

Executive Summary

of

EIA report

by

M/s. Macro Polymers Pvt. Ltd.

Plot No. D-01 to D-06, Survey No. 382

Village: Chacharvadi, Ta: Sanand,

Dist: Ahmedabad,

Gujarat

Prepared by

San Envirotech Pvt. Ltd.

424, Medicine Market

Opp. Shefali Centre

Paldi,

Ahmedabad

Email: mahendra.sepl@gmail.com

EQMS India Pvt. Ltd.

304,305, Rishabh Tower,

Plot No. 16, Community

Centre, Karkardooma,

New Delhi

Email: egms@eqmsindia.org

EXECUTIVE SUMMARY

E-1 BACKGROUND

The industrial sectors have played major role in the economic development of the country. Gujarat is a one of the well developed industrialized state, has a significant contribution in industrial as well as economic development of the country.

Macro Polymers Pvt. Ltd. has proposed to start synthetic resin manufacturing facility at Plot No. D-01 to D-06 A & S. No. 382, Village: Chacharwadi, Taluka: Sanand, Dist.: Ahmedabad, Gujarat.

The unit is proposed to manufacture 15,000 MT/Month synthetic resins and 20,000 MT/Month of formulation of resin. During the production process, there will be generation of 3650 MT/Month caustic lye (45%) as by product.

The total area of the premises will be 28,166 m².

E-2 PROJECT DESCRIPTION

Location of project

Resin manufacturing unit is proposed to set up at Plot No. D-01 to D-06 A & S. No. 382, Village: Chacharwadi, Taluka: Sanand, Dist: Ahmedabad, Gujarat. The location of the project site is given here under in terms of longitude and latitude.

Latitude: 22^o52'14.34" N

Longitude: 72^o25'28.64" E

Site Selection

The site selection plays major role in industrial development, its economic development and management.

The selection of the project site at this location was considered on the availability of the following amenities:

- The nearest town is Bavla, which is around 15 km from proposed site. Nearest airport is Ahmedabad which is around 35 km from project site.

- The location of the project is very well connected with other parts of the country by road & rail.
- Availability of all basic facilities like fuel, water, power, man power, raw materials, etc.
- Good communication and transportation facilities
- No R & R will be required
- No national parks or wildlife habitats fall within 10 km radius of location.

E-3 PROPOSED PRODUCTION CAPACITIES OF PLANT

M/s. Macro Polymers Pvt. Ltd. will set up synthetic resin and formulation plant with capacity of 15000 MT/month and 20000 MT/Month respectively.

Detail of Products

Sr. No.	Name of Products	Production Capacity (MT/Month)
Resins		15000
1.	Alkyd Resins	5000
2.	Polyamide Resins	2500
3.	Polyester Resin	2500
4.	Amino Resin	2000
5.	Ketonic Resin	500
6.	Acrylic Resins	2000
7.	Rosin esters and derivatives	500
Formulation Plant		20000
1.	Resin Solution	10000
2.	Resin Modification	10000
By product		
1.	Caustic Lye -45 %	3650

Investment of the project

The expected cost of the proposed project will be around Rs. 28 Crores. Out of which, Rs. 90 lacs will be earmarked for development of EMS (Environment Management Systems).

E-4 DESCRIPTION OF ENVIRONMENT

To predict the impact of the proposed activities on the surrounding environment, the current baseline environmental status was studied by collecting the data and carrying out monitoring for the period of March-2012 to May-2012.

The environmental quality has been analyzed with respect to ambient air quality, water quality, noise levels, soil characteristics, flora & fauna and parameters concerning human interest. Based on the data, the relevant impacts on various environmental components were also predicted by using appropriate mathematical models as well as impact assessment techniques. An appropriate environmental management plan was also delineated to minimize the adverse impacts.

E-5 AIR ENVIRONMENT

The ambient air quality monitoring was carried out at six AAQM locations, with a frequency of twice a week, to assess the existing sub-regional air quality status during the month of March-2012 to May-2012. Respirable Dust Sampler along with the analytical methods prescribed by CPCB was used for carrying out air quality monitoring. At all these sampling locations; PM₁₀, SO₂ and NO_x were monitored on 24-hourly basis to enable the comparison with ambient air quality standards prescribed by the Central Pollution Control Board.

