
iii)	The project authorities shall adhere to the stipulations made by the State Pollution Control Board/Committee, Central Pollution Control Board, State Government and any other statutory authority.	Complied	Complied HCC has received renewed CC&A vide order no. AWH-94173 dated 04/07/2018 valid up to 14/07/2023. Also unit has received CC&A Amendment vide letter No. GPCB/CCA-SRT-50(18)/ID-20643/574125 on Dated:01/12/2020 which is attached as Annexure - 8.
iv)	The project proponent shall prepare a site specific conservation plan and wildlife management plan in case of the presence of schedule-1 species in the study area, as applicable to the project and submit to chief wildlife warden for approval. The recommendations shall be implemented in consultation with the state forest/Wildlife Department in a time bound manner.	Complied	Not applicable for prepare a site specific conservation plan & wild life management plan.
v)	No further expansion or modifications in the plant, other than mentioned in the EIA Notification, 2006 and its amendments, shall be carried out without prior approval of the Ministry of Environment and Forest & climate change. In case of deviations or alterations in the project proposal from those submitted to this Ministry for clearance, a fresh reference shall be made to the Ministry to assess the	Complied	Company assures that no further expansion or modification in the plant shall be carried out without prior approval of MoEF & CC. A fresh reference shall be made for any deviation & change in the plant.



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SR. NO.	DESCRIPTION OF CONDITION	COMPLIANCE STATUS	CORRECTIVE & PREVENTATIVE ACTION TAKEN
	adequacy of conditions imposed and to add additional environmental protection measures required, if any.		
vi)	The energy source for lighting purpose shall be preferably LED based, or advance having preference in energy conservation and environment betterment.	Complied	We have installed LED base lighting in premises for energy conservation and environment betterment.
vii)	The locations of ambient air quality monitoring stations shall be decided in consultation with the State Pollution Control Board (SPCB) and it shall be ensured that at least one station each is installed in the upwind and downwind direction as well as where maximum ground level concentrations are anticipated.	Complied	Industry has already decided the following four ambient air locations as under in consultation with GPCB. 1. HCN plant 2. ADM Office 3. R&D lab 4. Security Office
viii)	The National Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16 th November, 2009 shall be followed.	Complied	We follow NAAQ emission standards & norms within prescribe limit.
ix)	The overall noise levels in and around the plant area shall be kept well within the standards by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise levels shall conform to the standards prescribed under Environment (Protection) Act, 1986 Rules, 1989 viz. 75 dBA (day time) and 70 dBA (night time).	Complied	During the study period, the ambient noise level was within the limit as per the standard prescribed under Environment (Protection) Act, 1986, Rules, 1989 for day time and night time. For Noise level report kindly find attached Annexure- 11 .
x)	The Company shall harvest rainwater from the rooftops of the buildings and storm water drains to recharge the ground water and to utilize the same for process requirements.	Complied	As our industry is in safe zone but we can not do rain water harvesting recharge through recharge borewell, Because it is Chemical unit, we shall plan collection of Rain water from our Rooftop area and store the catchment water from Rooftop area in underground lined tanks as per CGWA



SR. NO.	DESCRIPTION OF CONDITION	COMPLIANCE STATUS	CORRECTIVE & PREVENTATIVE ACTION TAKEN
			<p>guidelines.</p> <p>The unit has big rooftop area 12033sqm. Hence water collected from rooftop Area.</p> <p>The abstraction of fresh water from borewell as our unit is in Safe zone and Chemical unit, we shall collect all water from our Rooftop area and collect in underground Lined storage tanks.</p>
xi)	<p>Training shall be imparted to all employees on safety and health aspects of chemicals handling. Pre-employment and routine periodical medical examinations for all employees shall be undertaken on regular basis. Training to all employees on handling of chemicals shall be imparted.</p>	Complied	<p>Safety training is given to all employees on joining, followed by written test and refresher safety training is also given to all employees once in a period of two years, which includes use of PPEs.</p> <p>Pre-employment and routine medical examination for all employees handling chemicals is conducted regularly.</p>
xii)	<p>The company shall also comply with all the environmental protection measures and safeguards proposed in the documents submitted to the Ministry. All the recommendations made in the EIA/EMP in respect of environmental management, risk mitigation measures relating to the project shall be implemented.</p>	Complied	<p>Industry has provided scrubber, dust collector, bag filter and cyclone separator wherever required.</p>
xiii)	<p>The company shall undertake all relevant measures for improving the socio economic conditions of the surrounding area. CER activities shall be undertaken by involving local villages and administration and shall be implemented.</p>	Complied	<p>HCC Management believes in socio-economic upliftment and undertakes various CER activities based on requirement of surrounding areas.</p> <p>Company is actively working on improving socioeconomic Conditions of</p>



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SR. NO.	DESCRIPTION OF CONDITION	COMPLIANCE STATUS	CORRECTIVE & PREVENTATIVE ACTION TAKEN
			<p>the surrounding area by way of organizing medical camps, blood donation camps, donation to schools & villages.</p> <p>Awareness training on hazards of chemicals used/produced in plant & their preventive measures are being given to people of surrounding villages.</p> <p>Please Refer Annexure-18</p>
xiv)	The company shall undertake eco developmental measures including community welfare measures in the project area for the overall improvement of the environment.	Complied	<p>Company is actively working on eco-developmental measures in the project area. New tree plantation is done every year on Safety Day, World Environment Day & before monsoon.</p> <p>Company has organized various safety and environment awareness programs and also planted 750nos. of trees within premises in the month of June 2019 to Nov 2019.</p>
xv)	A separate Environmental Management Cell equipped with full-fledged laboratory facilities shall be set up to carry out the Environmental Management and Monitoring functions.	Complied	<p>Company has already set up Environmental Management Cell (EMC) equipped with full-fledged Laboratory facility. Company has also appointed qualified Environmental Officer, who looks after day to day monitoring and management activity of the EMC.</p>
xvi)	The company shall earmark sufficient funds towards capital cost and recurring cost per annum to implement the conditions stipulated by the Ministry of Environment, Forests & climate change as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds so earmarked for environment management/	Agreed	HCC Management believes in sustainable management of natural resources and environment of project site as well as surrounding areas.



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SR. NO.	DESCRIPTION OF CONDITION	COMPLIANCE STATUS	CORRECTIVE & PREVENTATIVE ACTION TAKEN
	pollution control measures shall not be diverted for any other purpose.		
xvii)	A copy of the clearance letter shall be sent by the project proponent to concerned Panchayat, ZilaParisad/Municipal Corporation, Urban local Body and the local NGO, if any, from whom suggestions/Representations, if any, were received while processing the proposal.	Complied	Copy of the clearance letter has been sent to concerned authorities. Please Refer Annexure-19
xviii)	The project proponent shall also submit six monthly reports on the status of compliance of the stipulated Environmental Clearance conditions including results of monitored data (both in hard copies as well as by e-mail) to the respective Regional Office of MoEF& CC, the respective Zonal Office of CPCB and SPCB. A copy of Environmental Clearance and six-monthly compliance status report shall be posted on the website of the company.	Complied	HCC is regularly submitting summary of six monthly reports on status of compliance of EC conditions by email to Regional Office of MoEF& CC and the same comprehensive physical report by post to the Regional office of MoEF &CC, the respective zonal office of CPCB and the State Pollution Control Board.
xix)	The environmental statement for each financial year ending 31st March in Form-V as is mandated shall be submitted to the Gujarat Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental clearance conditions and shall also be sent to the Bhopal Regional Offices of MoEF& CC by e-mail.	Complied	Environmental statement for each financial year in Form – V is being submitted to GPCB. HCC has sent copy of Form – V through courier for the financial year 2019 – 2020 to MoEF, Bhopal.
xx)	The project proponent shall inform the public that the project has been accorded environmental clearance by the ministry and copies of the clearance letter are available with the SPCB/committee and may also be seen at website of the Ministry and at https://parivesh.nic.in this shall be advertised within seven days from the date of issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same shall be forwarded to the concerned regional office of the ministry.	Complied	Information on Environmental Clearance for new projects has already been advertised in two local newspapers Gujarat Samachar on 20th March 2020 and The Times of India on 20th March 2020. Please Refer Annexure-16
xxi)	The project authorities shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the	Noted	We agree. But this expansion project is on hold due to covid-19 effect.



SR. NO.	DESCRIPTION OF CONDITION	COMPLIANCE STATUS	CORRECTIVE & PREVENTATIVE ACTION TAKEN
	concerned authorities and the date of start of the project.		
xxii)	This Environmental clearance is granted subject to final outcome of Hon'ble supreme court of India, Hon'ble high court, Hon'ble NGT and any other court of law, if any as may be applicable to this project.	Noted & Complied	We agree.
13.	The ministry reserves the right to stipulate additional conditions, if found necessary at subsequent stages and the project proponent shall implement all the said conditions in a time bound manner. The Ministry may revoke or suspend the environmental clearance, if implementation of any of the above conditions is not found satisfactory.	Noted & Complied	We agree.
14.	Concealing factual data or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.	Noted & Complied	We agree
15.	Any Appeal against this Environmental clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under section 16 of the National Green Tribunal Act, 2010.	Noted	No any appeal against EC.
16.	The above conditions will be enforced, inter-alia under the provisions of the Water (Prevention & control of pollution) Act, 1974, the Air(Prevention & control of pollution) Act, 1981, the Environment (Protection) act 1986, the Hazardous waste (Management, handling & transboundary Movement) rules, 2016 and the Public Liability Insurance Act, 1991 read with subsequent amendments therein.	Noted & Complied	We agree
17.	This EC is issues in supersession of EC dated 22 nd January, 2016 as the Hon'ble NGT has set aside the EC dated 22 nd January, 2016 and directed to EAC and ministry to give recommendation and take decision in accordance with law.	Noted & Complied	We agree
18.	This issues with the approval of the competent authority.	Noted	--



SUMMARY

Hindusthan Chemical Company, formerly known as Cyanides & Chemicals Company, is a unit of HEIL. The unit was set up in the year 1982 in GIDC Industrial Estate at Olpad Taluka of Surat District in Gujarat State. The unit is engaged in manufacture of Hydrogen Cyanide (HCN) and Cyanide based products. The unique feature of the HCN manufacturing technology is that the whole system of manufacturing process is working under vacuum hence in any case hazardous gas is not released-out into the atmosphere from the production system. The unit is manufacturing of Hydrogen Cyanide, Sodium Cyanide, Potassium Cyanide, Sodium/Potassium Ferro Cyanide, Diphenyl Guanidine, Heat Treatment Salt, Sodium Dicyanamide, Cyanohydrins, Nitriles, Cyanide based products, Mandelonitrile and Natural Gas based Captive power Plant.

Under environment legislation, it is mandatory to submit six monthly compliance reports on the conditions mentioned in the Environment Clearance (EC) vide letter no.: No. J – 11011/ 466/2011 – IA II (I) dated 22/01/2016 issued by Ministry of Environment & Forests (MoEF), Govt. of India, New Delhi. Hindusthan Chemicals Company at Olpad Dist: Surat has obtained valid EC, NOC & CC&A from concerned authorities.

The industry has awarded contract for the Environmental monitoring and preparation of six monthly EC compliance report to Earthcare Enviro Solutions Pvt. Ltd. The consultancy firm has its own well equipped laboratory to measure the pollution parameters related to Environmental Monitoring (Air, Water, Wastewater, Soil) with National Accreditation Board for Testing and Calibration Laboratories (NABL) accreditation. All monitoring equipments are available to measure Stack emissions, Ambient Air quality and noise level of various plants.

Six monthly compliance report along with monitoring data are regularly submitted to the concerned department and during monitoring period of this report RO visit was also done. All the conditions stipulated in EC clearance was complied by the project proponent.



OBSERVATIONS & RECOMMENDATIONS

- HCC has obtained valid EC, NOC & CC&A from concerned authorities.
- HCC used to operate one gate out of two for entry & exit purpose of employees & vehicle and the second gate is being kept as an emergency exit.
- All the analysis report of ambient air, stack, effluent & noise are well within the GPCB norms.
- Industry has implemented ZLD scheme and no effluent discharge outside the industry premises.
- Industry has carried out regularly pre-employment & routine medical examination for all employees.
- HCC has greenbelt area of 22 acres (approx.45%) within premises.
- HCC has installed and commissioned online stack monitoring gas analyzer and TOC meter.
- HCC has implemented rain water harvesting.
- HCC has been regularly carried out CSR activities.
- HCC has obtained membership certificate of BEIL, Ankleshwar/Dahej& NECL, Baroda for disposal of hazardous waste.
- HCC has regularly uploaded monthly data & Form-V on XGN portal.
- It is recommended to regularly upload six monthly compliance report of EC conditions on parivesh portal.



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Annexure-1

Salient Features of Project

S. No.	Description	Details
1.	Airport	Surat Airport is 22 km in S direction
2.	Railway station	Surat Railway station is 19 km in SE direction
3.	Port	Magdalla port is 26 km in S direction
4.	National Highway	NH-8 is 21 km in E direction
5.	State Highway	SH-6 is 350 m in E direction
6.	Town/City	Surat city is 15 km in SE direction
7.	Village	Olpad village is 1.5 km From nearest main locality
8.	River	Tapi river is 9.5 km in SE direction
9.	Sea	Arabian Sea is 18.5 km in SW direction

Annexure-2

Details of expenditure allocated on EMP

S. No.	Head of Expenses	Expenditure (Rs. In Lakhs)	
		Year 2018-19	Year 2019-20
1.	Effluent Treatment Facility	88.14	190.16
2.	Hazardous Waste Management Facility	197	21.30
3.	Green Belt Development	0.95	16.02
4.	Electricity charge to run ETP for GEB	117.57	76.93
5.	Environment Monitoring & Audit	18.86	2.31
	Total	422.53	306.72

GPCB ANALYSIS REPORT

ANALYSIS REPORT FOR
WATER / WASTE WATER SAMPLE

Sample ID: 280823 - Analysis Completion: 05/06/2020

Organic Chemicals manufacturing / LAB Inward : 38609

Gujarat Pollution Control Board, Surat
338, Belgium Square
Typical 1st Floor, Opp. Linear Bus Stand
Ring Road, SURAT
Tele: (0261) 2442696

TEST REPORT

Test Report No. : 38609

Date: 06/06/2020

1. Name of the Customer : Hindusthan Chemicals Company Old Name: Cyanides & Chemicals Company) - 20643
2. Address : ,GIDC IND.ESTATE,P.O. - OLPAD
OLPAD-394540, Taluka : Olpad, District : Surat, GIDC : Not In Gide
3. Nature of Sample : REP-Representative/Grab, (Insp Type : APP-On Application)
4. Sample Collected By : Ms. Desai manali b
5. Quantity of Sample Received : 5 Lit
6. Code No. of the Sample : 280823
7. Date & Time of Collection & Inwarding : 20/05/2020 , (1305 to 1305) & 21/05/2020
8. Date of Start & Completion of Analysis : 21/05/2020 & 05/06/2020
9. Sampling Point : ## Final Outlet of the ETP ~ From final outlet of STP
10. Flow Details (Remarks) : Yes
11. Mode of Disposal : On land for gardening /plantation within premises
12. Ultimate Receiving Body : Zero Liquid Discharge
13. Temperature on Collection : 29 & pH Range on pH Strip : 7 to 8 on pH Strip
14. Carboys Nos for : SUR-UEVUT1 & Color & Appearance : Colourless
15. Water Consumption & W.W.G (KLPD) : Ind :643.200 , Dom :8.000 & Ind :257.900 , Dom :8.000

Sr	Parameter	Unit	Test Method	Range of Testing	Result
1	Temperature	Centigrade	IS: 3025 (Part - 9) - 1984(Reaffirmed 2006)	Ambient oC - 60 oC	29
2	pH	pH Units	4500 H+ B APHA Standard Methods 22nd edn. 2012	1 - 14 pH value AS or	7.15
3	Suspended Solids	mg/l	Gravimetric method. (2540 D APHA Standard Method	2 - 10000 mg/L	12
4	Fecal Coliform	MPN/100 ml	2.9221 E APHA 22nd Edition IS 1622-1981	<1.8 to >1600 MPN/10	9
5	B.O.D (3 Days 27oC)	mg/l	3 - Day BOD test. (IS 3025 (Part 44) 1993 Reaffirmet	05-50000 mg/l	4.2

Laboratory Remarks : Approved By 248-r.o. 240 Dt : 06/06/2020

M B AHIR, SO(M)

Field Observation : sample is collected as per is:3025 method

Note :

- * - These parameters are NOT covered under the scope of NABL.
- The results refer only to the tested samples and applicable parameters. Endorsement of products is neither inferred nor implied.
- Samples will be destroyed after 10 days from the date of issue of test report unless otherwise specified.
- This report is not to be reproduced wholly or in part or used in any advertising media without the permission of the Board in writing.
- The Board is not responsible for the authenticity for the samples not collected by the Board's officials.
- Total liability of our laboratory is limited to the invoiced amount. Any dispute arising out of this report is subject to Gujarat Jurisdiction only
- Permissible Limits: as per Schedule VI of EPA Rules, 1986 as amended by Second and Third amendment 1993 for Effluents
- Physicochemical and microbiological parameters, Std. Methods for Water and Waste Water- 22nd Edition by APHA.
- Bioassay test (for toxicity) -IS:6582:Part-2:2001; Reaffirmed 2007.

