F. No.J-11011/117/2019-IA-II (I)
Government of India
Ministry of Environment, Forest & Climate Change
Impact Assessment Division
***

Indira Paryavaran Bhavan,
Vayu Wing, 3rd Floor, Aliganj,
Jor Bagh Road, New Delhi-110 003

Dated: 7th January, 2020

To,

M/s Neogen Chemicals Limited,
115, Vardhaman Industrial Complex,
Old Agra Road,
Thane (W)- 400601 (Maharashtra),

Sub: Setting up fine chemicals and Agro Intermediates manufacturing unit by M/s Neogen Chemicals Limited at Plot No. Z/109, SEZ Dahej, Tehsil: Vagra, District Bharuch (Gujarat) - Environmental Clearance - reg.

Sir,

This has reference to your online proposal No. IA/GJ/IND2/100557/2019 dated 31st August, 2019 for environmental clearance to the above project.

2. The Ministry of Environment, Forest and Climate Change has considered the proposal for environmental clearance to the project for setting up fine chemicals and Agro Intermediates manufacturing unit by M/s Neogen Chemicals Limited in an area of 50012 sqm located at Plot No. Z/109, SEZ Dahej, Tehsil Vagra, District Bharuch (Gujarat).

3. The details of proposed products are as under:

S. No.	Name of Products	End use	Quantity	
			(TPA)	(TPM)
1	**Bromination and Chlorination of Alcohols such as;** 1.1. Ethyl Bromide; 1.2. n-Propyl Bromide; 1.3. Iso Propyl Bromide; 1.4. n-Butyl Bromide; 1.5. Iso Butyl Bromide; 1.6. Sec-Butyl Bromide; 1.7. n-Hexyl Bromide; 1.8. n-Heptyl Bromide; 1.9. n-Octyl Bromide; 1.10. n-Decyl Bromide; 1.11. Lauryl Bromide; 1.12. Cetyl Bromide; 1.13. Myristyl Bromide; 1.14. Stearyl Bromide; 1.15. 1,2 Dibromo Ethane; 1.16. 1,3 Dibromo Propane; 1.17. 1,4 Dibromo Butane; 1.18. 1,5 Dibromo pentane; 1.19. 1,6 Dibromo Hexane;	Fine chemicals and agro intermediates	3500	291.7

	1.20. 1 Chloro 2 Ethyl Hexane; 1.21. 6 Chloro 1 Hexanol; 1.22. 3 Chloro Propanol; 1.23. 1,6 Dichloro Hexane; 1.24. Cyclo Propyl Methyl Bromide; 1.25. CycloPentyl Bromide; 1.26. CycloPentyl Chloride; 1.27. 6-bromohexanol; 1.28. 8-bromooctanol; 1.29. 10-bromodecanol;			
2	**Bromination of Organic Acids and Esterification thereof such as;** 2.1 2 Bromo propionic Acid; 2.2 2 Bromo Propionyl Bromide; 2.3 5 Bromo Valeric Acid; 2.4 2 Bromo Hexanoic Acid; 2.5 Sodium 2 Bromo Propionate; 2.6 Ethyl 3 Bromo Propionate; 2.7 Methyl 2 Bromo Butyrate; 2.8 Ethyl 2 Bromo Butyrate; 2.9 Ethyl 4 Bromo Butyrate; 2.10 Methyl 2 Bromo Iso Butyrate; 2.11 Ethyl 2 Bromo Iso Butyrate; 2.12 Iso Propyl 2 Bromo Iso Butyrate; 2.13 Ethyl 2 Bromo Valerate; 2.14 Methyl 2 Bromo valerate 2.15 Ethyl 5 Bromo Valerate; 2.16 Tert-Butyl 2 Bromo Iso Butyrate; 2.17 Methyl 2 Bromo Caproate;	Fine chemicals	3500	291.7
3	**Grignards Formation from Organic Halides such as;** 3.1 Methyl Magnesium Chloride 3M in THF; 3.2 Methyl Magnesium Bromide1.5M in THF; 3.3 Ethyl Magnesium Chloride 2M in THF; 3.4 Ethyl Magnesium Bromide 2M in THF; 3.5 Vinyl Magnesium Bromide in 1M in THF; 3.6 Isopropyl Magnesium Chloride 1M in THF; 3.7 Phenyl Magnesium Bromide 2M in THF; 3.8 n-Butyl Magnesium Chloride 1M in THF; 3.9 Iso Propyl Magnesium Chloride–Li Cl Complex 1.3M in THF; 3.10 Iso Propyl Magnesium Bromide 1M in THF;	Fine chemicals	1000	83.3
4	**Halogen Exchange Reactions such as;** 4.1 1 Bromo 2 Chloro Ethane; 4.2 1 Bromo 4 Chloro Butane; 4.3 1 Bromo 5 Chloro Pentane; 4.4 1 Bromo 6 Chloro Hexane; 4.5 Bromo Fluoro Methane;	Fine chemicals and agro intermediates	2000	166.7

