EXECUTIVE SUMMARY

INTRODUCTION:

Project Proponent: Lakhani Dyestuffs Pvt. Ltd. is privately held company, which is planning to manufacture synthetic organic dyes. The project is a new set up, with a capacity of 3600 MT/A. The project proponent is Mr. Dilip Lakhani who has a vast experience in the field of synthetic organic dye and is a great visionary. Lakhani Dyestuffs Pvt Ltd is incorporated by highly experienced personnel with entrepreneurial experience in both marketing and manufacturing. The company already has an existing unit at Ambernath (W) MIDC. The unit is located at plot No.B-17/A, Old Bhendi Pada, MIDC, Ambernath (West). Project proponent is one of the fastest growing manufacturer and exporters in synthetic organic dyes and has successfully completed more than 10 years in this field.

Lakhani Dyestufs Pvt Ltd is a manufacturer of direct dyestuffs with better wet or good light fastness properties and Reactive dyestuffs for cellulose & polyamides etc. Lakhani Dyestuffs are a team of highly qualified individuals having vast experience in various facets of chemical process development, process scale-up, chemical technology & manufacturing expertise. They are able to provide cost effective solutions for customer's diverse requirements. Staff & workers are well trained in all process & safety requirements. Lakhani Dyestuffs has a versatile plant, with glass lined & stainless steel reactors, pressure reactors etc. capable of carrying out various different kinds of reactions under different conditions. This team has a proven experience in domestic and global market. The team also has an enormous experience in technical field towards the manufacture of Synthetic organic dyes. The infrastructure is designed to carry out many types of processes including hazardous reactions in a safe manner.

They are committed to the health and safety of their employees, the welfare of the community and environment protection. They play a proactive role in creating awareness, imparting training and minimizing pollution.

Project: M/s. Lakhani Dyestuffs Pvt Ltd has appointed M/s. Sadekar Enviro Engg. Pvt. Ltd. to carry out Environmental Impact Assessment study for their proposed plant located at Plot No. 15,16 and 21/11 Chikloli, Morivli, MIDC Ambernath West. Taluka - Ambernath, Dist –

Thane, State - Maharashtra. It is noted that the proposal involves manufacturing of synthetic organic dyes with production capacity of 3600 MT/Annum. The company will get the necessary consents and permissions after the grant of E.C. As per the provision of "EIA Notification No. S. O. 1533 (E)" dated 14.09.2006 amended on January 19, 2009 the proposed project of M/s. Lakani Dyestuffs Pvt. Ltd. comes under schedule 5 (f) Category 'B'.

The major highlights of the proposed project are

- The proposed project comes under industrial developed area (MIDC)
- It is a new plant which will be established with production of synthetic organic dyes. The production capacity is 3600 MT/A.
- All provisions of APCD (Air Pollution Control Devices) will be provided for process emission.
- The proposed project will have full-fledged ETP followed by R.O & Spray dryer and the treated water from R.O will be used for cleaning and floor washing purposes.
- The proposed project will apply for the membership of CHWSTDF for disposal of hazardous waste generated.
- Kalyan - Badlapur road runs very close to the MIDC Area, thus making the location ideal for transportations of raw materials and finished products.
- The proposed project will generate employment for the local people.

Salient features of the project:-

Sr. No.	Activities	Status
1.	Name	Lakhani Dyestuffs Pvt. Ltd.
2.	Address	Plot No. 15, 16 & 21/11, Chikloli, Movirli, Ambernath Industrial Area, Ambernath, Thane
3.	Type of Project	New proposed project
4.	Product type	Synthetic Organic Dyes
5.	Mean sea level	29 m