N I C

06/06/2020

FORM-V



HINDUSTHAN CHEMICALS COMPANY

An enterprise of THE HINDUSTHAN GROUP)

CIN: U19300GJ1998PLC086403

G.I.D.C. Industrial Estate, Olpad - 394540, DIST SURAT, GUJARAT (INDIA) Email: hccolp@hcc-cyanides.com
TELEPHONE : 02621-221681 to 221683, M: 9978444894, 9978444895 Telefax: 02621-221235

F HCC:TECH-17 RPS 7

6th April, 2020

Through Courier

The Unit Head (Surat)
Gujarat Pollution Control Board
Paryavaran Bhavan
Sector - 10A
Gandhinagar - 382 010

Sub: Environmental Audit Statement for the Financial Year ended on 31st March, 2020.

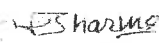
Dear Sir,

As per Notification dated 13th March, 1992 of Govt. of India, Ministry of Environment & Forests, New Delhi, we are enclosing herewith the Environmental Audit Statement for the financial year ended on 31st March, 2020 for your reference.

We hope, you will find the same in order.

Thanking you

Yours faithfully
for Hindusthan Chemicals Company


R. P. Sharma
Asst. Vice President (Plant)

Encl. 03

1. The Regional Office -
Gujarat Pollution Control Board
338, Belgium Square, Typographical
Silver Plaza Complex
Near Linear Bus Stand
Ring Road, Surat - 395 003

2. The Director (Enforcement)
Ministry of Environment & Forests
Regional Office (Waste in Region)
Link Road No. 3, E-5, Aera Colony
Bhopal - 462 010 (M.P.)

By Regd. A/D

H.O. 65, FREE PRESS HOUSE, 215 FREE PRESS JOURNAL ROAD, NARIMAN POINT, MUMBAI 400 021, INDIA
TEL: 91-22-22027947 / 61510999, TELEFAX: 91-22-22029430 E-MAIL: info@hcc-cyanides.com
PROP.: HINDUSTHAN ENGINEERING & INDUSTRIES LTD. REGD. OFFICE: MODY BUILDING, 27 SIR R.N. MUKHERJEE ROAD, KOLKATA - 700001

FORM - V

(See Rule 14)

ENVIRONMENTAL AUDIT REPORT FOR THE FINANCIAL YEAR ENDED ON 31ST MARCH, 2018.

PART - A

1. Name and address of the Owner/
Occupier of the industry operation
or process : Hindusthan Chemicals Company
Prop: Hindusthan Engineering & Industries Ltd
GIDC Industrial Estate
P.O. Olpad - 394 540, Dist. Surat. (Gujarat)
2. Production capacity unit : Please refer Annexure - 1.
3. Date of the last environmental : 23.06.2019

PART - B

WATER AND RAW MATERIAL

CONSUMPTION

1. Water Consumption M³/day
 - (A) Domestic : 8.347 M³/day
 - (B) Industrial:
 - i) Cooling & Boiler } : 283.785 M³/day
 - ii) Process, Washing & Agriculture } : 24.322 M³/day

Total : 316.454 M³/day

Name of the Products Fresh Water Consumption per unit of Products

During the previous Financial Year During the current Financial Year

(2018-2019)

(2019-2020)

Please refer Annexure - 1

35.400 M³/MT of HCN

40.250 M³/MT of HCN

Contd...2

PART - C**POLLUTION GENERATED** (Parameters as specified in the Consent Issued)

(i)	Pollutants	Quantity of pollution generated.	Percentage of variation from prescribed standards with reasons.
a)	Water	Please refer Annexure - C	
b)	Air		

PART - D**HAZARDOUS WASTE**

(As specified under Hazardous Waste Management and Handling Rules, 1989)

Hazardous Wastes	Total Quantity (Kgs.)	
	During the Previous Financial Year (2018-2019)	During the Current Financial Year (2019-2020)
a) From Process	313144.00	25040.00
From Pollution control facilities		

Note: Major Hazardous Waste generator product plants are kept non operational in current financial year 2019-20.

Above whole quantity was dried in impervious solid waste collection pan and then sent to M/s Bharuch Enviro Infrastructure Ltd, Ankleshwar for incineration, treatment and disposal.

PART - E**SOLID WASTES**

	Total Quantity	
	During the Previous Fin. Year (2018-2019)	During the Current Fin. Year (2019-2020)
a) From Process	Whole quantity of solid waste was dried and then sent to	Whole quantity of solid waste was dried and then sent to
b) From Pollution	M/s Bharuch Enviro Infrastructure Ltd.	M/s Bharuch Enviro infrastructure Ltd.
c) Quantity Recycled or re-utilized	for incineration, treatment and disposal.	for incineration, treatment and disposal.

PART - F

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

Hazardous Waste:

- | | | |
|------|--------------------|-------------------------------------------------------------------------------------------------------|
| i) | Activated Carbon | - Semi solid
Activated Carbon
Water
Oxidized Polymer of DPG
(Loss on ignition at 500° C.) |
| ii) | Ferri Ferrocyanide | - Ferri Ferrocyanide
Water |
| iii) | Ferric Hydroxide | - Ferric Hydroxide
Water
Sodium Ferrocyanide |

Solid Waste:

- | | | | |
|------|-------------------|-----------------|-------|
| i) | Contaminated Salt | Sodium Chloride | - |
| ii) | ETP sludge | Cyanide content | - |
| iii) | Residue from ZLD | Cyanide content | >2ppm |

PART - G

Impact of the Pollution Control Measures on conservation of natural resources and consequently on the cost of production.

Impact on conservation of natural resources**1. Water Pollution**

We are operating our Zero Liquid Discharge Plant efficiently and no treated water is discharged by our unit. The total treated water is being recycled to Cooling Tower/In process.

2. Hazardous Waste:

Hazardous waste get completely dried in impervious pan by solar evaporation.

Impact of cost of production

An amount of Rs. 64.5 Lacs is spent annually in Effluent Treatment Plant & Zero Liquid Discharge Plant

Constituents present in hazardous waste was sent to M/s Dharuch Enviro Infrastructure Ltd, Ankleshwar for incineration, treatment and disposal. An amount of Rs. 48,656 was spent annually

cont....4

3. Air Pollution:

The toxic gases are completely burnt in Incinerator resulting into generation of inert gases, i.e. CO₂/N₂ and simultaneously generation of steam which is effectively used in plants. Therefore, there is no impact of conservation of natural resources.

Approx. 23,112 MT/year steam was generated in incinerator, otherwise to generate 23,112 MT steam we would have burnt 1926 K.L. of furnace oil.

PART - H

Additional investment proposal for environmental protection including abatement of pollution.

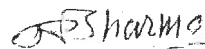
1. We are fully equipped to handle hazardous waste, liquid effluents, air pollutants and detoxicate the same conforming to the norms specified by Pollution Control Board.
2. We are having On-line Stack Monitoring Gas Analyser and records are being maintained.
3. We are having On-line TOC Meter. Records are being maintained.
4. We have installed and commissioned Zero Liquid Discharge plant on 14/03/2016 and stopped discharge of waste water to Magma Khadi from 01/04/2016. All the treated water is being recycled in Cooling Tower and in Process.
5. We are going to install on-line Ambient Air Monitoring Station shortly.

PART - I

Miscellaneous

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

About 2500 additional trees were planted within our battery limit during monsoon season.



(R. P. Sharma)
Asst. Vice President (Plant)

Annexure -1

PRODUCTION DETAILS

Sl No	Name of product	Consent Capacity MT/Annum	Actual production MT/Annum
1	Hydrocyanic Acid	5100	1693.300
2	Sodium Cyanide	8372	2559.288
3	Potassium Cyanide	Nil	Nil
4	Sodium/Potassium Ferrocyanide	1000	Nil / Nil
5	Diphenyl Guanidine	1250	NIL
6	Sodium Dicyanamide		Nil
7	Mandelonitrile		1213.082
8	Heat Treatment salt		Nil
9	Cyanohydrines		159.559
10	Nitriles		Nil
11	Cyanide Based Products	1500	Nil
12	Ammonium Sulphate (By-produ	800	935.450

Annexure – 2

POLLUTION GENERATED

Sr. No	Pollutants	Quantity of Pollution	Parameters	As specified in the consent issued	Percentage of variation from prescribed standard with reason
a)	<u>Water</u>	(We have installed Zero Liquid Discharge Plant)	pH	N.A.	Nil
			BOD mg/l	N.A.	
			COD mg/l.	N.A.	
			Ammonical Nitrogen mg/l	N.A.	
			Cyanide content mg/l.	N.A.	
b)	<u>Air</u>				
	Boiler	2000 M ³ /hr	Suspended particulate matter (SPM) in mg/NM ³	150 max.	Nil
	Incinerator	7000 M ³ /hr	Sox (PPM)	100 max.	
			Nox (PPM)	50 max.	
			Cyanide as HCN (NMg/M ³)	30 max.	
			HCl (NMg/M ³)	20 max.	

Note : We are operating our Zero Liquid Discharge Plant efficiently and no treated water is discharged by our unit. The total treated water is being recycled to Cooling Tower/In process.

Zero Liquid Discharge Scheme With Waste Minimization

TREATMENT OF EFFLUENT STREAMS AT EXISTING AND PROPOSED ZLD
SCENARIO

Existing treatment scheme:

The total process effluent generated from the plant is segregated into two streams as under.

1. Low TDS and low COD process effluent

Over head Condensate generated from NaCN, SFCN & Ammonium Sulfate, contains High Ammonical Nitrogen & Cyanide collected in V511. This effluent passed through Cation based Ammonical Nitrogen Removal Unit, resulting in reduction of Ammonical Nitrogen less than 50 ppm, and gets mixed with Lean water from HCN plant, containing high cyanides.

Removal of high cyanide is being done through air stripping, (equipped with caustic scrubber where CN gets convert to NaCN slurry, this slurry is transferred to NaCN plant to recover NaCN. The bottom effluent from air stripper containing CN - < 5 ppm, is finally passes through Anion based cyanide removal Unit. In which CN contain gets minimized less than 0.2 ppm.

Above treated effluent of 114 KLD, along with blow downs of boiler & cooling tower of 128 KLD sent to equalization tank of existing , conventional treatment plant of 300 KLD consisting of primary and secondary units. The treated effluent is then sent to final treated effluent collection unit (guard pond no 1). The treated effluent confirming the GPCB norms sent to Guard Pond No. 2 for final discharge to masma khadi.

2. High TDS and high COD process effluent

Combined effluent of alkaline nature from DPG, SDCN & SFCN is treated with Chlorine to detoxify free Cyanide and convert volatile organic impurities into stable high boiling chloro derivatives.

Mixed effluent of 50 KLD after chlorination is passed through Nutch filter for filtration. The filtrate is fed to multi-stage evaporator of 80 KLD. The overhead condensate is obtained which is having very low TDS & COD. This condensate is being recycled to our existing plants. The contaminated salt approximately 2.5 MT/day recovered after evaporation through centrifuge is isolated & filled in HDPE Bag and sent to approved TSDF site for incineration for final disposal.

Proposed Treatment scheme to achieve ZERO LIQUID DISCHARGE with waste minimization:

To achieve Zero Liquid Discharge, the existing segregated process effluent streams will be treated in following manner.

1. Low TDS and low COD process effluent

Over head Condensate generated from NaCN, SFCN & Ammonium Sulfate, contains High Ammonical Nitrogen & Cyanide collected in V511. This effluent passed through Cation based Ammonical Nitrogen Removal Unit, resulting in reduction of Ammonical Nitrogen less than 50 ppm, and gets mixed with Lean water from HCN plant, containing high cyanides.

Removal of high cyanide is being done through air stripping, (equipped with caustic scrubber where CN gets convert to NaCN slurry, this slurry is transferred to NaCN plant to recover NaCN. The bottom effluent from air stripper containing CN - < 5 ppm, is finally passes through Anion based cyanide removal Unit. In which CN contain gets minimized less than 0.2 ppm.

Above treated effluent of 114 KLD, along with blow downs of boiler & cooling tower of 128 KLD sent to equalization tank of existing conventional treatment plant of 300 KLD consisting of primary and secondary units. The treated effluent is then sent to final treated effluent collection unit (guard pond no 1). The treated effluent confirming the GPCB norms sent to Guard Pond No.2.

The treated effluent from existing ETP, which is being presently discharged in Khadi, will be further treated in tertiary treatment plant which will include Pressure Sand Filter (PSF), Activated Carbon Tower (ACT) and Reverse Osmosis (RO) plant. The permeate from RO plant shall be recycled for reuse in the cooling tower. The reject form RO plant will sent to proposed MEE for further treatment. The over head condensate from MEE will be recycled for reuse in the cooling tower. Approximately 0.75 MT/day evaporated salt recovered after evaporation through centrifuge is isolated & filled in HDPE Bag and sent to approved TSDF site for land filling for final disposal.

2. High TDS and high COD process effluent

The existing mixed effluent of 50 KLD shall be segregated in two streams and shall be treated as under.

A. Spent acid stream containing HCL of 12 KLD.

Another stream of spent Acid from DPG plant containing HCl less than 5 %, will be neutralized & evaporated in an evaporator for removal of TDS as salt & overhead condensate will be recycled in cooling tower. Approximately 0.84 MT/day industrial salt recovered after evaporation through centrifuge is isolated & filled in HDPE Bag and sent to approved TSDF site for land filling for final disposal. We shall explore the possibility of selling as industrial salt to actual users.

B. High TDS & high COD stream with cyanide contamination of 38 KLD.

Mixed effluent of 38 KLD after chlorination is passed through Nutch filter for filtration. The filtrate is fed to multi-stage evaporator of 96 KLD. The overhead condensate is obtained which is having very low TDS & COD. This condensate shall be recycled to existing plants or shall be incinerated in proposed liquid waste incinerator of 100 KLD capacity. The contaminated salt approximately 1.5 MT/day recovered after evaporation through centrifuge shall be isolated & filled in HDPE Bag sent to approved TSDF site for incineration for final disposal. The ash from the incinerator of approximately 0.025 MT/day shall be isolated & filled in HDPE Bag sent to approved TSDF site for land filling for final disposal.

HCC Having two number of Membership of Approved TSDF Site.

1. M/s. NECL, Vadodara 2.M/s. BEIL , Ankleshwar

Membership Certificate of BEIL, Ankleshwar & NECL, Baroda



necl

NANDESARI ENVIRONMENT CONTROL LTD.

SURVEY NO. 519/P, G.I.D.C. ESTATE, NANDESARI-391 340, DIST. VADODARA
PHONE : (0265) 2840 818 FAX : (0265) 2841017 E-mail : necl_escl@yahoo.co.in

Annexure - 51

TO WHOMSOEVER IT MAY CONCERN

THIS IS TO CERTIFY THAT M/S. HINDUSTHAN CHEMICALS COMPANY, HINDU
INDUSTRIAL ESTATE, P.O.-OLPAD-394 540, DIST: SURAT IS OUR VALID
MEMBER (MEMBERSHIP NO.206) OF COMMON HAZARDOUS WASTE
GENERATION FACILITY DEVELOPPD BY NECL AT 519/P
GIDC, NANDESARI, DIST. VADODARA

FOR & ON BEHALF OF
NANDESARI ENVIRONMENT CONTROL LTD.
[Signature]
CHAIRMAN

16.08.2010
NANDESARI

Common Solid Waste Disposal and Incineration Facility





BEIL INFRASTRUCTURE LIMITED
(formerly known as Bharuch Enviro Infrastructure Limited)

20th November, 2019

To,
HINDUSTHAN CHEMICALS COMPANY
GIDC INDUSTRIAL ESTATE,
POST.OLPAD-394540,
TA: OLPAD, DIST: SURAT,
SURAT.

Sub : Membership Certificate for Common Incineration Facility.

Dear Sir,


You are a member of our Common Incinerator Facility and your membership No. is **CI/OBD/085**. We hereby certify that you have increased your booked quantity **10 MT / Year** to **866 MT / Year**.

As per norms we can only accept your hazardous incineration waste when you provide proper authorization of GPCB CCA with desired quantity also kindly ensure, The cyanide limit is under GPCB limit.

Thanking you,

Yours faithfully,

For, BEIL INFRASTRUCTURE LIMITED
(Formerly Known as Bharuch Enviro Infrastructure Ltd)


AUTHORISED SIGNATORY



BEIL INFRASTRUCTURE LIMITED
(formerly known as Bharuch Enviro Infrastructure Limited)

Ref. BEIL/ANK/2019

20TH November, 2019

To,
HINDUSTHAN CHEMICALS COMPANY
GIDC INDUSTRIAL ESTATE,
POST.OLPAD-394540,
TA: OLPAD, DIST: SURAT,
SURAT.

Sub: Membership Certificate for Common Solid Waste Disposal Facility.

Dear Sir,

We hereby certify that you have become member for **10 years up to 19/11/2029** for the common Solid/Hazardous waste disposal facility of BEIL INFRASTRUCTURE LIMITED (Formerly Known as Bharuch Enviro Infrastructure Limited), at GIDC, Dahej. You have booked solid waste quantity of **511 MT/Years**. Your Membership No. is **Oth/750**.

Waste will be accepted after submitting valid authorization of GPCB.

Thanking you,

Yours faithfully,

For BEIL Infrastructure Limited.

(Formerly Known as Bharuch Enviro Infrastructure Limited.)