	4.6 Methylene Dibromide; 4.7 Bromo Chloro Methane; 4.8 5 IodoValeric Acid Ethyl Ester; 4.9 2 Bromo HeptaFluoro Propane; 4.10 2 Methyl Allyl Bromide;			
5	**Addition of Halogen and Halogen Acids across Double Bonds such as;** 5.1 Ethylene Dibromide; 5.2 Phenyl Ethyl Bromide; 5.3 1Bromo 3 Chloro Propane; 5.4 n-Hexyl Bromide; 5.5 n-Octyl Bromide; 5.6 n-Decyl Bromide; 5.7 CycloPentyl Bromide; 5.8 CycloPentyl Chloride; 5.9 1,2 Dibromo 3 Chloro Propane; 5.10 1,2 Dibrmohexafluoro Propane; 5.11 1,4 dibromo 2 butene; 5.12 1,1 Dibromo 3 chloro Propane;	Fine chemicals and agro intermediates	2500	208.3
6	**Bromination or Chlorination of Cyclic and Aromatic Compounds with or Without Functional Groups such as;** 6.1 Bromo Benzene; 6.2 Di Bromo Benzene; 6.3 Ethyl 4 Bromo Methyl Benzoate; 6.4 1 Bromo 4 Chloro Benzene; 6.5 p- Bromo Toluene; 6.6 4 Bromo O Xylene; 6.7 2 Chloro 1,4 Naphthaquinone; 6.8 1 Bromo 4 Fluoro Benzene; 6.9 4 Bromo Methyl 2 Cyano Biphenyl (Bromo OTBN); 6.10 1 Bromo 3,4 Dichloro Benzene; 6.11 Deca-DPE; 6.12 Tribromophenol; 6.13 1 Bromo 2 4 difluorobenzene; 6.14 4 bromo benzyl bromide; 6.15 2 bromo 4 fluoro aniline; 6.16 4 nitrobenzyl bromide; 6.17 Decabromodiphenyl oxide; 6.18 4 bromo phenol; 6.19 4 bromo anisole; 6.20 TBBE DGE; 6.21 Tetra bromophthalic anhydride;	Fine chemicals and agro intermediates	2500	208.3
7	**Dehydrohalogenation of Organic Halides with or without functional Group Such as;** 7.1 Vinyl Bromide; 7.2 Vinyl Bromide in 25% THF; 7.3 Vinyl Chloride; 7.4 4 Bromo 1 Butene; 7.5 6 Bromo 1 Hexene; 7.6 7 Bromo 1 Heptene; 7.7 8 Bromo 1 Octene; 7.8 5 Bromo 1 Pentene;	Fine chemicals	1000	83.3
8	**Advance Intermediates from Category 1 to 7 Such as;**	Fine chemicals	2000	166.7