<table>
<tr><td>6.</td><td>Site Coordinates</td><td>19°11'53.90"N
73°12'9.40"E</td></tr>
<tr><td>7.</td><td>Sr. No. in the Schedule</td><td>5 (f)</td></tr>
<tr><td>8.</td><td>Capacity</td><td>3600 MT/A</td></tr>
<tr><td>9.</td><td>Total area</td><td>4985.00 sq.m</td></tr>
<tr><td>10.</td><td>Green belt</td><td>1745.00 sq.m</td></tr>
<tr><td>11.</td><td>Built up area</td><td>2500.00 sq.m</td></tr>
<tr><td>12.</td><td>Project cost</td><td>4.64 crores</td></tr>
<tr><td>13.</td><td>Proposed EMP cost</td><td>46.50 lakhs</td></tr>
<tr><td>14.</td><td>Fuel requirement</td><td>
<table>
<tr><td>Sr. No.</td><td>Item</td><td>Capacity</td><td>Mode</td></tr>
<tr><td colspan="4">Boiler</td></tr>
<tr><td>1.</td><td>F.O fired</td><td>600 ltr/day</td><td>Furnace oil</td></tr>
<tr><td colspan="4">Spray dryer (Hot air generation)</td></tr>
<tr><td>2.</td><td>Coal/Briquette</td><td>10 TPD</td><td>Coal/Briquette</td></tr>
<tr><td colspan="4">D.G Set</td></tr>
<tr><td>3.</td><td>Diesel</td><td>35 ltr/hr</td><td>Diesel</td></tr>
</table>
</td></tr>
<tr><td>15.</td><td>Water requirement</td><td>156.3 CMD</td></tr>
<tr><td>16.</td><td>Source of water</td><td>Ambernath M.I.D.C</td></tr>
<tr><td>18.</td><td>Stack height</td><td>18 mtrs for Boiler
13 mtrs for D.G set
12 mtrs Scubber
24 mtrs Spray Dryer</td></tr>
<tr><td>19.</td><td>Man power</td><td>Staff: 12
Workers: 25</td></tr>
<tr><td>20.</td><td>ETP</td><td>Full Fledged ETP of 135 m^3/day capacity followed by R.O & Spray dryer</td></tr>
<tr><td>21.</td><td>Alternative power source</td><td>DG Set 1 No. Capacity: 350 KVA</td></tr>
<tr><td>22.</td><td>Hazardous waste management</td><td>Membership of CHWTSDF Taloja will be obtained</td></tr>
<tr><td>23.</td><td>Sensitive zone</td><td>Not Present in 10 Km radius of the Proposed Project</td></tr>
<tr><td>24.</td><td>Reserved Forest</td><td>Not Present in 10 Km radius of the Proposed Project</td></tr>
<tr><td>25.</td><td>Archaeological Monuments</td><td>Not Present in 10 Km radius of the Proposed Project</td></tr>
</table>

Project Description

Location: The site is located at Plot no.15, 16 & 21/11 Chikloli, Morivli, MIDC Ambernath West, Dist - Thane. State - Maharashtra. **Ambernath** is a part of Mumbai Metropolitan Region (MMR). Ambarnath lies on Mumbai to Pune railway route. The Ambernath MIDC is well connected to Kalyan & Badlapur road for proper road accessibility. The latitude and longitude of the site are 19°11'53.90"N and 73°12'9.40"E respectively.

Land: The plant site a barren land. The land distribution in the proposed plant is as follows, Total Plot area: 4985.00 sq.m. and green belt area of 1745.00 sq.m. The whole land is under possession of M/s. Lakhani Dyestuffs Pvt. Ltd which will be used for the proposed project.

Water: Water requirement of the proposed plant will be met through the supply provided by the Ambernath MIDC. Company does not exploit any other water resources; therefore no adverse impact is anticipated on water environment. The maximum water requirement estimated is to be 156.3 CMD.

Project Cost: The total cost of the project including all facilities is estimated to be INR 4.64 Cr. The environmental budget allotted is around 46.50 lakhs with a recurring cost of 9.30 lakhs.

Power Requirement: The proposed connected load is 699 KVA and the proposed power requirement is 419 KVA and D.G Set will only be used during the power failure in the proposed plant.

Baseline Environmental Status: The baseline study is done for area of 10 km radial distance from centre of proposed plant site. All the monitoring has been completed in various locations within the study area during the period of March 2013 to May 2013. The findings of the baseline environmental status for land (topography, soil quality), meteorology (Temperature, Humidity, rainfall, wind speed), air (ambient air quality- PM_{10}, $PM_{2.5}$, SO_2, NO_X), noise level, ecological environment (flora and fauna), socio economic conditions, are presented in the report and interpreted with reference to environment standards.

Topography: The project site falls under the district of Thane. Thane district is situated in the northwestern part of the Maharashtra State. The Arabian Sea is to the west of the district, and Raigad district lies to the south. Pune district lies to the southeast and the Union territory of Dadar-Nagar-Haveli and Gujarat State to the north. The Sahyadri hill ranges define the eastern border of the district, separating Nashik and Ahmednagar district from Thane.

Soil Quality: Mainly three types of soils are found in Thane District - regur soil, red soil and brownish black soil. Regur soil, which is found in Dahanu, Palghar, Vasai and Thane tehsils, is fertile and useful for horticulture, paddy cultivation and vegetables. Whereas, red soil which is

found in Mokhada, Talasari and some parts of other tehsils on the eastern slopes is useful for growing coarse millets. The third type of soil found in Bhiwandi, Kalyan and Shahapur tehsils is useful, particularly for paddy cultivation.

Meteorology: The average annual rainfall is about 1799.9 mm in Thane district. The minimum temperature ranges from about 17.29 ^{o}C to 28.26 ^{o}C. The maximum temperature ranges from about 26.87 °C to 32.87 °C. In all season relative humidity ranges between maximum 77.37 to 95.29 % & minimum 37.19 to 80.90 % as reported by Indian meteorological center.

Ambient Air Quality: The maximum value of PM_{10} was 62.1ug/NM^3, $PM_{2.5}$ was 29.5 ug/NM^3 whereas for NOx and SO_2 was 27.8 and 25.6 ug/NM^3 respectively. There is no much concern with respect to air pollutants as the recorded values of air pollutants are well within the prescribed limits of Cenral Pollution Control Board limit (CPCB).