AUTHORISED SIGNATORY

Annexure-7

Category wise Solid Waste Generation & Disposal form June. 2020 to November, 2020

Sr No	Category	Opening stock	June. 2020		July. 2020		Aug. 2020		Sep. 2020		Oct. 2020		Nov. 2020		Closing Stock
			Generation Kg	Disposal Kg	Generation Kg	Disposal Kg	Generation Kg	Disposal Kg	Generation Kg	Disposal Kg	Generation Kg	Disposal Kg	Generation Kg	Disposal Kg	
1	Residue of ZLD	15177	2100	0	2050	0	3000	0	2500	0	3000	0	6000	31250	2577
2	Activated Carbon	2564	0	0	0	0	0	0	0	0	0	0	0	0	2564
3	Ferric Hydroxide	1502	0	0	0	0	0	0	0	0	0	0	0	0	1502
4	Residue of ETP(MEE)	2000	0	0	0	0	0	0	0	0	0	0	0	0	2000
5	Iron Sludge	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	ETP Sludge	699	0	0	0	0	0	0	0	0	0	0	0	0	699
7	Contaminated Polythene Liner	25	0	0	0	0	0	0	0	0	0	0	0	0	25
8	Drums	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	Resin	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	TOTAL	21967	2100	0	2050	0	3000	0	2500	0	3000	0	6000	31250	9367

CCA Copy and CC&A Amendment copy
GUJARAT POLLUTION CONTROL BOARD
PARYAVARAN BHAVAN

Sector-10-A, Gandhinagar 382 010

Phone : (079) 23222425

(079) 23232152

Fax : (079) 23232156

Website : www.gpcb.gov.in P.A.D

In exercise of the power conferred under section-25 of the Water (Prevention and Control of Pollution) Act-1974, under section-21 of the Air (Prevention and Control of Pollution)-1981 and Authorization under rule 6(2) of the Hazardous And Other Waste (Management and Transboundary) Rules, 2016 framed under the Environmental (Protection) Act-1986. This Board is empowered to Grant CC&A.

And whereas Board has received consolidated consent application letter no. 136233 dated 22-03-2018 for the Consolidated Consent and Authorization (C.C & A) of this Board under the provisions of rules of the aforesaid Acts. Consents & Authorization are hereby granted as under:

CONSENTS AND AUTHORISATION:

(Under the provisions /rules of the aforesaid environmental acts)

To,
M/s. Hindusthan Chemicals Company
GIDC IND. Estate,
Post:- Olpad-394540.
Tal:- Olpad, Dist:- Surat.

- Consent Order No. AWH-94173 Date of issue: 04-07-2018.
- The consents shall be valid upto 14-07-2023 for the use of outlet for the discharge of treated effluent and emission due to operation of industrial plant for manufacturing of the following items/ products

Sr. No.	Product	Quantity
1	Hydrogen Cyanide	5100 MT/Annum
2	Sodium Cyanide	6372 MT/Annum
3	Potassium Cyanide	2000 MT/Annum
4	Sodium ferro Cyanide	1000 MT/Annum
5	Potassium ferro Cyanide	1000 MT/Annum
6	Diphenyl Guanidine	1260 MT/Annum
7	Sodium diexanide	300 MT/Annum
8	Mandelonitrile	2500 MT/Annum
9	Heat treatment salt	720 MT/Annum
10	Cyano hydrines	5000 MT/Annum
11	Nitrites	1000 MT/Annum
12	Cyanide based products	3500 MT/Annum

Subject to conditions:

- Unit shall maintain zero discharge of wastewater. The evaporator shall be adequate to maintain zero liquid discharge.
- Industry shall manage Solid Wastes generated from industrial activities as per Solid Waste Management Rules-2016 (solid waste as defined in Rule-3(46)).
- As per Provisions of Rule 18 of Solid Waste Management Rules-2016 you are directed to make an arrangement in Utilities to replace at least five percent (5%) of your solid fuel requirement by 'refused derived fuel'.

Clean Gujarat Green Gujarat
 ISO-9001-2008 & ISO-14001 - 2004 Certified Organisation

4. Industry shall obtain NOC from CGWA as per order of Hon. National Green Tribunal for the withdrawal of ground water.
5. Industry shall provide dedicated storage facility for fly ash.
6. Industry shall comply with fly ash notification 1999 as amended from time to time.
7. Industry shall achieve Zero liquid discharge through recycling/reuse evaporation.
8. Unit shall strictly follow conditions mentioned EC issued by MOEF on date: 05/10/2010 & CTE order issued by GPCB vide letter no: GPCB/CTE/SRT-50(6)/88114.
9. Cyanide stream & High TDS stream shall be segregated at source & Cyanide stream shall be given cyanide removal treatment & High TDS Stream shall be evaporated in Multi Effect Evaporator.
10. Unit shall follow & implement applicable recommendation of cleaner production in Chemical industry, which is enclosed herewith this order.

3. **CONDITIONS UNDER THE WATER ACT:**

- 3.1. Source of water: - borewell & Local Body.
- 3.2. The quantity of the fresh water consumption for industrial purpose shall not exceed 613 KL/Day.
- 3.3. The quantity of the fresh water consumption for domestic purpose shall not exceed 8 KL/Day.
- 3.4. The quantity of the industrial effluent to be generated from the manufacturing process and other ancillary industrial operations shall not exceed 258 KL/Day.
- 3.5. Unit shall segregate two Streams & source.

Stream I: Low COD Stream from utilities shall be treated in conventional ETP followed by RO & Multiple Effect Evaporator (MEE) to maintain the Zero liquid discharge at all time. RO reject shall not be used for any purpose.

Stream II: High COD Stream from DPG & SFCN Plant, after treatment for removal of cyanide & Ammonia shall be mixed with Stream I & sent to MEE for maintaining Zero Liquid Discharge & RO Permeate (211.3 KLD) shall re-used for cooling water makeup. There shall be no discharge of industrial effluent.

- 3.6. Industry shall provide fixed pipeline with flow meter for collection of segregated stream, reuse of RO Permeate and inlet to MEE and maintain its records.
- 3.7. The quantity of domestic waste water shall not exceed 15 KL/Day.
- 3.8. Sewage after conforming to the following standards shall be used for gardening & plantation within premises only:

PARAMETERS	GPCB NORMS
PH	6.5 TO 9.0
BOD	30 mg/l
TSS	Less than 100 mg/l
Fecal Coliform (MPN-100 ml. MNP-100 ml)	Less than 1000

- 3.9. Industry shall also provide fixed pipeline network for even distribution of treated Sewage on land for plantation within premises.
- 3.10. The applicant shall provide storage tank of adequate capacity to store treated sewage during rainy season for at least 7 days.

4. **CONDITIONS UNDER THE AIR ACT:**

- 4.1. The following shall be used as a fuel in Steam Boiler, incinerator, Salt incinerator, CPP and D.G.Set respectively.

Sr. No.	Utilities	Fuel	Quantity
1	Steam Boiler- 2nos (3.5 MT, each)	Natural gas or FO or LDO	14,000 M ³ /day or 10 lit/hr or 10 lit/hr

2	D.G.Set-I nos 2250 KVA	Diesel	200 lit/hr.
---	---------------------------	--------	-------------

4.2. The applicant shall install & operate comprehensive adequate air pollution control system in order to achieve prescribed norms.

4.3. The flue gas emission through stack attached to Steam Boiler, Solid waste incinerator, Salt incinerator, CPP and D.G.Set shall conform to the following standards:

Stack No.	Stack attached to	Stack height in Meter	Air Pollution Control System	Parameters	Permissible Limit
1	Steam Boiler-2nos (3.5 MT, each)	30 (Common Stack)	Cyclone Separator	Particulate Matter SO ₂ NO _x	150 mg/NM ³ 100 ppm 50 ppm
2	D.G.Set-I nos 2250 KVA Stand by	11	---	Particulate Matter SO ₂ NO _x	150 mg/NM ³ 100 ppm 50 ppm

4.4. The process emission through various stacks/vent of reactor, process, vessel shall conform to the following standards:

Stack No.	Process vessel to which the stack/ vent is attached	Stack height in Meter	Air Pollution Control System	Parameters	Permissible Limit
1	Tail gas incinerator	40	---	HCN HCl	30 mg/NM ³ 20 mg/NM ³
2	Scrubber H.T.Plant	19	Water scrubber & Bag Filter	PM HCN	150 mg/NM ³ 30 mg/NM ³
3	Ammonium Sulphate recovery	20	Ammonia absorption column	NH ₃	175 mg/NM ³

4.5. Industry shall take adequate measure to control dusting due to storage, transportation & handling of Coal/ignite & fly ash.

4.6. Industry shall comply with Coal handling guideline of the Board.

4.7. Industry shall comply with fly ash notification 1999 as amended from time to time.

4.8. The concentration of the following parameters in the ambient air within the premises of the industry and a distance of 10meters from (the source) other than the stack/vent) shall not exceed the following levels.

PARAMETERS	PERMISSIBLE LIMIT
PM 10	100 Microgram/M ³
PM 2.5	60 Microgram/M ³
SO ₂	80 Microgram/M ³
NO _x	80 Microgram/M ³

4.9. The applicant shall provide portholes, ladder, platform etc at chimney(s) for monitoring the air emissions and the same shall be open for inspection toward for use of Board's staff. The chimney(s) vents attached to various sources of emission shall be designed by numbers such as S-1, S-2, etc. and these shall be painted/displayed to facilitate identification.

4.10. The industry shall take adequate measures for control of noise levels from its own sources within the premises so as to maintain ambient air quality standards in respect of noise to less than 75dB(A) during day time and 70 dB (A) during night time. Daytime is reckoned in between 6a.m. and 10 p.m. and nighttime is reckoned between 10 p.m. and 6 a.m.

[Handwritten signature]

5. D.G. SETS CONDITIONS

The D.G. Set shall have acoustic enclosure and shall comply with the standards specified at Sr. no. 95 of Schedule-I of the rule-3 of E.P. Rules -1986 and Noise pollution level as per the Air Act-1981.

D.G. Sets standards:-

The flue gas emission through stack attached to D.G. Sets shall conform to the following standards.

- a) The minimum height of stack to be provided with each of the generator set shall be $H=h + 0.2 (KVA)^{1/2}$, where H= Total stack height in meter, h= height of the building in meters where or by the side of which the generator set is installed.
- b) Noise from DG set shall be controlled by providing an acoustic enclosure or by treating the room acoustically, at the users end.
- c) The acoustic enclosure or acoustic treatment of the room shall be designed for minimum 25 dB (A) insertion loss or for meeting the ambient noise standards, whichever is on the higher side (if the actual ambient noise is on the higher side, it may not be possible to check the performance of the acoustic enclosure/ acoustic treatment. Under such circumstances the performance may be checked for noise reduction up to actual ambient noise level, preferably, in the night time). The measurement for insertion loss may be done at different points at 0.5 m from the acoustic enclosure/room, and the averaged.
- d) The D.G. Set shall be provided with proper exhaust muffler with insertion loss of minimum 25 dB (A).
- e) All efforts shall be made to bring down the noise level due to the D.G Set, outside the premises, within the ambient noise requirements by proper siting and control measures.
- f) Installation of a D.G. Sets must be strictly in compliance with the recommendations of the D.G. Set manufacturer.
- g) A proper routine and preventive maintenance procedure for the D.G Set should be set and followed in consultation with the DG Set manufacturer which would help prevent noise levels of the DG Set from deteriorating with use

5. AUTHORIZATION as per HAZARDOUS AND OTHER WASTE (MANAGEMENT AND TRANSBOUNDARY) RULES, 2016 Form-2 [See rule 6 (2)]

Form for grant of authorization for occupier or operator handling Hazardous waste

5.1 Authorization order No: AWH-94173 date of Issue: 14-07-2018.

5.2 M/s. Hindusthan Chemicals Company, is hereby granted an authorization to operate facility of below for following hazardous wastes on the premises situated at GIDC IND. Estate, Post:- Olpad-394540, Tal:- Olpad, Dist:- Surat.

Sr. No	Waste	Quantity MT/Year	Schedule-I/ Category	Facility
1	EIP Sludge	1 MT/Year	35.3	Collection, Storage, Transportation and disposal incineration at CHWI facility of NECL, Nandesari.
2	Used or Spent Oil	1200 Lit/year	5.1	Collection, storage, transportation and disposal by selling to Registered re-refiners.
3	Empty barrels/containers/liners contaminated with hazardous chemicals/wastes	400 Nos./year	33.1	Collection, storage transportation and disposal to authorized decontaminator
4	Activated Carbon	170 Kg/Day	A-10 Sch-II	Collection, Storage, Transportation and disposal incineration at CHWI facility of NECL, Nandesari.

5	Ferric Hydroxide	40 Kg/Day	A-10 Sch-II	
6	Iron Sludge	8 MT/year	A-10 Sch-II	Collection, Storage, Transportation and disposal incineration at CHWT facility of NECL, Nandesari.
7	Spent Catalyst	What so ever Generated	A-10 Sch-II	Collection, Storage, Transportation and disposal incineration at CHWT facility of NECL, Nandesari.
8	Residues from ETP (MEF) (In place of DPG)	330 MT/year	17.1	Collection, Storage, Transportation and disposal incineration at CHWT facility of NECL, Nandesari.
9	SFCN (Contaminated Salt)	700 Kg/Day	A-10 Sch-II	Collection, Storage, Transportation and disposal by land fill at CHWT facility of NECL, Nandesari.
10	SXCN (Contaminated Salt)	500 Kg/day	A-10 Sch-II	TSDF Landfill waste
11	Residues from ZLD	1400 Kg/Day	A-10 Sch-II	
12	Ammonium Sulphate	2649 MT/A		Collection, storage Transportation and disposal by selling to industry to authorized.

5.3 The authorization shall be valid up to 14-07-2023.

5.4 The authorization is subject to the conditions stated below and such other conditions as may be specified in the rules from time to time under the Environment (Protection) Act-1986.

5.5 The authorization is granted to operate a facility for collection, storage within factory premises transportation and ultimate disposal of Hazardous wastes as per condition no.6.2 to the industry having valid CCA of this Board.

6. TERMS AND CONDITIONS OF AUTHORIZATION

1. The applicant shall comply with the provisions of the Environment (Protection) Act-1986 and the rules made there under.
2. The authorization or its renewal shall be produced for inspection at the request of an officer authorized by the Gujarat Pollution Control Board.
3. The persons authorized shall not rent, lend, sell, and transfer or otherwise transport the hazardous wastes without obtaining prior permission of the Gujarat Pollution Control Board.
4. Any unauthorized change in personnel, equipment or working conditions as mentioned in the authorization order by the persons authorized shall constitute a breach of this authorization.
5. The person authorized shall implement Emergency Response Procedure (ERP) for which this authorization 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 authorized 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 Wastes and Penalty"
7. It is the duty of the authorized person to take prior permission of the Gujarat 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.
9. The record of consumption and fate of the imported hazardous and other wastes shall be maintained.

10. The hazardous and other wastes which gets generated during recycling or reuse or recovery or pre-processing or utilization of imported hazardous or other wastes shall be treated and disposed of as per specific conditions of authorization.
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 authorization shall be made as laid down in rules 6(2) under Hazardous Waste and Other Waste Rules, 2016.
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. The waste generator shall be totally responsible for (i.e. collection, storage, transportation and ultimate disposal) the wastes generated.
15. Records of waste generation, its management and annual return shall be submitted to Gujarat Pollution Control Board in Form-4 by 30th day of June of every year for the preceding period April to March.
16. In case of any accident, details of the same shall be submitted on Form-11 to Gujarat Pollution Control Board.
17. As per "Public Liability Insurance Act-91" company shall get Insurance Policy, if applicable.
18. Empty drums and containers of toxic and hazard material shall be treated as per guideline published for "Management & Handling of discarded containers". Records of the same shall be maintained and forwarded to Gujarat Pollution Control Board regularly.
19. In case of transport of hazardous wastes to a facility for (i.e. treatment, storage and disposal) existing in a State other than the State where hazardous wastes are generated, the occupier shall obtain 'No Objection Certificate' from the State Pollution Control Board or Committee of the concerned State or Union Territory Administration where the facility exists.
20. Unit shall take all concrete measures to show tangible results in waste generation, reduction, avoidance, reuse and recycle. Actions taken in this regard shall be submitted within three months and also along with Form-4.
21. Industry shall have to display the relevant information with regards to hazardous waste as indicated in the Hon. Supreme Court's Order in W.P. No.657 of 1995 dated 14th October, 2003.
22. Industry shall have to display on-line data outside the main factory gate with regard to quantity and nature of hazardous chemicals being handled in the plant, including wastewater and air emissions and solid hazardous wastes generated within the factory premises.

7. SPECIFIC CONDITIONS:-

- 7.1. The authorized actual user of hazardous and other wastes shall maintain records of hazardous and other wastes purchased in a passbook issued by the State Pollution Control Board along with the authorization.
- 7.2. Handing over of the hazardous and other wastes to the authorized actual user shall be only after making the entry in the passbook of the actual user.
- 7.3. In case of renewal of authorization, a self-certified compliance report in respect of effluent emission standards and the conditions specified in the authorization for hazardous and other wastes shall be submitted to SPCB.
- 7.4. The occupier of the facility shall comply Standard operating procedure/guidelines published by MOEF&CC or CPCB or GPCB from time to time.
- 7.5. Unit shall comply provisions of E-Waste Management Rules-2016.
- 7.6. The disposal of Hazardous Waste shall be carried out as per the waste Management hierarchy.
- 7.7. The occupiers of facilities shall not store the hazardous and other wastes for a period not exceeding ninety days. Prior permission of the Board shall be obtained for extension of the storage period.
- 7.8. The occupier shall maintain the records of generation, sale, storage, transport, recycling, co processing and disposal of hazardous waste and make available during the inspection.