	8.1 6 Methoxy 2 Naphthaldehyde; 8.2 2 Fluoro 5 Bromo Benzonitrile; 8.3 Ethyl 4-(dimethyl amino) Butyrate; 8.4 Bromo Acetal; 8.5 6 Bromo Hexyl Trimethyl Ammonium bromide; 8.6 1 Bromo 3 Phenoxy Propane; 8.7 6 Chloro 2 Hexanone; 8.8 n-Octyl Amine; 8.9 Bifenthrin Alcohol; 8.10 Ethyl 7 Chloro 2 Oxo Heptanoate; 8.11 1 Bromo 6 Methyl Heptane; 8.12 Methyl 3 Oxo Pentanoate; 8.13 TBC; 8.14 3,4 DFBA; 8.15 Homophthal; 8.16 L-valine OTBN; 8.17 Tetrazole; 8.18 DEMBB; 8.19 Tetralone; 8.20 6 Chloro hexanol tetra hydro pyran derivative; 8.21 3 bromo propyl trimethyl ammonium bromide; 8.22 6 bromohexanol tetra hydro pyran derivative; 8.23 8 bromohexanoltetrahydropyran derivative; 8.24 10 bromotetrahydropyran derivative; 8.25 2-amino-3',4'-difluorobiphenyl	and agro intermediates		
9	2-Cyclopropyl 6-Methyl Phenol	Fine chemicals and Agro intermediates	60	5
10	**R&D**	--	**600**	**50**
		Total	**18660**	**1555**

4. Total land area is 50012 sqm. Greenbelt will be developed in **33**% i.e. 16505 sqm of the total project area. The estimated project cost will be Rs.150 Crores. Total capital cost earmarked towards environmental pollution control measures will be Rs. 8.25 crores and the Recurring cost (operation and maintenance) will be about Rs. 4.5Croresper annum. Total employment including direct and indirect will be 350 persons.

5. There are no National Parks, Wildlife Sanctuaries, Biosphere Reserves, Tiger/Elephant Reserves and Wildlife Corridors etc. within 10 km distance from the project site.

6. The total water requirement is 562 cum/day including fresh water requirement of 357 cum/day proposed to be met from GIDC water supply. Industrial effluent of 173 KLD will be treated in ETP having primary, primary-secondary-tertiary treatment units. After treatment, effluent will pass though RO, RO permeate will be recycle and reject will be evaporate in MEE and ATFD. Condensate water recycle and salt will be disposed off at approved TSDF site. Domestic wastewater (40 KLD) will be treated in STP and treated water will be utilized for Greenbelt development. There will be no discharge of treated/untreated waste water from the unit, and thus ensuring Zero Liquid Discharge.

Power requirement of 2000 kVA will be met from Daxin Gujarat VijCompany Ltd. (DGVCL). Three D.G. sets of 250 kVA capacity each will be installed and used as standby during power failure. Stack (height 21 meters) will be provided as per CPCB norms. Proposed unit will have3 nos. of PNG/FO fired Boiler of capacity 2 TPH each. Stack height of 40 m will be provided for the proposed boiler.

7. The project/activity is covered under category B of item 5(f) 'Synthetic organic chemical industry' and category A of item 5(b) 'Pesticides industry and pesticide specific intermediates (excluding formulations)' of the schedule to the Environment Impact Assessment (EIA) Notification and requires appraisal at central level by sectoral Expert Appraisal Committee (EAC).

8. The standard ToR for the project was granted by the Ministry on 28th April, 2019. As per Ministry's OM dated 27th April, 2018, public hearing is exempted as provided under para 7 (i) III.Stage (3)(i)(b) of EIA Notification, 2006, being project site is located inside the notified industrial area.

9. The proposal was considered by the Expert Appraisal Committee (Industry-2) in its meeting held on 23-25 October, 2019, wherein the project proponent and their accredited consultant presented the EIA/EMP report. The Committee found the EIA/EMP report to be satisfactory, complying with the ToR, and recommended the project for grant of environmental clearance.