The data on concentrations of various pollutants were processed for different statistical parameters like arithmetic mean, standard deviation, minimum and maximum concentration and various percentile values.

Particulate Matter (PM₁₀)

An average and 98th percentile value of 24-hourly PM₁₀ values at all the locations ranged between 65.2-76.0 µg/m³ and 72.0-83.0 µg/m³ whereas the stipulated standard of CPCB for industrial areas is 100 µg/m³.

Sulphur Dioxide (SO₂)

An average and 98th percentile value of 24-hourly SO₂ value of arithmetic mean at all the locations ranged between 19.0-23.5 µg/m³ and 22.5-28.5 µg/m³ respectively, which are well within the stipulated standards of 80 µg/m³ for industrial areas.

Oxides of Nitrogen (NO_x)

An average and 98th percentile value of 24 hourly NO_x value of arithmetic mean at all the locations ranged between 20.9-23.8 µg/m³ and 23.9-29.3 µg/m³ respectively, which are much lower than the standards stipulated by CPCB for industrial areas (i.e. 80 µg/m³).

E-6 WATER ENVIRONMENT

Ground water quality

Color: All the samples were color less meeting desirable norms.

pH: All the samples meet the desirable standards (pH ranges from 7.2 to 7.9).

Total Dissolved Solids (TDS): TDS in samples ranges from 1024 mg/L (Vasna Chacharvadi) to 1301 mg/L (Kavitha). All the samples meet the permissible limit of 2000 mg/l, (If alternate sources of potable water are not available).

Calcium: Calcium contents in the water ranges from 47 mg/L (Nr. Project site) to 76 mg/L (Kavitha), all the samples meet the permissible limit of 200 mg/L, (If alternate sources of potable water is not available)

Magnesium: Magnesium content in the water ranges from 38 mg/L (Nr. Project site) to 52 mg/L (Kavitha). All the samples meet even the permissible limit of 100 mg/L (if alternate source of potable water is not available).

Sulfate: Sulfate content in the water ranges from 97 mg/L (Nr. Project site) to 129 mg/L (Sari). All the samples meet the permissible limit of 400 mg/L for drinking water. (if alternate source of potable water is not available).

Fluoride: Fluoride content in the water ranges from 0.56 mg/L (Rasam) to 0.82 mg/L (Rajoda). All the samples meet the desirable limit (1.0 mg/L).

Total Alkalinity: Total alkalinity in the water samples ranges from 297 mg/L (Rasam) to 392 mg/L (Kavitha). All the samples are within the permissible limit of drinking water (600 mg/L) (if alternate source of portable water is not available).

Other Parameters: Potassium (ranges from 72 mg/L to 118 mg/L), Sodium (ranges from 285 mg/L to 345 mg/L) and Chloride (ranges from 429 mg/L to 542 mg/L).

Heavy metals like copper, lead, chromium, nickel and zinc are well below to prescribe limit in all samples.

Conclusions: Ground water samples from villages meet the permissible set by the authority (BIS).

E-7 NOISE ENVIRONMENT

The L_{eq} values of noise levels during daytime (L_d) varied between 51.9 to 61.2 dB (A). Highest L_d value was recorded at Bus stop of Rajoda Village (61.2 dB (A)). While the L_{eq} values of noise levels during night time (L_n) varied between 42.7 to 53.9 dB(A). Highest L_n value was recorded near Ahmedabad-Rajkot Road (53.9 dB (A)).

E-8 ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Air Environment

Source of Air Pollution

The main source of air pollution will be flue gas stacks attached to the boiler and Thermic fluid heater in which Coal/Lignite/bio-coal/ agro-residue will use as fuel. The most probable emitted pollutants will be SPM, SO₂ and NO_x.

Adequate air pollution control system such as cyclone separator and centrifugal scrubber will be installed to meet the environment standards.

HSD is used as fuel for D.G. set, which is used in case of emergency, or in case of power failure, the flue gas emission will also be well

within gaseous emission norms and there is no need of any air pollution control measures.

Air Quality Modelling and Predictions

It is predicted that the maximum contribution in GLCs, with units operating at full capacity, is $1.761 \mu\text{g}/\text{m}^3$, $0.644 \mu\text{g}/\text{m}^3$ and $0.448 \mu\text{g}/\text{m}^3$ for SPM, SO_2 and NO_x respectively are found negligible. The point of maximum concentration by unit would be 2.8 km from centre of industry in NE direction.