7.9. The transportation of the hazardous waste shall be carried out in GPS mounted dedicated vehicles.

8. GENERAL CONDITIONS: -

- 8.1. Any change in personnel, equipment or working conditions as mentioned in the consent form/order should immediately be intimated to this Board.
- 8.2. Applicant shall also comply with the general conditions given in annexure 1.
- 8.3. Whenever due to accident or other unforeseen act or event, such emissions occur or is apprehended to occur in excess of standards laid down such information shall be forthwith reported to Board, concerned Police Station, Office of Directorate of Health Service, Department of Explosives, Inspectorate of Factories and local body.
- 8.4. In case of failure of pollution control equipments, the production process connected to it shall be stopped. Remedial actions/measures shall be implemented immediately to bring entire situation normal.
- 8.5. The Environmental Management Unit/Cell shall be setup to ensure implementation and monitoring of environmental safeguards and other conditions stipulated by statutory authorities. The Environmental Management Cell/Unit shall directly report to the Chief Executive of the organization and shall work as a focal point for internalizing environmental issues. These cells/units also coordinate the exercise of environmental audit and preparation of environmental statements.
- 8.6. The Environmental audit shall be carried out yearly and the environmental statements pertaining to the previous year shall be submitting to this State Board latest by 30th September every year.

For and on behalf of
Gujarat Pollution Control Board

(Smt U.K. Upadhyay)
Environmental Engineer

Date:-

NO: GPCB/CCA-SRT-50(13)/1D_20643/

Issued to:

M/s. Hindusthan Chemicals Company

GIDC IND. Estate,

Post:- Olpad-394540.

Tal:- Olpad, Dist:- Surat.

Outward NO: 469347/2019/2



GUJARAT POLLUTION CONTROL BOARD

PARYAVARAN BHAVAN

Sector-10-A, Gandhinagar-382 010

Phone : (079) 23226295

Fax : (079) 23232156

Website : www.gpcb.gov.in

CCA-Amendment [No. H-110283]

NO: GPCB/CCA-SRT-50(18)/ID-20643/

Date:

TO,

M/s. Hindusthan Chemicals Company

GIDC IND. Estate,

P.O.- Olpad-394540,

Tal: Olpad, Dist: Surat.

SUB: Amendment in the consolidated consent & Authorization of the Board.

REF: 1) CCA order No. - AWH-84173. Dated-04/07/2018 under various Environmental Acts/Rules.

2) Your CCA Amendment Application Inward ID No.175354 dated 24-04-2020.

In exercise of the power conferred under section-25 of the Water (Prevention and Control of Pollution) Act-1974, under section-21 of the Air (Prevention and Control of Pollution)-1981 and Authorization under rule 6(2) of the Hazardous And Other Waste (Management and Transboundary) Rules, 2016 & framed under the Environment (Protection) Act-1986. The Board has granted CCA vide order No. AWH-94173 issued vide this office letter no: GPCB/CCA-SRT-50(18)/ID-20643/469341 dated 21/09/2018, valid up to 14/07/2023.

The Board has right to review and amend the conditions of the said CCA order.

The said CCA order is further amended as below.

1. This order shall be read as CCA-Amendment Order No. H-110283 date of issued 10-11-2020 valid up to 14-07-2023.

Subject to specific condition:

1. Industry shall manage Solid Wastes generated from industrial activities as per Solid Waste Management Rules-2016 (solid waste as defined in Rule-3(46)).
2. As per Provisions of Rule 18 of Solid Waste Management Rules-2016 you are directed to make an arrangement in Utilities to replace at least five percent (5%) of your solid fuel requirement by 'refused derived fuel'.
3. Industry shall obtain NOC from CGWA as per order of Hon. National Green Tribunal for the withdrawal of ground water.
4. Industry shall provide dedicated storage facility for fly ash.
5. Industry shall comply with fly ash notification 1999 as amended from time to time.

M/s. Hindusthan Chemicals Company(ID-20643)

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3. Condition No. 6 & 7 of the said CCA order is amended as below.

6. AUTHORIZATION as per HAZARDOUS AND OTHER WASTE (MANAGEMENT AND TRANSBOUNDARY) RULES, 2016 Form-2 [See rule 6 (2)]

Form for grant of authorization for occupier or operator handling Hazardous waste

6.1 Authorization order No:- H-1102B3 date of Issue: 10-11-2020.

6.2 M/s. Hindusthan Chemicals Company is hereby granted an authorization to operate facility for following hazardous wastes on the premises situated at GIDC IND. Estate, P.O.- Olpad-394540, Tal: Olpad, Dist: Surat.

Sr. No	Waste	Quantity MT/Year	Schedule-I/ Category	Facility
1	ETP Sludge	14 MT/Year	35.3	Collection, Storage, Transportation and disposal incineration at CHWIF facility of BEIL Ankleshwar.
2	Used or Spent Oil	1200 Lit/year	5.1	Collection, storage, transportation and disposal by selling to Registered re-refiners
3	Empty barrels/containers/liners contaminated with hazardous chemicals wastes	400 Nos./year	33.1	Collection storage transportation and disposal to authorized decontaminator
4	Activated Carbon	170 Kg/Day	A-10 Sch-II	Collection Storage, Transportation and disposal incineration at CHWIF facility of BEIL Ankleshwar.
5	Ferric Hydroxide	40 Kg/Day	A-10 Sch-II	Collection Storage, Transportation and disposal incineration at CHWIF facility of BEIL Ankleshwar.
6	Iron Sludge	8 MT/year	A-10 Sch-II	Collection, Storage, Transportation and disposal incineration at CHWIF facility of BEIL Ankleshwar.
7	Spent Catalyst	What so ever Generated	A-10 Sch-II	Collection, Storage, Transportation and disposal incineration at CHWIF facility of BEIL Ankleshwar.
8	Residues from ETP (MEE) (In place of DPG)	330 MT/year	17.1	Collection Storage, Transportation and disposal incineration at CHWIF facility of BEIL Ankleshwar.
9	SFCN (Contaminated Salt)	700 Kg/Day	A-10 Sch-II	Collection, Storage, Transportation and disposal incineration at CHWIF facility of BEIL Ankleshwar.
10	SIXN (Contaminated Salt)	500 Kg/day	A-10 Sch-II	Collection, Storage, Transportation and disposal incineration at CHWIF facility of BEIL Ankleshwar.
11	Residues from Z.I.D.	1400 Kg/Day	A-10 Sch-II	Collection, Storage, Transportation and disposal incineration at CHWIF facility of BEIL Ankleshwar.



GUJARAT POLLUTION CONTROL BOARD

PARYAVARAN BHAVAN

Sector-10-A, Gandhinagar-382 010

Phone : (079) 23226295

Fax : (079) 23232156

Website : www.gpcb.gov.in

12	"HOT & COLD" used insulation material and "NON RECYCLE POLYTHENE"	What so ever generated	---	Collection, Storage, Transportation and disposal at TSDF facility of BELL Dahej.
13	Used membranes	What so ever generated	---	Collection, Storage, Transportation and disposal at TSDF site of BELL Dahej or approved recycler.

6.2 The authorization shall be valid up to **14-07-2023**.

6.3 The authorization is subject to the conditions stated below and such other conditions as may be specified in the rules from time to time under the Environment (Protection) Act-1986.

6.4 The authorization is granted to operate a facility for collection, storage within factory premises transportation and ultimate disposal of Hazardous wastes as per condition no.6.2 to the industry having valid CCA of this Board.

7. TERMS AND CONDITIONS OF AUTHORISATION

7.1. The applicant shall comply with the provisions of the Environment (Protection) Act-1986 and the rules made there under.

7.2. The authorization or its renewal shall be produced for inspection at the request of an officer authorized by the Gujarat Pollution Control Board.

7.3. The persons authorized shall not rent, lend, sell, and transfer or otherwise transport the hazardous wastes without obtaining prior permission of the Gujarat Pollution Control Board.

7.4. Any unauthorized change in personnel, equipment or working conditions as mentioned in the authorization order by the persons authorized shall constitute a breach of this authorization.

7.5. The person authorized shall implement Emergency Response Procedure (ERP) for which this authorization 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.

7.6. The person authorized 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 Wastes and Penalty"

7.7. It is the duty of the authorized person to take prior permission of the Gujarat Pollution Control Board to close down the facility.

7.8. An application for the renewal of an authorization shall be made as laid down in rules 6(2) under Hazardous and Other Waste Rules, 2016.

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

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

7.11. The hazardous and other wastes which gets generated during recycling or reuse or recovery or pre-processing or utilization of imported hazardous or other wastes shall be treated and disposed of as per specific conditions of authorization.

M/s. Hindusthan Chemicals Company(ID-20643)

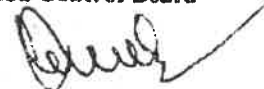
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- 7.12. The importer or exporter shall bear the cost of import or export and mitigation of damages if any.
 - 7.13. Any other conditions for compliance as per the Guidelines issued by the Ministry of Environment, Forest and Climate Change or Central Pollution Control Board from time to time.
 - 7.14. The waste generator shall be totally responsible for (i.e. collection, storage, transportation and ultimate disposal) the wastes generated.
 - 7.15. Records of waste generation, its management and annual return shall be submitted to Gujarat Pollution Control Board in Form-4 by 30th day of June of every year for the preceding period April to March.
 - 7.16. In case of any accident, details of the same shall be submitted on Form-11 to Gujarat Pollution Control Board.
 - 7.17. As per "Public Liability Insurance Act-91" company shall get Insurance Policy, if applicable.
 - 7.18. Empty drums and containers of toxic and hazard material shall be treated as per guideline published for "Management & Handling of discarded containers". Records of the same shall be maintained and forwarded to Gujarat Pollution Control Board regularly.
 - 7.19. In case of transport of hazardous wastes to a facility for (i.e. treatment, storage and disposal) existing in a State other than the State where hazardous wastes are generated, the occupier shall obtain 'No Objection Certificate' from the State Pollution Control Board or Committee of the concerned State of Union Territory Administration where the facility exists.
 - 7.20. Unit shall take all concrete measures to show tangible results in waste generation, reduction, avoidance, reuse and recycle. Actions taken in this regard shall be submitted within three months and also along with Form-4.
 - 7.21. Industry shall have to display the relevant information with regards to hazardous waste as indicated in the Hon. Supreme Court's Order in W.P. No.657 of 1995 dated 14th October, 2003.
 - 7.22. Industry shall have to display on-line data outside the main factory gate with regard to quantity and nature of hazardous chemicals being handled in the plant, including wastewater and air emissions and solid hazardous wastes generated within the factory premises.
4. The rest of the conditions of the above referred CCA order shall remain unchanged. You are directed to comply with these conditions.

For and on behalf of
Gujarat Pollution Control Board



(G.H. Trivedi)

Deputy Chief Environmental Engineer

License for Ammonia Storage



FORM LS-1A/84ए एनएस-1ए
(See Rules 50, 51, 54 and 55) (निर्देशन 50, 51, 54 और 55 देखें)

License to Store Compressed gas in pressure vessel or vessels
दाब पात्र या पात्रों में संगठित गैस भण्डारण के लिए अनुमति

श्री. एन.एस. 56 (S1147) के तहत 50000 लीटर तक की अनुमति
License is hereby granted to M/s. Hindustan Chemicals Company Prop. M/s. Hindustan Engg. & Ind. Ltd., Plot No(s) 26 to 28, 29C, 30, 32 to 36, 37p, 53p, 55 to 57, 122, G-100 Industrial Estate, Ashokad, Ojhad, Taluka, Ojhad District, SURAT, State, Gujarat PIN: 304540 valid only for the storage of compressed gas in 1 Number(s) of pressure vessels as indicated below in the licensed premises described below and shown in the plan No. SH/O GJ/03/56(S1147) dated 22/09/2020 subject to the provisions of the Indian Explosives Act, 1884 (No. of 1884) and the rules made thereunder and to the further conditions of this license.
श्री. एन.एस. 56 (S1147) के तहत 50000 लीटर तक की अनुमति केवल तभी प्रदान की जाती है जब तक कि निम्नलिखित शर्तों पर ही प्रदान की जाती है कि ये शर्तें भारतीय विस्फोटक अधिनियम, 1884 (1884 का 4) और उसके अधीन बनाए गए नियमों तथा इस अनुमति की अन्य शर्तों पर 1 दाब पात्र / पात्रों में संगठित गैस के भण्डारण के लिए अनुमति प्राप्त की जाती है।

शुद्धि तिथि: 20/09/2025
Date of Renewal: 20th September 2025

Vessel No./क्र. सं.	Name of Gas/गैस का नाम	State of Gas/गैस की स्थिति	Water Capacity in cubic meter/लटर क्षमता (घ.मी.)	Max. working Pressure/अधिकतम कार्यकाल दबाव	Quantity Granted in kgs./किलोग्राम में जारी मात्रा (लिक्विफाइड गैस)
	AMMONIA	Liquid	220.00	10.35	11578
Total Water capacity			220.00		

October 20, 1984

DESCRIPTION AND LOCATION OF THE LICENSED PREMISES/संयुक्त परिचय का विवरण और अवस्थिति

The licensed premises are situated at Plot No(s) 26 to 28, 29C, 30, 32 to 36, 37p, 53p, 55 to 57, 122, G-100 Industrial Estate, Ashokad, Ojhad, Taluka, Ojhad District, SURAT, State, Gujarat PIN: 304540. The license is valid only for the storage of compressed gas in 1 Number(s) of pressure vessels as indicated below in the licensed premises described below and shown in the plan No. SH/O GJ/03/56(S1147) dated 22/09/2020 subject to the provisions of the Indian Explosives Act, 1884 (No. of 1884) and the rules made thereunder and to the further conditions of this license.

SPACE FOR ENDORSEMENT OF RENEWALS/नवीकरण के पंजीकरण के लिए स्थान

Remarks/टिप्पणियाँ	Date of expiry/समाप्ति की तिथि	Signature and stamp of the licensing authority/संयुक्त अधिकारी के हस्ताक्षर और मुद्रा
The license shall be renewed without any further sanction for five years in the case of continuation of the existing premises and in the case of new premises (State and Mobile Pressures vessels) under Rule 29(1) of the Indian Explosives Act, 1884 (No. of 1884) and the rules made thereunder and to the further conditions of this license.	22/09/2025	 Mohanlal Jana DCE Chief Controller of Explosives Vadodra कृते उप मुख्य विस्फोटक नियंत्रक वडोदा

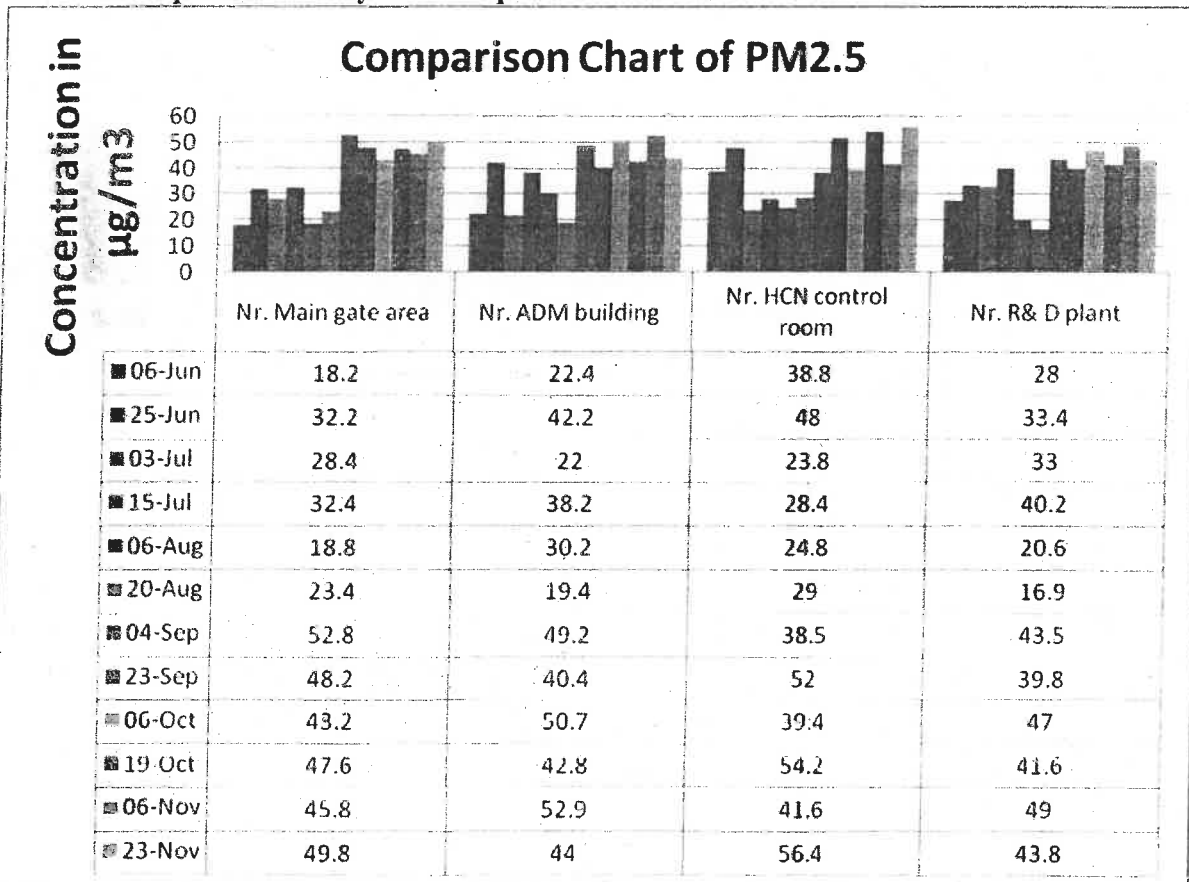
The licensee has to conform to the conditions of the licensed premises and to the provisions and conditions attached hereto and contravention of any of the conditions of the license shall be treated as a breach of the license and the license shall be liable to be cancelled. The license is valid only for the storage of compressed gas in 1 Number(s) of pressure vessels as indicated below in the licensed premises described below and shown in the plan No. SH/O GJ/03/56(S1147) dated 22/09/2020 subject to the provisions of the Indian Explosives Act, 1884 (No. of 1884) and the rules made thereunder and to the further conditions of this license.