10. Based on the proposal submitted by the project proponent and recommendations of the EAC (Industry-2), Ministry of Environment, Forest and Climate change hereby accords environmental clearance to the project for **setting up fine chemicals and Agro Intermediates manufacturing unit by M/s Neogen Chemicals Limited in an area of 50012 sqm located at Plot No. Z/109, SEZ Dahej, Tehsil Vagra, District Bharuch (Gujarat)**, under the provisions of the EIA Notification, 2006, subject to the compliance of terms and conditions as below:-

A. Specific Conditions:

i. No raw material/solvent prohibited by the concerned regulatory authorities from time to time, shall be used.
ii. No pesticides/chemicals banned by the Ministry of Agriculture and Farmers Welfare, or having LD_{50}<100 mg/kg shall be produced. Also, no raw material/solvent prohibited by the concerned regulatory authorities from time to time, shall be used for production of pesticides.
iii. Solvent management shall be carried out as follows:
    (a) Reactor shall be connected to chilled brine condenser system.
    (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.
    (f) Entire plant shall be flame proof. The solvent storage tanks shall be provided with breather valve to prevent losses.
    (g) All the solvent storage tanks shall be connected with vent condensers with chilled brine circulation.

B. General Conditions:

I. Statutory compliance

i. The project proponent shall obtain Consent to Establish / Operate under the provisions of Air (Prevention & Control of Pollution) Act, 1981 and the Water (Prevention & Control of Pollution) Act, 1974 from the concerned State pollution Control Board/ Committee.

ii. The project proponent shall obtain authorization under the Hazardous and other Waste Management Rules, 2016 as amended from time to time.

iii. The Company shall strictly comply with the rules and guidelines under Manufacture, Storage and Import of Hazardous Chemicals (MSIHC) Rules, 1989 as amended time to time. All transportation of Hazardous Chemicals shall be as per the Motor Vehicle Act (MVA), 1989.

II. Air quality monitoring and preservation

i. The project proponent shall install 24x7 continuous emission monitoring system at process stacks to monitor stack emission with respect to standards prescribed in Environment (Protection) Rules 1986 and connected to SPCB and CPCB online servers and calibrate these system from time to time according to equipment supplier specification through labs recognised under Environment (Protection) Act, 1986 or NABL accredited laboratories.

ii. The project proponent shall monitor fugitive emissions in the plant premises at least once in every quarter through labs recognised under Environment (Protection) Act, 1986.

iii. The project proponent shall install system to carryout Ambient Air Quality monitoring for common/criterion parameters relevant to the main pollutants released (e.g. PM_{10} and $PM_{2.5}$ in reference to PM emission, and SO_2 and NOx in reference to SO_2 and NOx emissions) within and outside the plant area at least at four locations (one within and three outside the plant area at an angle of 120° each), covering upwind and downwind directions.

iv. To control source and the fugitive emissions, suitable pollution control devices shall be installed to meet the prescribed norms and/or the NAAQS. Sulphur content should not exceed 0.5% in the coal for use in coal fired boilers to control particulate emissions within permissible limits (as applicable). The gaseous emissions shall be dispersed through stack of adequate height as per CPCB/SPCB guidelines.

v. Storage of raw materials, coal etc shall be either stored in silos or in covered areas to prevent dust pollution and other fugitive emissions.

vi. National Emission Standards for Organic Chemicals Manufacturing Industry issued by the Ministry vide G.S.R. 608(E) dated 21st July, 2010 and amended from time to time shall be followed.

vii. The National Ambient Air Quality Emission Standards issued by the Ministry vide G.S.R. No. 826(E) dated 16th November, 2009 shall be complied with.

III. Water quality monitoring and preservation

i. The project proponent shall provide online continuous monitoring of effluent, the unit shall install web camera with night vision capability and flow meters in the channel/drain carrying effluent within the premises (applicable in case of the projects achieving ZLD)

ii. As already committed by the project proponent, Zero Liquid Discharge shall be ensured and no waste/treated water shall be discharged outside the premises (applicable in case of the projects achieving the ZLD).

iii. Total fresh water requirement shall not exceed 357 cum/day, proposed to be met from GIDC water supply. Prior permission in this regard shall be obtained from the concerned regulatory authority.

iv. Process effluent/any wastewater shall not be allowed to mix with storm water. The storm water from the premises shall be collected and discharged through a separate conveyance system.
v. The Company shall harvest rainwater from the roof tops of the buildings and storm water drains to recharge the ground water and utilize the same for different industrial operations within the plant.
vi. The DG sets shall be equipped with suitable pollution control devices and the adequate stack height so that the emissions are in conformity with the extant regulations and the guidelines in this regard.