With this marginal contribution due to the proposal of the project, the levels of SPM, SO_2 and NO_x will be below the limit prescribed by CPCB.

Water Environment

The unit will fulfill its water demand through bore well. Fresh water requirement will be 45 KLD, which will be used for domestic, green belt as well as industrial purpose i.e. cooling.

The waste water generated from the ancillary industrial activity will be treated in adequate waste water treatment facility within the premises. This treated water will be utilized for on gardening, wet scrubbing of boiler and thermic heater flue gases. Hence, industry will achieve zero discharge.

Sewage shall be generated about 23 KL/day. Sewage shall be mixed with raw effluent and treated in the ETP

Thus, there will not be any major impact on the water environment due to proposed project.

Solid Waste Management

The entire quantity of hazardous waste will be handled and disposed as per Hazardous Waste (Management, Handling and Trans boundary Movement) Rules'2008, amended time to time. The main source of solid waste generation will be used oil, discarded containers and waste resin.

The unit will provide isolated area for the storage of hazardous waste with roof cover. Thus, hazardous waste management system proposed

by the unit will adequate and there will not be any major impact on the environment due to hazardous waste management.

Green Belt Development

The project proponent has proposed 5635 m² area for green belt development, which will be 20% of total area. Balance greenbelt development will be done in adjoining wasteland after due permission and both the side of approach road.

E-9 ENVIRONMENT MONITORING PROGRAM

The details of monitoring are as below:

Nature of Analysis	Frequency of Analysis with its Analyzer	Parameters
	Frequent or monthly	Monthly
Waste water analysis	Monthly by External agency	pH, COD, TDS, SS, Oil & Grease, NH ₃ -N etc.
Stack Monitoring of each stack	Monthly by External agency	PM, SO ₂ , NO _x
Ambient Air Quality Monitoring	Monthly for 24 hours or as per the statutory conditions by External agency	PM, SO ₂ , NO _x
Noise Pollution	Monthly as per the statutory conditions by External agency	Near main gate, near boiler, manufacturing area etc.
Work zone fugitive monitoring	Monthly by External agency	RPM, VOC

E-10 ADDITIONAL STUDIES

Qualitative Risk Analysis

Risk analysis study have been carried out for identification of hazards, selection of credible scenarios, Risk Mitigation measures etc. All the hazardous chemicals will be stored and handled as per MSDS guidelines.

E-11 PROJECT BENEFITS

The proposed project will become beneficial to the surrounding area or community in terms of infrastructural development, Social development, employment and other tangible benefits.

The proposed project has a potential for employment of skilled, semi-skilled and unskilled employees during construction phase as well as operational phase.

E-12 ENVIRONMENTAL MANAGEMENT PLAN

Overall objective of EMP

Prevention: Measures aimed at impeding the occurrence of negative environmental impacts and/or preventing such an occurrence having harmful environmental impacts.

Preservation: Preventing any future actions that might adversely affect an environmental resource or attribute.

Minimization: Limiting or reducing the degree, extent, magnitude, or duration of adverse impacts.

EMP for M/s. Macro Polymers Pvt. Ltd. project covers following aspects:

- Description of mitigation measures
- Description of monitoring program
- Institutional arrangements
- Implementation schedule.

E-13 CONCLUSION

Based on the study

- There will be no major impact on water environment as there will not be any industrial wastewater discharge from industry.
- Adequate APC measures are provided to mitigate air pollution.
- To prevent fugitive emission, various steps will be taken like regular sprinkling of water and pucca road, proper house keeping. Regular preventive maintenance of pipes, joints, flanges etc.

- Adequate arrangement for handling and disposal of hazardous/solid waste will be made.
- Fire protection and safety measures will be provided to take care of fire and explosion hazard.
- Qualitative risk analysis study will be followed to minimize accidents and for safe operations.
- Recommendations suggested in Environmental Management Plan will be followed to minimize the impact of proposed project.

Overall, direct and indirect employment opportunities, improvement in basic infrastructures by development of industry etc. will be observed with negligible impact on environment.

It can be concluded that on positive implementation of mitigation measures and environmental management plan during the construction and operational phase, there will be negligible impact on the environment.