Ambient Air Sampling & Analysis Method, Analysis Report of Ambient Air and Work Place & Month Wise Comparison of Ambient Air Quality

Sr. No.	Particulars	Method
1	Sampling procedures	Sampling was carried out as per instrument manual & IS 5182 guideline.
2	Analysis methodology	
i	PM10	IS 5182 (Part 23): 2006 Ref. 2017
ii	PM2.5	CPCB Guideline, Vol-1 NAAQMS/36/2012-13
iii	SO2	IS 5182 (Part 2): 2001 Ref. 2017
iv	NOx	IS 5182 (Part 6): 2016 Ref. 2017

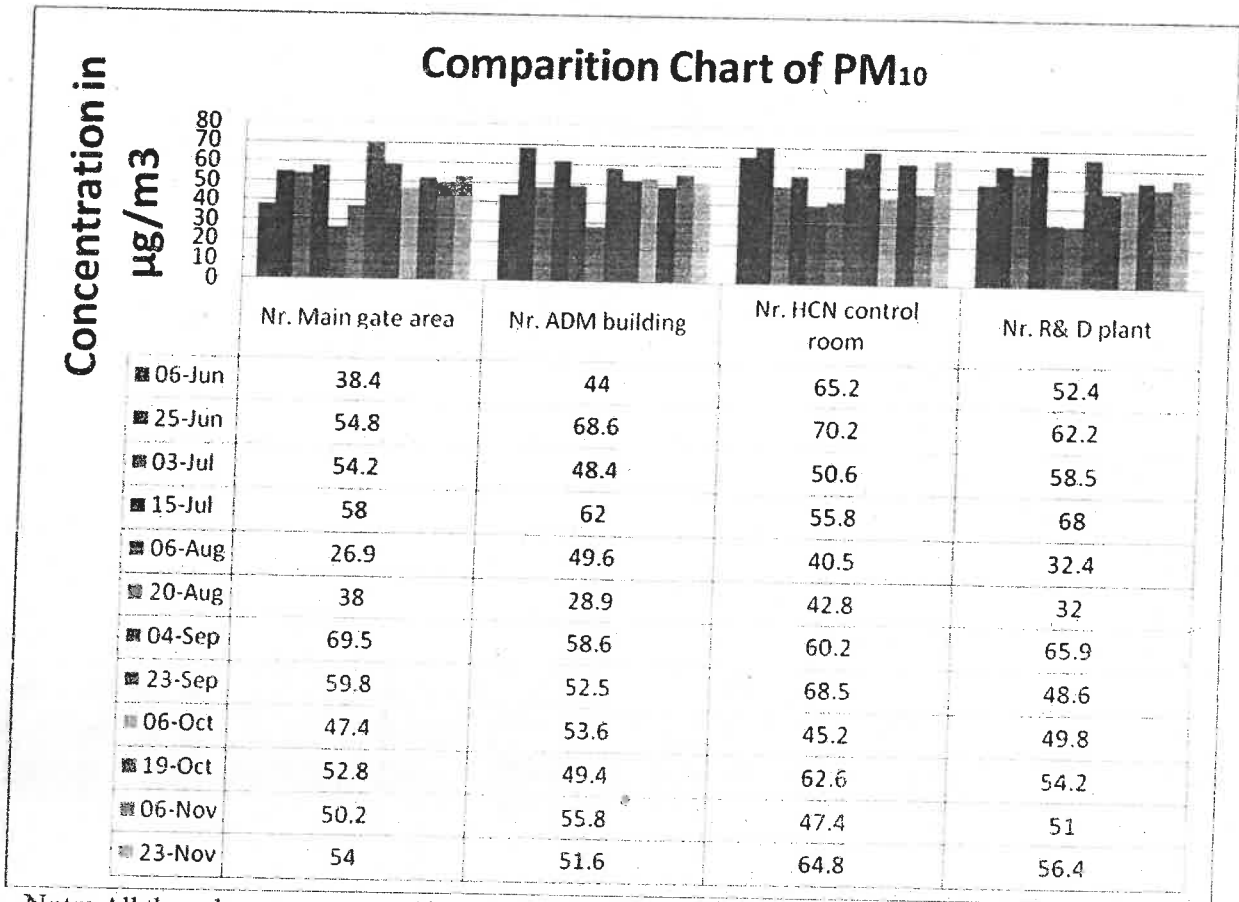
Monthly Variation in Ambient Air Quality for the period of June 2020 to November 2020

1. Comparative Analysis & Graphical Presentation of PM2.5



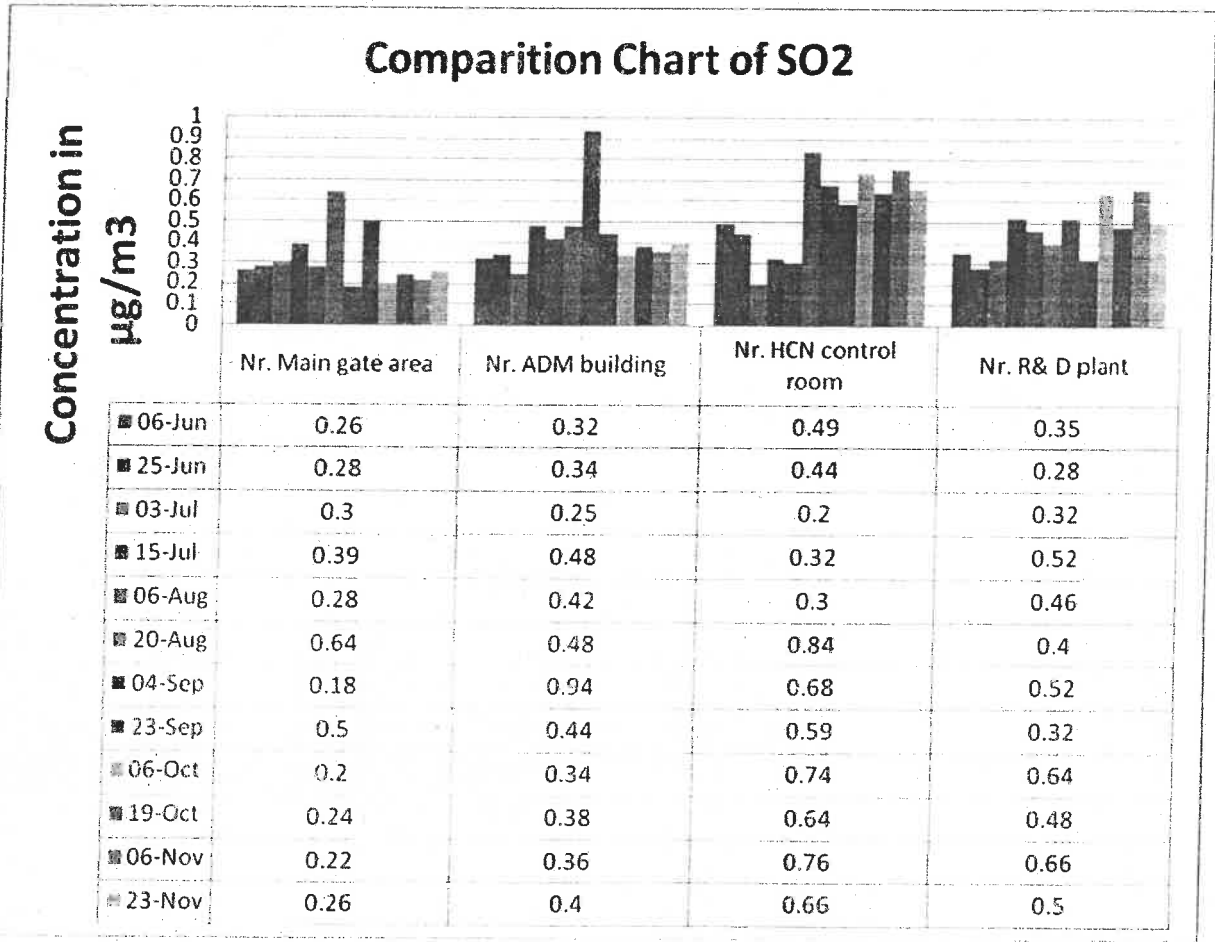
Note: All the values are expressed in $\mu\text{g}/\text{m}^3$.

2. Comparative Analysis & Graphical Presentation of PM₁₀



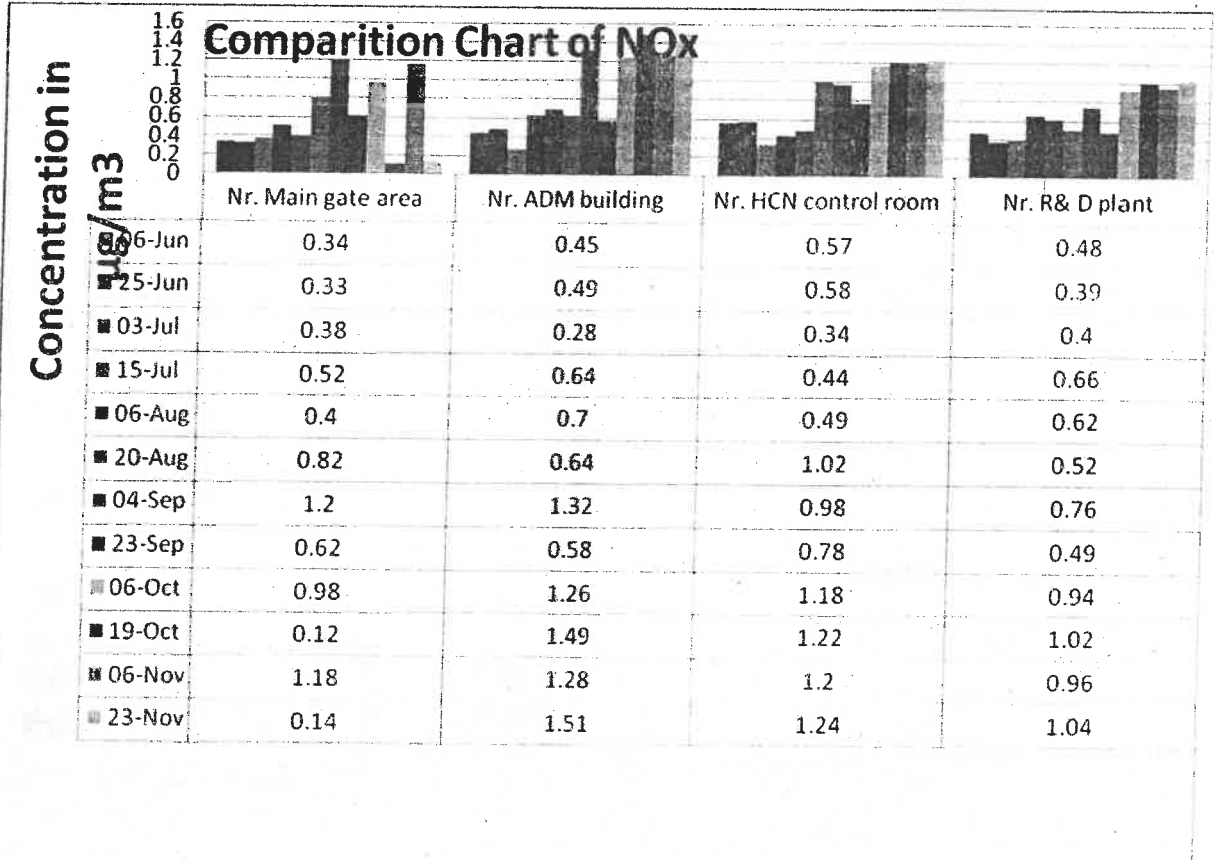
Note: All the values are expressed in µg/m³.

3. Comparative Analysis & Graphical Presentation of SO₂



Note: All the values are expressed in µg/m³.

4. Comparative Analysis & Graphical Presentation of NOx



Note: All the values are expressed in µg/m³.



ISO : 14001 : 2015
ISO : 9001 : 2015
OHSAS : 18001 : 2007

EARTH CARE

ENVIRO SOLUTIONS PVT. LTD.

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Telefax: 0261-2630097
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Lab M.: +91 7984075795



POLLUTION CONTROL CONSULTANTS, AUDITOR & ENGINEERS

31-32, Moradia House, Shiv Ashish Industrial Society-II, Opp. S.M.C. Community Hall, B/H. Raj Carrying Cargo Pvt. Ltd.,
South Zone Road, Nr. Chosath Jogani Mata Mandir, Udhna Magdalla Road, Surat - 394 210. www.earthcare.org.in
E-mail : office@earthcare.org.in / lab@earthcare.org.in / info@earthcare.org.in

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TEST REPORT/CERTIFICATE

NAME & ADDRESS OF CUSTOMER: M/s. Hindusthan Chemicals Company GIDC Industrial Estate, P.O. Olpad, Tal.: Olpad, Dist.: Surat-394540202		CERTIFICATE NO: 201/1
		ISSUE DATE: 30/06/2020
SAMPLE DESCRIPTION:	Ambient Nr. Main Gate	LAB ID: 15/6
SAMPLE COLLECTED BY:	Earth Care Enviro Solutions PVT. LTD.	SAMPLE QUANTITY: Absorbing Media for each Gas & Filter papers for each PM
SAMPLING DATE:	06/06/2020	SAMPLING TIME: 24 Hour
PROTOCOL(PURPOSE):	Twice in a Month	SAMPLE ID NO: EESPL20060601
SAMPLING METHOD:	EESPL/SOP/AIR/01	PACKING/SEAL: Sealed
SAMPLE RECEIVED DATE:	08/06/2020	SAMPLE RECEIVED TIME: 10:00 am
TEST START DATE:	08/06/2020	TEST COMPLETION DATE: 30/06/2020

AMBIENT TEMPRATURE:	MINIMUM: 24 °C	MAXIMUM: 34 °C
RELATIVE HUMIDITY:	MINIMUM: 51 %	MAXIMUM: 72 %
WIND DIRECTION:	SW	WIND SPEED: 13.0 Km/h

RESULT TABLE:

SR. NO:	PARAMETER	Permissible Limit	UNIT	RESULT	TEST METHOD
01	PM _{2.5}	60	µg/m ³	18.2	CPCB Guideline, Vol-1 NAAQMS/36/2012-13
02	PM ₁₀	100	µg/m ³	38.4	IS 5182 (Part 23): 2006 Reff.2017
03	Sulphur Dioxide(SO ₂)	80	µg/m ³	0.26	IS 5182 (Part 2):2001 Reff.2017
04	Oxides of Nitrogen(NO _x)	80	µg/m ³	0.34	IS 5182 (Part 6):2016 Reff.2017
05	HCL	-	µg/m ³	BDL	EPA method
06	HCN	-	µg/m ³	BDL	Chromatographic method
07	NH ₃	-	µg/m ³	2.4	CPCB Guideline, Vol-1 NAAQMS/36/2012-13
08	VOC(BTX)	-	ppm	BDL	GC Method

Note: BDL: Below Detection Limit
For EARTH CARE ENVIRO SOLUTIONS PVT. LTD.

AUTHORISED SIGNATORY:
(SURESH MORADIA)

PREPARED BY:
(TECHNICAL MANAGER)

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TEST REPORT/CERTIFICATE

NAME & ADDRESS OF CUSTOMER: M/s. Hindusthan Chemicals Company GIDC Industrial Estate, P.O. Olpad, Tal.: Olpad, Dist.: Surat-394540		CERTIFICATE NO: 201/2
		ISSUE DATE: 30/06/2020
SAMPLE DESCRIPTION:	Ambient Nr. ADM Building	LAB ID: 16/6
SAMPLE COLLECTED BY:	Earth Care Enviro Solutions PVT. LTD.	SAMPLE QUANTITY: Absorbing Media for each Gas & Filter papers for each PM
SAMPLING DATE:	06/06/2020	SAMPLING TIME: 24 Hour
PROTOCOL(PURPOSE):	Twice in a Month	SAMPLE ID NO: EESPL20060602
SAMPLING METHOD:	EESPL/SOP/AIR/01	PACKING/SEAL: Sealed
SAMPLE RECEIVED DATE:	08/06/2020	SAMPLE RECEIVED TIME: 10:00 am
TEST START DATE:	08/06/2020	TEST COMPLETION DATE: 30/06/2020

AMBIENT TEMPRATURE:	MINIMUM: 24 °C	MAXIMUM: 34 °C
RELATIVE HUMIDITY:	MINIMUM: 51 %	MAXIMUM: 72 %
WIND DIRECTION:	SW	WIND SPEED: 13.0 Km/h

RESULT TABLE:

SR. NO:	PARAMETER	Permissible Limit	UNIT	RESULT	TEST METHOD
01	PM _{2.5}	60	µg/m ³	22.4	CPCB Guideline, Vol-1 NAAQMS/36/2012-13
02	PM ₁₀	100	µg/m ³	44.0	IS 5182 (Part 23):2006 Reff.2017
03	Sulphur Dioxide(SO ₂)	80	µg/m ³	0.32	IS 5182 (Part 2):2001 Reff.2017
04	Oxides of Nitrogen(NO _x)	80	µg/m ³	0.45	IS 5182 (Part 6):2016 Reff.2017
05	HCL	-	µg/m ³	BDL	EPA method
06	HCN	-	µg/m ³	BDL	Chromatographic method
07	NH ₃	-	µg/m ³	3.2	CPCB Guideline, Vol-1 NAAQMS/36/2012-13
08	VOC(BTX)	-	ppm	BDL	GC Method

Note: BDL: Below Detection Limit

For EARTH CARE ENVIRO SOLUTIONS PVT. LTD.