IV. Noise monitoring and prevention

i. Acoustic enclosure shall be provided to DG set for controlling the noise pollution.
ii. 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.
iii. The ambient noise levels should conform to the standards prescribed under E(P)A Rules, 1986 viz. 75 dB(A) during day time and 70 dB(A) during night time.

V. Energy Conservation measures

i. The energy sources for lighting purposes shall preferably be LED based.

VI. Waste management

i. Hazardous chemicals shall be stored in tanks, tank farms, drums, carboys etc. Flame arresters shall be provided on tank farm and the solvent transfer through pumps.
ii. Process organic residue and spent carbon, if any, shall be sent to cement industries. ETP sludge, process inorganic & evaporation salt shall be disposed off to the TSDF.
iii. The company shall undertake waste minimization measures as below:-
    a. Metering and control of quantities of active ingredients to minimize waste.
    b. Reuse of by-products from the process as raw materials or as raw material substitutes in other processes.
    c. Use of automated filling to minimize spillage.
    d. Use of Close Feed system into batch reactors.
    e. Venting equipment through vapour recovery system.
    f. Use of high pressure hoses for equipment clearing to reduce wastewater generation.

VII. Green Belt

i. The green belt of at least 4-5m width (two rows) shall be developed in nearly 33% of the total project area, mainly along the plant periphery, in downward wind direction, and along road sides etc. Selection of plant species shall be as per the CPCB guidelines in consultation with the State Forest Department.

VIII. Safety, Public hearing and Human health issues

i. Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.
ii. The unit shall make the arrangement for protection of possible fire hazards during manufacturing process in material handling. Fire fighting system shall be as per the norms.
iii. The PP shall provide Personal Protection Equipment (PPE) as per the norms of Factory Act.
iv. 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.

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

vi. There shall be adequate space inside the plant premises earmarked for parking of vehicles for raw materials and finished products, and no parking to be allowed outside on public places.

IX. Corporate Environment Responsibility

i. At least Rs. 2.25 Crores shall be allocated for Corporate Environment Responsibility (CER) and item-wise details along with time bound action plan shall be prepared and submitted to the Ministry's Regional Office.

ii. The company shall have a well laid down environmental policy duly approve by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest /wildlife norms/ conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.

iii. A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly to the head of the organization.

iv. Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.

v. Self environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.

X. Miscellaneous

i. The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.

ii. The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.

iii. The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.

iv. The project proponent shall monitor the criteria pollutants level namely; PM_{10}, SO_2, NOx (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company.

v. The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.

vi. The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.

vii. The project proponent 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, commencing the land development work and start of production operation by the project.

viii. The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.

ix. The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.

x. No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).

xi. The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.

xii. The above conditions shall 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, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.

11. 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.

12. 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.

13. 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.

14. 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.

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

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

(डा. आर. बी. लाल)
(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

Copy to: -

1. The Principal Secretary, Forests & Environment Department, Government of Gujarat, Sachivalaya, 8th Floor, **Gandhi Nagar** - 382 010 (Gujarat)
2. The Additional PCCF (Western Zone), MoEF&CC, Regional Office, E-5, Arera Colony, Link Road -3, Ravishankar Nagar, **Bhopal** - 462 016 (MP)
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 10 A, **Gandhi Nagar**-382 043 (Gujarat)
5. Monitoring Cell, Ministry of Environment, Forest and Climate Change, Indira Paryavaran Bhawan, Jor Bagh Road, **New Delhi** – 3
6. District Collector, **Bharuch**, (Gujarat)
7. Guard File/Record File/Monitoring File/Website of MoEF&CC

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