AUTHORISED SIGNATORY:
(SURESH MORADIA)


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TEST REPORT/CERTIFICATE

NAME & ADDRESS OF CUSTOMER: M/s. Hindusthan Chemicals Company GIDC Industrial Estate, P.O. Olpad, Tal.: Olpad, Dist.: Surat-394540		CERTIFICATE NO: 201/3
		ISSUE DATE: 30/06/2020
SAMPLE DESCRIPTION:	Ambient Nr. HCN Control room	LAB ID: 17/6
SAMPLE COLLECTED BY:	Earth Care Enviro Solutions PVT. LTD.	SAMPLE QUANTITY: Absorbing Media for each Gas & Filter papers for each PM
SAMPLING DATE:	06/06/2020	SAMPLING TIME: 24 Hour
PROTOCOL(PURPOSE):	Twice in a Month	SAMPLE ID NO: EESPL20060603
SAMPLING METHOD:	EESPL/SOP/AIR/01	PACKING/SEAL: Sealed
SAMPLE RECEIVE DATE:	08/06/2020	SAMPLE RECEIVE TIME: 10:00 am
TEST START DATE:	08/06/2020	TEST COMPLETION DATE: 30/06/2020

AMBIENT TEMPRATURE:	MINIMUM: 24 °C	MAXIMUM: 34 °C
RELATIVE HUMIDITY:	MINIMUM: 51 %	MAXIMUM: 72 %
WIND DIRECTION:	SW	WIND SPEED: 13.0 Km/h

RESULT TABLE:

SR. NO:	PARAMETER	Permissible Limit	UNIT	RESULT	TEST METHOD
01	PM _{2.5}	60	µg/m ³	38.8	CPCB Guideline, Vol-1 NAAQMS/36/2012-13
02	PM ₁₀	100	µg/m ³	65.2	IS 5182 (Part 23):2006 Reff.2017
03	Sulphur Dioxide(SO ₂)	80	µg/m ³	0.49	IS 5182 (Part 2):2001 Reff.2017
04	Oxides of Nitrogen(NO _x)	80	µg/m ³	0.57	IS 5182 (Part 6):2016 Reff.2017
05	HCL	-	µg/m ³	BDL	EPA method
06	HCN	-	µg/m ³	BDL	Chromatographic method
07	NH ₃	-	µg/m ³	4.0	CPCB Guideline, Vol-1 NAAQMS/36/2012-13
08	VOC(BTX)	-	ppm	BDL	GC Method

Note: BDL: Below Detection Limit
For EARTH CARE ENVIRO SOLUTIONS PVT. LTD.

AUTHORISED SIGNATORY:
(SURESH MORADIA)

PREPARED BY:
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NAME & ADDRESS OF CUSTOMER: M/s. Hindusthan Chemicals Company GIDC Industrial Estate, P.O. Olpad, Tal.: Olpad, Dist.: Surat-394540		CERTIFICATE NO: 201/4
		ISSUE DATE: 30/06/2020
SAMPLE DESCRIPTION:	Ambient Nr. R & D Plant	LAB ID: 18/6
SAMPLE COLLECTED BY:	Earth Care Enviro Solutions PVT. LTD.	SAMPLE QUANTITY: Absorbing Media for each Gas & Filter papers for each PM
SAMPLING DATE:	06/06/2020	SAMPLING TIME: 24 Hour
PROTOCOL(PURPOSE):	Twice in a Month	SAMPLE ID NO: EESPL20060604
SAMPLING METHOD:	EESPL/SOP/AIR/01	PACKING/SEAL: Sealed
SAMPLE RECEIVED DATE:	08/06/2020	SAMPLE RECEIVED TIME: 10:00 am
TEST START DATE:	08/06/2020	TEST COMPLETION DATE: 30/06/2020

AMBIENT TEMPRATURE:	MINIMUM: 24 °C	MAXIMUM: 34 °C
RELATIVE HUMIDITY:	MINIMUM: 51 %	MAXIMUM: 72 %
WIND DIRECTION:	SW	WIND SPEED: 13.0 Km/h

RESULT TABLE:

SR. NO:	PARAMETER	Permissible Limit	UNIT	RESULT	TEST METHOD
01	PM _{2.5}	60	µg/m ³	28.0	CPCB Guideline, Vol-1 NAAQMS/36/2012-13
02	PM ₁₀	100	µg/m ³	52.4	IS 5182 (Part 23): 2006Reff.2017
03	Sulpher Dioxide(SO ₂)	80	µg/m ³	0.35	IS 5182 (Part 2):2001Reff.2017
04	Oxides of Nitrogen(NO _x)	80	µg/m ³	0.48	IS 5182 (Part 6):2016Reff.2017
05	HCL	-	µg/m ³	BDL	EPA method
06	HCN	-	µg/m ³	BDL	Chromatographic method
07	NH ₃	-	µg/m ³	2.8	CPCB Guideline, Vol-1 NAAQMS/36/2012-13
08	VOC(BTX)	-	ppm	BDL	GC Method

Note: BDL: Below Detection Limit
 For EARTH CARE ENVIRO SOLUTIONS PVT. LTD.

AUTHORISED SIGNATORY:
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NAME & ADDRESS OF CUSTOMER: M/s. Hindusthan Chemicals Company GIDC Industrial Estate, P.O. Olpad, Tal.: Olpad, Dist.: Surat-394540		CERTIFICATE NO: 201/5
		ISSUE DATE: 30/06/2020
SAMPLE DESCRIPTION:	Ambient Nr. Main Gate	LAB ID: 95/6
SAMPLE COLLECTED BY:	Earth Care Enviro Solutions PVT. LTD.	SAMPLE QUANTITY: Absorbing Media for each Gas & Filter papers for each PM
SAMPLING DATE:	25/06/2020	SAMPLING TIME: 24 Hour
PROTOCOL(PURPOSE):	Twice in a Month	SAMPLE ID NO: EESPL20062501
SAMPLING METHOD:	EESPL/SOP/AIR/01	PACKING/SEAL: Sealed
SAMPLE RECEIVED DATE:	26/06/2020	SAMPLE RECEIVED TIME: 10:15 am
TEST START DATE:	26/06/2020	TEST COMPLETION DATE: 30/06/2020

AMBIENT TEMPRATURE:	MINIMUM: 29 °C	MAXIMUM: 33 °C
RELATIVE HUMIDITY:	MINIMUM: 63 %	MAXIMUM: 80 %
WIND DIRECTION:	SW	WIND SPEED: 23.0 Km/h

RESULT TABLE:

SR. NO:	PARAMETER	Permissible Limit	UNIT	RESULT	TEST METHOD
01	PM _{2.5}	60	µg/m ³	32.2	CPCB Guideline, Vol-1 NAAQMS/36/2012-13
02	PM ₁₀	100	µg/m ³	54.8	IS 5182 (Part 23): 2006 Reff.2017
03	Sulphur Dioxide(SO ₂)	80	µg/m ³	0.28	IS 5182 (Part 2):2001 Reff.2017
04	Oxides of Nitrogen (NO _x)	80	µg/m ³	0.33	IS 5182 (Part 6):2016 Reff.2017
05	HCL	-	µg/m ³	BDL	EPA method
06	HCN	-	µg/m ³	BDL	Chromatographic method
07	NH ₃	-	µg/m ³	2.2	CPCB Guideline, Vol-1 NAAQMS/36/2012-13
08	VOC(BTX)	-	ppm	BDL	GC Method

Note: BDL: Below Detection Limit
For EARTH CARE ENVIRO SOLUTIONS PVT. LTD.

AUTHORISED SIGNATORY:
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PREPARED BY:
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TEST REPORT/CERTIFICATE

NAME & ADDRESS OF CUSTOMER: M/s. Hindusthan Chemicals Company GIDC Industrial Estate, P.O. Olpad, Tal.: Olpad, Dist.: Surat-394540		CERTIFICATE NO: 201/7	ISSUE DATE: 30/06/2020		
SAMPLE DESCRIPTION: Ambient Nr. HCN Control Room	LAB ID: 97/6	SAMPLE QUANTITY: Absorbing Media for each Gas & Filter papers for each PM			
SAMPLE COLLECTED BY: Earth Care Enviro Solutions PVT. LTD.	SAMPLING DATE: 25/06/2020	SAMPLING TIME: 24 Hour	SAMPLE ID NO: EESPL20062503		
SAMPLING METHOD: EESPL/SOP/AIR/01	PROTOCOL(PURPOSE): Twice in a Month	PACKING/SEAL: Sealed	SAMPLE RECEIVED TIME: 10:15 am		
SAMPLE RECEIVED DATE: 26/06/2020	TEST START DATE: 26/06/2020	TEST COMPLETION DATE: 30/06/2020			
AMBIENT TEMPRATURE:	MINIMUM: 29 °C	MAXIMUM: 33 °C			
RELATIVE HUMIDITY:	MINIMUM: 63 %	MAXIMUM: 80 %			
WIND DIRECTION:	SW	WIND SPEED: 23.0 Km/h			
RESULT TABLE:					
SR. NO:	PARAMETER	Permissible Limit	UNIT	RESULT	TEST METHOD
01	PM _{2.5}	60	µg/m ³	48.0	CPCB Guideline, Vol-1 NAAQMS/36/2012-13
02	PM ₁₀	100	µg/m ³	70.2	IS 5182 (Part 23):2006 Reff.2017
03	Sulphur Dioxide(SO ₂)	80	µg/m ³	0.44	IS 5182 (Part 2):2001 Reff.2017
04	Oxides of Nitrogen(NO _x)	80	µg/m ³	0.58	IS 5182 (Part 6):2016 Reff.2017
05	HCL	-	µg/m ³	BDL	EPA method
06	HCN	-	µg/m ³	BDL	Chromatographic method
07	NH ₃	-	µg/m ³	2.6	CPCB Guideline, Vol-1 NAAQMS/36/2012-13
08	VOC(BTX)	-	ppm	BDL	GC Method

Note: BDL: Below Detection Limit
For EARTH CARE ENVIRO SOLUTIONS PVT. LTD.

AUTHORISED SIGNATORY:
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NAME & ADDRESS OF CUSTOMER: M/s. Hindusthan Chemicals Company GIDC Industrial Estate, P.O. Olpad, Tal.: Olpad, Dist.: Surat-394540		CERTIFICATE NO: 201/8
		ISSUE DATE: 30/06/2020
SAMPLE DESCRIPTION:	Ambient Nr. R & D plant	LAB ID: 98/6
SAMPLE COLLECTED BY:	Earth Care Enviro Solutions PVT. LTD.	SAMPLE QUANTITY: Absorbing Media for each Gas & Filter papers for each PM
SAMPLING DATE:	25/06/2020	SAMPLING TIME: 24 Hour
PROTOCOL(PURPOSE):	Twice in a Month	SAMPLE ID NO: EESPL20062504
SAMPLING METHOD:	EESPL/SOP/AIR/01	PACKING/SEAL: Sealed
SAMPLE RECEIVED DATE:	26/06/2020	SAMPLE RECEIVED TIME: 10:15 am
TEST START DATE:	26/06/2020	TEST COMPLETION DATE: 30/06/2020

AMBIENT TEMPRATURE:	MINIMUM: 29 °C	MAXIMUM: 33 °C
RELATIVE HUMIDITY:	MINIMUM: 63 %	MAXIMUM: 80 %
WIND DIRECTION:	SW	WIND SPEED: 23.0 Km/h

RESULT TABLE:

SR. NO:	PARAMETER	Permissible Limit	UNIT	RESULT	TEST METHOD
01	PM _{2.5}	60	µg/m ³	33.4	CPCB Guidellnc, Vol-1 NAAQMS/36/2012-13
02	PM ₁₀	100	µg/m ³	62.2	IS 5182 (Part 23):2006 Reff.2017
03	Sulphur Dioxide(SO ₂)	80	µg/m ³	0.28	IS 5182 (Part 2):2001 Reff.2017
04	Oxides of Nitrogen(NO _x)	80	µg/m ³	0.39	IS 5182 (Part 6):2016 Reff.2017
05	HCL	-	µg/m ³	BDL	EPA method
06	HCN	-	µg/m ³	BDL	Chromatographic method
07	NH ₃	-	µg/m ³	2.8	CPCB Guideline, Vol-1 NAAQMS/36/2012-13
08	VOC(BTX)	-	ppm	BDL	GC Method

Note: BDL: Bclow Detection Limit
For EARTH CARE ENVIRO SOLUTIONS PVT. LTD.

AUTHORISED SIGNATORY:
(SURESH MORADIA)

PREPARED BY:
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TEST REPORT/CERTIFICATE

NAME & ADDRESS OF CUSTOMER: M/s. Hindusthan Chemicals Company GIDC Industrial Estate, P.O. Olpad, Tal.: Olpad, Dist.: Surat-394540202		CERTIFICATE NO: 233/1
		ISSUE DATE: 21/07/2020
SAMPLE DESCRIPTION:	Ambient Nr. Main Gate	LAB ID: 16/7
SAMPLE COLLECTED BY:	Earth Care Enviro Solutions PVT. LTD.	SAMPLE QUANTITY: Absorbing Media for each Gas & Filter papers for each PM
SAMPLING DATE:	03/07/2020	SAMPLING TIME: 24 Hour
PROTOCOL(PURPOSE):	Twice in a Month	SAMPLE ID NO: EESPL20070302
SAMPLING METHOD:	EESPL/SOP/AIR/01	PACKING/SEAL: Sealed
SAMPLE RECEIVED DATE:	04/07/2020	SAMPLE RECEIVED TIME: 10:10 am
TEST START DATE:	04/07/2020	TEST COMPLETION DATE: 21/07/2020

AMBIENT TEMPRATURE:	MINIMUM: 30 °C	MAXIMUM: 35 °C
RELATIVE HUMIDITY:	MINIMUM: 53 %	MAXIMUM: 74 %
WIND DIRECTION:	SW	WIND SPEED: 17.0 Km/h

RESULT TABLE:

SR. NO:	PARAMETER	Permissible Limit	UNIT	RESULT	TEST METHOD
01	PM _{2.5}	60	µg/m ³	28.4	CPCB Guideline, Vol-1 NAAQMS/36/2012-13
02	PM ₁₀	100	µg/m ³	54.2	IS 5182 (Part 23): 2006 Reff.2017
03	Sulphur Dioxide(SO ₂)	80	µg/m ³	0.30	IS 5182 (Part 2):2001 Reff.2017
04	Oxides of Nitrogen(NO _x)	80	µg/m ³	0.38	IS 5182 (Part 6):2016 Reff.2017
05	HCL	-	µg/m ³	BDL	EPA method
06	HCN	-	µg/m ³	BDL	Chromatographic method
07	NH ₃	-	µg/m ³	2.6	CPCB Guideline, Vol-1 NAAQMS/36/2012-13
08	VOC(BTX)	-	ppm	BDL	GC Method

Note: BDL: Below Detection Limit
 For EARTH CARE ENVIRO SOLUTIONS PVT. LTD.

AUTHORISED SIGNATORY:
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PREPARED BY:
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NAME & ADDRESS OF CUSTOMER: M/s. Hindusthan Chemicals Company GIDC Industrial Estate, P.O. Olpad, Tal.: Olpad, Dist.: Surat-394540		CERTIFICATE NO: 233/2
		ISSUE DATE: 21/07/2020
SAMPLE DESCRIPTION:	Ambient Nr. ADM Building	LAB ID: 17/7
SAMPLE COLLECTED BY:	Earth Care Enviro Solutions PVT. LTD.	SAMPLE QUANTITY: Absorbing Media for each Gas & Filter papers for each PM
SAMPLING DATE:	03/07/2020	SAMPLING TIME: 24 Hour
PROTOCOL(PURPOSE):	Twice in a Month	SAMPLE ID NO: EESPL20070303
SAMPLING METHOD:	EESPL/SOP/AIR/01	PACKING/SEAL: Sealed
SAMPLE RECEIVED DATE:	04/07/2020	SAMPLE RECEIVED TIME: 10:10 am
TEST START DATE:	04/07/2020	TEST COMPLETION DATE: 21/07/2020

AMBIENT TEMPRATURE:	MINIMUM: 30 °C	MAXIMUM: 35 °C
RELATIVE HUMIDITY:	MINIMUM: 53 %	MAXIMUM: 74 %
WIND DIRECTION:	SW	WIND SPEED: 17.0 Km/h

RESULT TABLE:

SR. NO:	PARAMETER	Permissible Limit	UNIT	RESULT	TEST METHOD
01	PM _{2.5}	60	µg/m ³	22.0	CPCB Guideline, Vol-1 NAAQMS/36/2012-13
02	PM ₁₀	100	µg/m ³	48.4	IS 5182 (Part 23): 2006 Ref.2017
03	Sulphur Dioxide(SO ₂)	80	µg/m ³	0.25	IS 5182 (Part 2):2001 Ref.2017
04	Oxides of Nitrogen(NO _x)	80	µg/m ³	0.28	IS 5182 (Part 6):2016 Ref.2017
05	HCL	-	µg/m ³	BDL	EPA method
06	HCN	-	µg/m ³	BDL	Chromatographic method
07	NH ₃	-	µg/m ³	3.2	CPCB Guideline, Vol-1 NAAQMS/36/2012-13
08	VOC(BTX)	-	ppm	BDL	GC Method

Note: BDL: Below Detection Limit

For EARTH CARE ENVIRO SOLUTIONS PVT. LTD.


AUTHORISED SIGNATORY:
(SURESH MORADIA)


PREPARED BY:
(TECHNICAL MANAGER)

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TEST REPORT/CERTIFICATE

NAME & ADDRESS OF CUSTOMER: M/s. Hindusthan Chemicals Company GIDC Industrial Estate, P.O. Olpad, Tal.: Olpad, Dist.: Surat-394540		CERTIFICATE NO: 233/3	ISSUE DATE: 21/07/2020
SAMPLE DESCRIPTION:	Ambient Nr. HCN Control room	LAB ID:	18/7
SAMPLE COLLECTED BY:	Earth Care Enviro Solutions PVT. LTD.	SAMPLE QUANTITY:	Absorbing Media for each Gas & Filter papers for each PM
SAMPLING DATE:	03/07/2020	SAMPLING TIME:	24 Hour
PROTOCOL(PURPOSE):	Twice in a Month	SAMPLE ID NO:	EESPL20070304
SAMPLING METHOD:	EESPL/SOP/AIR/01	PACKING/SEAL:	Sealed
SAMPLE RECEIVE DATE:	04/07/2020	SAMPLE RECEIVE TIME:	10:10 am
TEST START DATE:	04/07/2020	TEST COMPLETION DATE:	21/07/2020

AMBIENT TEMPRATURE:	MINIMUM: 30 °C	MAXIMUM: 35 °C
RELATIVE HUMIDITY:	MINIMUM: 53 %	MAXIMUM: 74 %
WIND DIRECTION:	SW	WIND SPEED: 17.0 Km/h

RESULT TABLE:

SR. NO:	PARAMETER	Permissible Limit	UNIT	RESULT	TEST METHOD
01	PM _{2.5}	60	µg/m ³	23.8	CPCB Guideline, Vol-1 NAAQMS/36/2012-13
02	PM ₁₀	100	µg/m ³	50.6	IS 5182 (Part 23): 2006 Reff.2017
03	Sulphur Dioxide(SO ₂)	80	µg/m ³	0.20	IS 5182 (Part 2):2001 Reff.2017
04	Oxides of Nitrogen(NO _x)	80	µg/m ³	0.34	IS 5182 (Part 6):2016 Reff.2017
05	HCL	-	µg/m ³	BDL	EPA method
06	HCN	-	µg/m ³	BDL	Chromatographic method
07	NH ₃	-	µg/m ³	2.8	CPCB Guideline, Vol-1 NAAQMS/36/2012-13
08	VOC(BTX)	-	ppm	BDL	GC Method

Note: BDL: Below Detection Limit
For EARTH CARE ENVIRO SOLUTIONS PVT. LTD.

AUTHORISED SIGNATORY:
(SURESH MORADIA)

PREPARED BY:
(TECHNICAL MANAGER)

END OF TEST REPORT/CERTIFICATE



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TEST REPORT/CERTIFICATE

NAME & ADDRESS OF CUSTOMER: M/s. Hindusthan Chemicals Company GIDC Industrial Estate, P.O. Olpad, Tal.: Olpad, Dist.: Surat-394540		CERTIFICATE NO:	233/4
		ISSUE DATE:	21/07/2020
SAMPLE DESCRIPTION:	Ambient Nr. R & D Plant	LAB ID:	19/7
SAMPLE COLLECTED BY:	Earth Care Enviro Solutions PVT. LTD.	SAMPLE QUANTITY:	Absorbing Media for each Gas & Filter papers for each PM
SAMPLING DATE:	03/07/2020	SAMPLING TIME:	24 Hour
PROTOCOL(PURPOSE):	Twice in a Month	SAMPLE ID NO:	EESPL20070305
SAMPLING METHOD:	EESPL/SOP/AIR/01	PACKING/SEAL:	Sealed
SAMPLE RECEIVED DATE:	04/07/2020	SAMPLE RECEIVED TIME:	10:10 am
TEST START DATE:	04/07/2020	TEST COMPLETION DATE:	21/07/2020

AMBIENT TEMPRATURE:	MINIMUM: 30 °C	MAXIMUM: 35 °C
RELATIVE HUMIDITY:	MINIMUM: 53 %	MAXIMUM: 74 %
WIND DIRECTION:	SW	WIND SPEED: 17.0 Km/h

RESULT TABLE:

SR. NO:	PARAMETER	Permissible Limit	UNIT	RESULT	TEST METHOD
01	PM _{2.5}	60	µg/m ³	33.0	CPCB Guideline, Vol-1 NAAQMS/36/2012-13
02	PM ₁₀	100	µg/m ³	58.5	IS 5182 (Part 23): 2006 Ref.2017
03	Sulpher Dioxide(SO ₂)	80	µg/m ³	0.32	IS 5182 (Part 2):2001 Ref.2017
04	Oxides of Nitrogen(NO _x)	80	µg/m ³	0.40	IS 5182 (Part 6):2016 Ref.2017
05	HCL	-	µg/m ³	BDL	FPA method
06	HCN	-	µg/m ³	BDL	Chromatographic method
07	NH ₃	-	µg/m ³	3.4	CPCB Guideline, Vol-1 NAAQMS/36/2012-13
08	VOC(BTX)	-	ppm	BDL	GC Method

Note: BDL: Below Detection Limit

For EARTH CARE ENVIRO SOLUTIONS PVT. LTD.


AUTHORISED SIGNATORY:
(SURESH MORADIA)


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TEST REPORT/CERTIFICATE

NAME & ADDRESS OF CUSTOMER: M/s. Hindusthan Chemicals Company GIDC Industrial Estate, P.O. Olpad, Tal.: Olpad, Dist.: Surat-394540		CERTIFICATE NO: 233/5
		ISSUE DATE: 21/07/2020
SAMPLE DESCRIPTION:	Ambient Nr. Main Gate	LAB ID: 45/7
SAMPLE COLLECTED BY:	Earth Care Enviro Solutions PVT. LTD.	SAMPLE QUANTITY: Absorbing Media for each Gas & Filter papers for each PM
SAMPLING DATE:	15/07/2020	SAMPLING TIME: 24 Hour
PROTOCOL(PURPOSE):	Twice in a Month	SAMPLE ID NO: EESPL20071502
SAMPLING METHOD:	EESPL/SOP/AIR/01	PACKING/SEAL: Sealed
SAMPLE RECEIVED DATE:	16/07/2020	SAMPLE RECEIVED TIME: 10:00 am
TEST START DATE:	16/07/2020	TEST COMPLETION DATE: 21/07/2020

AMBIENT TEMPRATURE:	MINIMUM: 26 °C	MAXIMUM: 31 °C
RELATIVE HUMIDITY:	MINIMUM: 70 %	MAXIMUM: 91 %
WIND DIRECTION:	SW	WIND SPEED: 16.0 Km/h

RESULT TABLE:

SR. NO:	PARAMETER	Permissible Limit	UNIT	RESULT	TEST METHOD
01	PM _{2.5}	60	µg/m ³	32.4	CPCB Guideline, Vol-1 NAAQMS/36/2012-13
02	PM ₁₀	100	µg/m ³	58.0	IS 5182 (Part 23): 2006 Reff.2017
03	Sulphur Dioxide(SO ₂)	80	µg/m ³	0.39	IS 5182 (Part 2):2001 Reff.2017
04	Oxides of Nitrogen (NO _x)	80	µg/m ³	0.52	IS 5182 (Part 6):2016 Reff.2017
05	HCL	-	µg/m ³	BDL	EPA method
06	HCN	-	µg/m ³	BDL	Chromatographic method
07	NH ₃	-	µg/m ³	2.0	CPCB Guideline, Vol-1 NAAQMS/36/2012-13
08	VOC(BTX)	-	ppm	BDL	GC Method

Note: BDL: Below Detection Limit

For EARTH CARE ENVIRO SOLUTIONS PVT. LTD.


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TEST REPORT/CERTIFICATE

NAME & ADDRESS OF CUSTOMER: M/s. Hindusthan Chemicals Company GIDC Industrial Estate, P.O. Olpac, Tal.: Olpad, Dist.: Surat-394540		CERTIFICATE NO: 233/6
		ISSUE DATE: 21/07/2020
SAMPLE DESCRIPTION:	Ambient Nr. ADM Building	LAB ID: 46/7
SAMPLE COLLECTED BY:	Earth Care Enviro Solutions PVT. LTD.	SAMPLE QUANTITY: Absorbing Media for each Gas & Filter papers for each PM
SAMPLING DATE:	15/07/2020	SAMPLING TIME: 24 Hour
PROTOCOL(PURPOSE):	Twice in a Month	SAMPLE ID NO: EESPL20071503
SAMPLING METHOD:	EESPL/SOP/AIR/01	PACKING/SEAL: Sealed
SAMPLE RECEIVED DATE:	16/07/2020	SAMPLE RECEIVED TIME: 10:00 am
TEST START DATE:	16/07/2020	TEST COMPLETION DATE: 21/07/2020

AMBIENT TEMPRATURE:	MINIMUM: 26 °C	MAXIMUM: 31 °C
RELATIVE HUMIDITY:	MINIMUM: 70 %	MAXIMUM: 91 %
WIND DIRECTION:	SW	WIND SPEED: 16.0 Km/h

RESULT TABLE:

SR. NO:	PARAMETER	Permissible Limit	UNIT	RESULT	TEST MEYHOD
01	PM _{2.5}	60	µg/m ³	38.2	CPCB Guideline, Vol-1 NAAQMS/36/2012-13
02	PM ₁₀	100	µg/m ³	62.0	IS 5182 (Part 23): 2006 Reff.2017
03	Sulphur Dioxide(SO ₂)	80	µg/m ³	0.48	IS 5182 (Part 2):2001 Reff.2017
04	Oxides of Nitrogen(NO _x)	80	µg/m ³	0.64	IS 5182 (Part 6):2016 Reff.2017
05	HCL	-	µg/m ³	BDL	EPA method
06	HCN	-	µg/m ³	BDL	Chromatographic method
07	NH ₃	-	µg/m ³	3.8	CPCB Guideline, Vol-1 NAAQMS/36/2012-13
08	VOC(BTX)	-	ppm	BDL	GC Method

Note: BDL: Below Detection Limit

For EARTH CARE ENVIRO SOLUTIONS PVT. LTD.


AUTHORISED SIGNATORY:
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TEST REPORT/CERTIFICATE

NAME & ADDRESS OF CUSTOMER: M/s. Hindusthan Chemicals Company GIDC Industrial Estate, P.O. Olpad, Tal.: Olpad, Dist.: Surat-394540		CERTIFICATE NO: 233/7
		ISSUE DATE: 21/07/2020
SAMPLE DESCRIPTION:	Ambient Nr. HCN Control Room	LAB ID: 47/7
SAMPLE COLLECTED BY:	Earth Care Enviro Solutions PVT. LTD.	SAMPLE QUANTITY: Absorbing Media for each Gas & Filter papers for each PM
SAMPLING DATE:	15/07/2020	SAMPLING TIME: 24 Hour
PROTOCOL(PURPOSE):	Twice in a Month	SAMPLE ID NO: EESPL20071504
SAMPLING METHOD:	EESPL/SOP/AIR/01	PACKING/SEAL: Sealed
SAMPLE RECEIVED DATE:	16/07/2020	SAMPLE RECEIVED TIME: 10:00 am
TEST START DATE:	16/07/2020	TEST COMPLETION DATE: 21/07/2020


AMBIENT TEMPRATURE:	MINIMUM: 26 °C	MAXIMUM: 31 °C
RELATIVE HUMIDITY:	MINIMUM: 70 %	MAXIMUM: 91 %
WIND DIRECTION:	SW	WIND SPEED: 16.0 Km/h

RESULT TABLE:

SR. NO:	PARAMETER	Permissible Limit	UNIT	RESULT	TEST METHOD
01	PM _{2.5}	60	µg/m ³	28.4	CPCB Guideline, Vol-1 NAAQMS/36/2012-13
02	PM ₁₀	100	µg/m ³	55.8	IS 5182 (Part 23): 2006 Reff.2017
03	Sulphur Dioxide(SO ₂)	80	µg/m ³	0.32	IS 5182 (Part 2):2001 Reff.2017
04	Oxides of Nitrogen(NO _x)	80	µg/m ³	0.44	IS 5182 (Part 6):2016 Reff.2017
05	HCL	-	µg/m ³	BDL	EPA method
06	HCN	-	µg/m ³	BDL	Chromatographic method
07	NH ₃	-	µg/m ³	2.6	CPCB Guideline, Vol-1 NAAQMS/36/2012-13
08	VOC(BTX)	-	ppm	BDL	GC Method

Note: BDL: Below Detection Limit

For EARTH CARE ENVIRO SOLUTIONS PVT. LTD.


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TEST REPORT/CERTIFICATE

NAME & ADDRESS OF CUSTOMER: M/s. Hindusthan Chemicals Company GIDC Industrial Estate, P.O. Olpad, Tal.: Olpad, Dist.: Surat-394540		CERTIFICATE NO: 233/8
		ISSUE DATE: 21/07/2020
SAMPLE DESCRIPTION: Ambient Nr. R & D plant	LAB ID: 48/7	
SAMPLE COLLECTED BY: Earth Care Enviro Solutions PVT. LTD.	SAMPLE QUANTITY: Absorbing Media for each Gas & Filter papers for each PM	
SAMPLING DATE: 15/07/2020	SAMPLING TIME: 24 Hour	
PROTOCOL(PURPOSE): Twice in a Month	SAMPLE ID NO: EESPL20071505	
SAMPLING METHOD: EESPL/SOP/AIR/01	PACKING/SEAL: Sealed	
SAMPLE RECEIVED DATE: 16/07/2020	SAMPLE RECEIVED TIME: 10:00 am	
TEST START DATE: 16/07/2020	TEST COMPLETION DATE: 21/07/2020	

AMBIENT TEMPRATURE:	MINIMUM: 26 °C	MAXIMUM: 31 °C
RELATIVE HUMIDITY:	MINIMUM: 70 %	MAXIMUM: 91 %
WIND DIRECTION:	SW	WIND SPEED: 16.0 Km/h

RESULT TABLE:

SR. NO:	PARAMETER	Permissible Limit	UNIT	RESULT	TEST METHOD
01	PM _{2.5}	60	µg/m ³	40.2	CPCB Guideline, Vol-1 NAAQMS/36/2012-13
02	PM ₁₀	100	µg/m ³	68.0	IS 5182 (Part 23): 2006 Reff.2017
03	Sulphur Dioxide(SO ₂)	80	µg/m ³	0.52	IS 5182 (Part 2):2001 Reff.2017
04	Oxides of Nitrogen(NO _x)	80	µg/m ³	0.66	IS 5182 (Part 6):2016 Reff.2017
05	HCL	-	µg/m ³	BDL	EPA method
06	HCN	-	µg/m ³	BDL	Chromatographic method
07	NH ₃	-	µg/m ³	3.0	CPCB Guideline, Vol-1 NAAQMS/36/2012-13
08	VOC(BTX)	-	ppm	BDL	GC Method

Note: BDL: Below Detection Limit

For EARTH CARE ENVIRO SOLUTIONS PVT. LTD.


AUTHORISED SIGNATORY:
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PREPARED BY:
(TECHNICAL MANAGER)

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TEST REPORT/CERTIFICATE

NAME & ADDRESS OF CUSTOMER: M/s. Hindusthan Chemicals Company GIDC Industrial Estate, P.O. Olpad, Tal.: Olpad, Dist.: Surat-394540202		CERTIFICATE NO: 292/1	
		ISSUE DATE: 26/08/2020	
SAMPLE DESCRIPTION:	Ambient Nr. Main Gate	LAB ID:	10/8
SAMPLE COLLECTED BY:	Earth Care Enviro Solutions Pvt. Ltd.	SAMPLE QUANTITY:	Absorbing Media for each Gas & Filter papers for each PM
SAMPLING DATE:	06/08/2020	SAMPLING TIME:	24 Hour
PROTOCOL(PURPOSE):	Twice in a Month	SAMPLE ID NO:	EESPL20080602
SAMPLING METHOD:	EESPL/SOP/AIR/01	PACKING/SEAL:	Sealed
SAMPLE RECEIVED DATE:	07/08/2020	SAMPLE RECEIVED TIME:	10:00 am
TEST START DATE:	07/08/2020	TEST COMPLETION DATE:	26/08/2020

AMBIENT TEMPRATURE:	MINIMUM: 26 °C	MAXIMUM: 30 °C
RELATIVE HUMIDITY:	MINIMUM: 88 %	MAXIMUM: 95 %
WIND DIRECTION:	SW	WIND SPEED: 12.0 Km/h

RESULT TABLE:

SR. NO:	PARAMETER	Permissible Limit	UNIT	RESULT	TEST METHOD
01	PM _{2.5}	60	µg/m ³	18.8	CPCB Guideline, Vol-1 NAAQMS/36/2012-13
02	PM ₁₀	100	µg/m ³	26.9	IS: 5182 (Part 23): 2006 Reff.2017
03	Sulphur Dioxide(SO ₂)	80	µg/m ³	0.28	IS: 5182 (Part 2): 2001 Reff.2017
04	Oxides of Nitrogen(NO _x)	80	µg/m ³	0.40	IS: 5182 (Part 6): 2016 Reff.2017
05	HCL	-	µg/m ³	BDL	EPA method
06	HCN	-	µg/m ³	BDL	Chromatographic method
07	NH ₃	-	µg/m ³	2.2	CPCB Guideline, Vol-1 NAAQMS/36/2012-13
08	VOC(BTX)	-	ppm	BDL	GC Method

Note: BDL: Below Detection Limit
 For EARTH CARE ENVIRO SOLUTIONS PVT. LTD.

AUTHORISED SIGNATORY:
 (SURESH MORADIA)

PREPARED BY:
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TEST REPORT/CERTIFICATE

NAME & ADDRESS OF CUSTOMER: M/s. Hindusthan Chemicals Company GIDC Industrial Estate, P.O. Olpad, Tal.: Olpad, Dist.: Surat-394540		CERTIFICATE NO: 292/2
		ISSUE DATE: 26/08/2020
SAMPLE DESCRIPTION:	Ambient Nr. ADM Building	LAB ID: 11/8
SAMPLE COLLECTED BY:	Earth Care Enviro Solutions Pvt. Ltd.	SAMPLE QUANTITY: Absorbing Media for each Gas & Filter papers for each PM
SAMPLING DATE:	06/08/2020	SAMPLING TIME: 24 Hour
PROTOCOL(PURPOSE):	Twice in a Month	SAMPLE ID NO: EESPL20080603
SAMPLING METHOD:	EESPL/SOP/AIR/01	PACKING/SEAL: Sealed
SAMPLE RECEIVED DATE:	07/08/2020	SAMPLE RECEIVED TIME: 10:00 am
TEST START DATE:	07/08/2020	TEST COMPLETION DATE: 26/08/2020

AMBIENT TEMPRATURE:	MINIMUM: 26 °C	MAXIMUM: 30 °C
RELATIVE HUMIDITY:	MINIMUM: 88 %	MAXIMUM: 95 %
WIND DIRECTION:	SW	WIND SPEED: 12.0 Km/h

RESULT TABLE:

SR. NO:	PARAMETER	Permissible Limit	UNIT	RESULT	TEST METHOD
01	PM _{2.5}	60	µg/m ³	30.2	CPCB Guideline, Vol-1 NAAQMS/36/2012-13
02	PM ₁₀	100	µg/m ³	49.6	IS: 5182 (Part 23): 2006 Reff.2017
03	Sulphur Dioxide(SO ₂)	80	µg/m ³	0.42	IS: 5182 (Part 2): 2001 Reff.2017
04	Oxides of Nitrogen(NO _x)	80	µg/m ³	0.70	IS: 5182 (Part 6): 2016 Reff.2017
05	HCL	-	µg/m ³	BDL	EPA method
06	HCN	-	µg/m ³	BDL	Chromatographic method
07	NH ₃	-	µg/m ³	2.8	CPCB Guideline, Vol-1 NAAQMS/36/2012-13
08	VOC(BTX)	-	ppm	BDL	GC Method

Note: BDL: Below Detection Limit
For EARTH CARE ENVIRO SOLUTIONS PVT. LTD.

AUTHORISED SIGNATORY:
(SURESH MORADIA)

PREPARED BY:
(TECHNICAL MANAGER)

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TEST REPORT/CERTIFICATE

NAME & ADDRESS OF CUSTOMER: M/s. Hindusthan Chemicals Company GIDC Industrial Estate, P.O. Olpad, Tal.: Olpad, Dist.: Surat-394540		CERTIFICATE NO: 292/3
		ISSUE DATE: 26/08/2020
SAMPLE DESCRIPTION: Ambient Nr. HCN Control room	LAB ID: 12/8	
SAMPLE COLLECTED BY: Earth Care Enviro Solutions Pvt. Ltd.	SAMPLE QUANTITY: Absorbing Media for each Gas & Filter papers for each PM	
SAMPLING DATE: 06/08/2020	SAMPLING TIME: 24 Hour	
PROTOCOL(PURPOSE): Twice in a Month	SAMPLE ID NO: EESPL20080604	
SAMPLING METHOD: EESPL/SOP/AIR/01	PACKING/SEAL: Sealed	
SAMPLE RECEIVE DATE: 07/08/2020	SAMPLE RECEIVE TIME: 10:00 am	
TEST START DATE: 07/08/2020	TEST COMPLETION DATE: 26/08/2020	

AMBIENT TEMPERATURE:	MINIMUM: 26 °C	MAXIMUM: 30 °C
RELATIVE HUMIDITY:	MINIMUM: 88 %	MAXIMUM: 95 %
WIND DIRECTION:	SW	WIND SPEED: 12.0 Km/h

RESULT TABLE:

SR. NO:	PARAMETER	Permissible Limit	UNIT	RESULT	TEST METHOD
01	PM _{2.5}	60	µg/m ³	24.8	CPCB Guideline, Vol-1 NAAQMS/36/2012-13
02	PM ₁₀	100	µg/m ³	40.5	IS: 5182 (Part 23): 2006 Ref.2017
03	Sulphur Dioxide(SO ₂)	80	µg/m ³	0.30	IS: 5182 (Part 2): 2001 Ref.2017
04	Oxides of Nitrogen(NO _x)	80	µg/m ³	0.49	IS: 5182 (Part 6): 2016 Ref.2017
05	HCL	-	µg/m ³	BDL	EPA method
06	HCN	-	µg/m ³	BDL	Chromatographic method
07	NH ₃	-	µg/m ³	3.2	CPCB Guideline, Vol-1 NAAQMS/36/2012-13
08	VOC(BTX)	-	ppm	BDL	GC Method

Note: BDL: Below Detection Limit
For EARTH CARE ENVIRO SOLUTIONS PVT. LTD.

AUTHORISED SIGNATORY:
(SURESH MORADIA)

PREPARED BY:
(TECHNICAL MANAGER)

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TEST REPORT/CERTIFICATE

NAME & ADDRESS OF CUSTOMER: M/s. Hindusthan Chemicals Company GIDC Industrial Estate, P.O. Olpad, Tal.: Olpad, Dist.: Surat-394540		CERTIFICATE NO: 292/4
		ISSUE DATE: 26/08/2020
SAMPLE DESCRIPTION:	Ambient Nr. R & D Plant	LAB ID: 13/8
SAMPLE COLLECTED BY:	Earth Care Enviro Solutions Pvt. Ltd.	SAMPLE QUANTITY: Absorbing Media for each Gas & Filter papers for each PM
SAMPLING DATE:	06/08/2020	SAMPLING TIME: 24 Hour
PROTOCOL(PURPOSE):	Twice in a Month	SAMPLE ID NO: EESPL20080605
SAMPLING METHOD:	EESPL/SOP/AIR/01	PACKING/SEAL: Sealed
SAMPLE RECEIVED DATE:	07/08/2020	SAMPLE RECEIVED TIME: 10:00 am
TEST START DATE:	07/08/2020	TEST COMPLETION DATE: 26/08/2020

AMBIENT TEMPRATURE:	MINIMUM: 26 °C	MAXIMUM: 30 °C
RELATIVE HUMIDITY:	MINIMUM: 88 %	MAXIMUM: 95 %
WIND DIRECTION:	SW	WIND SPEED: 12.0 Km/h

RESULT TABLE:

SR. NO:	PARAMETER	Permissible Limit	UNIT	RESULT	TEST METHOD
01	PM _{2.5}	60	µg/m ³	20.6	CPCB Guideline, Vol-1 NAAQMS/36/2012-13
02	PM ₁₀	100	µg/m ³	32.4	IS: 5182 (Part 23): 2006 Reff.2017
03	Sulphur Dioxide(SO ₂)	80	µg/m ³	0.46	IS: 5182 (Part 2): 2001 Reff.2017
04	Oxides of Nitrogen(NO _x)	80	µg/m ³	0.62	IS: 5182 (Part 6): 2016 Reff.2017
05	HCL	-	µg/m ³	BDL	EPA method
06	HCN	-	µg/m ³	BDL	Chromatographic method
07	NH ₃	-	µg/m ³	1.9	CPCB Guideline, Vol-1 NAAQMS/36/2012-13
08	VOC(BTX)	-	ppm	BDL	GC Method

Note: BDL: Below Detection Limit
For EARTH CARE ENVIRO SOLUTIONS PVT. LTD.

Suresh Moradia
AUTHORISED SIGNATORY:
(SURESH MORADIA)

J.P.P.
PREPARED BY:
(TECHNICAL MANAGER)

END OF TEST REPORT/CERTIFICATE



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TEST REPORT / CERTIFICATE

NAME & ADDRESS OF CUSTOMER: M/s. Hindusthan Chemicals Company GIDC Industrial Estate, P.O. Olpad, Tal.: Olpad, Dist.: Surat-394540		CERTIFICATE NO:	292/5
		ISSUE DATE:	26/08/2020
SAMPLE DESCRIPTION:	Ambient Nr. Main Gate	LAB ID:	60/8
SAMPLE COLLECTED BY:	Earth Care Enviro Solutions Pvt. Ltd.	SAMPLE QUANTITY:	Absorbing Media for each Gas & Filter papers for each PM
SAMPLING DATE:	20/08/2020	SAMPLING TIME:	24 Hour
PROTOCOL(PURPOSE):	Twice in a Month	SAMPLE ID NO:	EESPL20082002
SAMPLING METHOD:	EESPL/SOP/AIR/01	PACKING/SEAL:	Sealed
SAMPLE RECEIVED DATE:	21/08/2020	SAMPLE RECEIVED TIME:	10:10 am
TEST START DATE:	21/08/2020	TEST COMPLETION DATE:	26/08/2020

AMBIENT TEMPRATURE:	MINIMUM: 25 °C	MAXIMUM: 31 °C
RELATIVE HUMIDITY:	MINIMUM: 86 %	MAXIMUM: 90 %
WIND DIRECTION:	SW	WIND SPEED: 18.0 Km/h

RESULT TABLE:

SR. NO:	PARAMETER	Permissible Limit	UNIT	RESULT	TEST METHOD
01	PM _{2.5}	60	µg/m ³	23.4	CPCB Guideline, Vol-1 NAAQMS/36/2012-13
02	PM ₁₀	100	µg/m ³	38.0	IS: 5182 (Part 23): 2006 Reff.2017
03	Sulphur Dioxide(SO ₂)	80	µg/m ³	0.64	IS: 5182 (Part 2): 2001 Reff.2017
04	Oxides of Nitrogen (NO _x)	80	µg/m ³	0.82	IS: 5182 (Part 6): 2016 Reff.2017
05	HCL	-	µg/m ³	BDL	EPA method
06	HCN	-	µg/m ³	BDL	Chromatographic method
07	NH ₃	-	µg/m ³	3.0	CPCB Guideline, Vol-1 NAAQMS/36/2012-13
08	VOC(BTX)	-	ppm	BDL	GC Method

Note: BDL: Below Detection Limit

For EARTH CARE ENVIRO SOLUTIONS PVT. LTD.


 AUTHORISED SIGNATORY:
 (SURESH MORADIA)


 PREPARED BY:
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TEST REPORT/CERTIFICATE

NAME & ADDRESS OF CUSTOMER: M/s. Hindusthan Chemicals Company GIDC Industrial Estate, P.O. Olpad, Tal.: Olpad, Dist.: Surat-394540		CERTIFICATE NO: 292/6
		ISSUE DATE: 26/08/2020
SAMPLE DESCRIPTION: Ambient Nr. ADM Building	LAB ID: 61/8	
SAMPLE COLLECTED BY: Earth Care Enviro Solutions Pvt. Ltd.	SAMPLE QUANTITY: Absorbing Media for each Gas & Filter papers for each PM	
SAMPLING DATE: 20/08/2020	SAMPLING TIME: 24 Hour	
PROTOCOL(PURPOSE): Twice in a Month	SAMPLE ID NO: EESPL20082003	
SAMPLING METHOD: EESPL/SOP/AIR/01	PACKING/SEAL: Sealed	
SAMPLE RECEIVED DATE: 21/08/2020	SAMPLE RECEIVED TIME: 10:10 am	
TEST START DATE: 21/08/2020	TEST COMPLETION DATE: 26/08/2020	

AMBIENT TEMPRATURE:	MINIMUM: 25 °C	MAXIMUM: 31 °C
RELATIVE HUMIDITY:	MINIMUM: 86 %	MAXIMUM: 90 %
WIND DIRECTION:	SW	WIND SPEED: 18.0 Km/h

RESULT TABLE:

SR. NO:	PARAMETER	Permissible Limit	UNIT	RESULT	TEST METHOD
01	PM _{2.5}	60	µg/m ³	19.4	CPCB Guideline, Vol-1 NAAQMS/36/2012-13
02	PM ₁₀	100	µg/m ³	28.9	IS: 5182 (Part 23): 2006 Reff.2017
03	Sulphur Dioxide(SO ₂)	80	µg/m ³	0.48	IS: 5182 (Part 2): 2001 Reff.2017
04	Oxides of Nitrogen(NO _x)	80	µg/m ³	0.64	IS: 5182 (Part 6): 2016 Reff.2017
05	HCL		µg/m ³	BDL	EPA method
06	HCN	-	µg/m ³	BDL	Chromatographic method
07	NH ₃	-	µg/m ³	1.8	CPCB Guideline, Vol-1 NAAQMS/36/2012-13
08	VOC(BTX)	-	ppm	BDL	GC Method

Note: BDL: Below Detection Limit

For EARTH CARE ENVIRO SOLUTIONS PVT. LTD.

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AUTHORISED SIGNATORY:
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Suresh Moradia
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TEST REPORT/CERTIFICATE

NAME & ADDRESS OF CUSTOMER: M/s. Hindusthan Chemicals Company GIDC Industrial Estate, P.O. Olpad, Tal.: Olpad, Dist.: Surat-394540		CERTIFICATE NO: 292/7	
		ISSUE DATE: 26/08/2020	
SAMPLE DESCRIPTION: Ambient Nr. HCN Control Room		LAB ID: 62/8	
SAMPLE COLLECTED BY: Earth Care Enviro Solutions Pvt. Ltd.		SAMPLE QUANTITY: Absorbing Media for each Gas & Filter papers for each PM	
SAMPLING DATE: 20/08/2020		SAMPLING TIME: 24 Hour	
PROTOCOL(PURPOSE): Twice in a Month		SAMPLE ID NO: EESPL20082004	
SAMPLING METHOD: EESPL/SOP/AIR/01		PACKING/SEAL: Sealed	
SAMPLE RECEIVED DATE: 21/08/2020		SAMPLE RECEIVED TIME: 10:10 am	
TEST START DATE: 21/08/2020		TEST COMPLETION DATE: 26/08/2020	

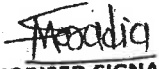
AMBIENT TEMPRATURE:	MINIMUM: 25 °C	MAXIMUM: 31 °C
RELATIVE HUMIDITY:	MINIMUM: 86 %	MAXIMUM: 90 %
WIND DIRECTION:	SW	WIND SPEED: 18.0 Km/h

RESULT TABLE:

SR. NO:	PARAMETER	Permissible Limit	UNIT	RESULT	TEST METHOD
01	PM _{2.5}	60	µg/m ³	29.0	CPCB Guideline, Vol-1 NAAQMS/36/2012-13
02	PM ₁₀	100	µg/m ³	42.8	IS: 5182 (Part 23): 2006 Reff.2017
03	Sulphur Dioxide(SO ₂)	80	µg/m ³	0.84	IS: 5182 (Part 2): 2001 Reff.2017
04	Oxides of Nitrogen(NO _x)	80	µg/m ³	1.02	IS: 5182 (Part 6): 2016 Reff.2017
05	HCL	-	µg/m ³	BDL	EPA method
06	HCN	-	µg/m ³	BDL	Chromatographic method
07	NH ₃	-	µg/m ³	2.6	CPCB Guideline, Vol-1 NAAQMS/36/2012-13
08	VOC(BTX)	-	ppm	BDL	GC Method

Note: BDL: Below Detection Limit

For EARTH CARE ENVIRO SOLUTIONS PVT. LTD.


AUTHORISED SIGNATORY:
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TEST REPORT/CERTIFICATE

NAME & ADDRESS OF CUSTOMER: M/s. Hindusthan Chemicals Company GIDC Industrial Estate, P.O. Olpad, Tal.: Olpad, Dist.: Surat-394540-		CERTIFICATE NO: 292/8
		ISSUE DATE: 26/08/2020
SAMPLE DESCRIPTION:	Ambient Nr. R & D plant	LAB ID: 63/8
SAMPLE COLLECTED BY:	Earth Care Enviro Solutions Pvt. Ltd.	SAMPLE QUANTITY: Absorbing Media for each Gas & Filter papers for each PM
SAMPLING DATE:	20/08/2020	SAMPLING TIME: 24 Hour
PROTOCOL(PURPOSE):	Twice in a Month	SAMPLE ID NO: EESPL20082005
SAMPLING METHOD:	EESPL/SOP/AIR/01	PACKING/SEAL: Sealed
SAMPLE RECEIVED DATE:	21/08/2020	SAMPLE RECEIVED TIME: 10:10 am
TEST START DATE:	21/08/2020	TEST COMPLETION DATE: 26/08/2020

AMBIENT TEMPRATURE:	MINIMUM: 25 °C	MAXIMUM: 31 °C
RELATIVE HUMIDITY:	MINIMUM: 86 %	MAXIMUM: 90 %
WIND DIRECTION:	SW	WIND SPEED: 18.0 Km/h

RESULT TABLE:

SR. NO:	PARAMETER	Permissible Limit	UNIT	RESULT	TEST METHOD
01	PM _{2.5}	60	µg/m ³	16.9	CPCB Guideline, Vol-1 NAAQMS/36/2012-13
02	PM ₁₀	100	µg/m ³	32.0	IS: 5182 (Part 23): 2006 Reff.2017
03	Sulphur Dioxide(SO ₂)	80	µg/m ³	0.40	IS: 5182 (Part 2): 2001 Reff.2017
04	Oxides of Nitrogen(NO _x)	80	µg/m ³	0.52	IS: 5182 (Part 6): 2016 Reff.2017
05	HCL	-	µg/m ³	BDL	EPA method
06	HCN	-	µg/m ³	BDL	Chromatographic method
07	NH ₃	-	µg/m ³	2.4	CPCB Guideline, Vol-1 NAAQMS/36/2012-13
08	VOC(BTX)	-	ppm	BDL	GC Method

Note: BDL: Below Detection Limit

For EARTH CARE ENVIRO SOLUTIONS PVT. LTD.


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