Ambient Noise level: The ambient noise levels monitored at five different locations indicate that they were within the limits. The Leq were recorded at project site was the maximum. The range was between 39.2 to 64.8 dB (A).

Water: Water will be provided by MIDC. The proposed water requirement is 156.3 CMD.

Waste Water Details – The effluent will be treated in a full fledged ETP followed by R.O & Spray dryer.

Ecology: There are no ecologically sensitive receptors or endangered species within the 10 kms of the study area. The area is developed by M.I.D.C for industrial use, no clustered green belt is found in the vicinity, hence there will not be any kind of deforestation. No rare or endangered species of flora and fauna are present in the immediate vicinity as well as in the study area. Thus, there will not be any adverse impact on flora and fauna.

Socio-economic: The project will provide positive impact on the economic development of the region in terms of employment opportunities. The area is developed by M.I.D.C for Industrial use. Moreover the unit is located at M.I.D.C notified area, along with other surrounded manufacturing units. Therefore no population displacement is envisaged.

Prediction of Impacts and its Mitigation:

Due to project activity two types of impact are envisaged, temporary impact during the construction phase and permanent impact during the operational phase. The permanent impact will be mitigated by providing appropriate pollution control measures and devices. Based on the impact analysis, it is predicted that there will be minimal impact on environment during construction phase. During construction phase the likely impacts include dust due to

construction, movement of vehicles and gases from engine exhaust, noise from movement of material personnel, etc. Which can be overcome by usage of dust suppression methods, water sprinklers etc.

During the operational stage the main air pollutants will be PM_{10} , $PM_{2.5}$, NOx and SO_2 in the operational stages, which shall be reduced by adopting appropriate measures like scrubber, dust arrester etc. Also some fugitive emission is expected due to the acid fumes generated by acid storage in the tanks or container which will be mitigated by connecting to the scrubber. Operation of the plant will not have any long-term impact on water quality as it is proposed to treat the waste water in full-fledged ETP of 135 m^3/day capacity followed by R.O & Spray dryer. The water system of the proposed project has been developed with maximum recycle and reuse of water, so as to minimize the water requirement for the project as well as to reduce the quantity of effluents generated from the plant discharge.

Solid Waste generated in form of process waste sludge/ slurry or organic compliers and Chemical Sludge from waste water treatment due to the process of the proposed project will be treated by the project proponent according to the condition mentioned under **Hazardous Waste** (Management & Handling) Rules 1989, Rule 2000 & subsequent amendment. The hazardous waste generated will be disposed to CHWTSDF Taloja.

Noise generated during the construction phase will be very minimal; vehicle movements can be a major source of noise pollution which can be handled through proper traffic management. During operational phase all equipment that are major noise generating devices/machines like steam turbine generator, compressors and other rotating equipment will have material to absorb/ reduce the noise i.e. using noise absorbing material for enclosures or using appropriate design technology for fabricating/assembling machines. Proper noise barriers / shields etc. shall be provided for the equipment whenever required. Noisy equipment shall be adequately attenuated, by providing sound proof enclosure and insulation. Proper maintenance will be done for the noisy equipments. For personal protection, PPE will be provided to workers. Also at the boundary green belt will be proposed around the plant site.

No significant impact on terrestrial ecology is anticipated due to proper dispersion of pollutants through a desired chimney height given to the process in the plant. Also the location of the project is in Notified Chikloli, Morivli MIDC in Ambernath West, hence no impacts are anticipated on the surrounding ecology of the proposed project site.

Risk Assessment Plan

Risks likely to pose a risk to man, environment or property associated with various activities are addressed in the EIA report. Such activities include transport, storage; handling and usage of fuels (F.O). All equipment vulnerable to explosion or fire would be designed to relevant IS codes and statutory regulations.

Suitable fire protection system comprising fire extinguishers and spray systems shall be provided. Fire extinguishers shall be tested periodically and always be kept in operational mode. To calculate the risk involved in the process of the proposed project; **ALOHA 5.4.4 (Areal Location of Hazardous Atmosphere)** is used. The raw materials are divided into the different classes given by the U. N classification of goods. Also the severity is calculated of the particular hazardous event in the working area, so that the harmful activity can be identified and its occurrence can be reduced.

Disaster Management Plan

During the construction process, the impact will be minimal and temporary in nature. So the scope of DMP during the construction phase will be limited to specification & marking of safe area. Design, manufacture and construction of plant, machineries and buildings will be as per national and international and fire codes as applicable in specific cases and laid down by statutory authorities.

During operational phase surrounding population shall be made aware of safety precautions to be taken in case of any mishap in plant. On-site disaster and offsite disaster management plans, commands communication and controls will be established and maintained. Adequate provisions like emergency response, response organization, response plan, material safety data sheet, command and control, capabilities, transportation, medical facilities, mitigation measures, training, education, public awareness emergency plan review etc. to control any disaster situation will be made available.

Specification & marking of safe area- assembly point to gather in emergency. Minimum two numbers of gates to escape during disaster shall be provided. Provision of adequate access ways for movement of equipment and personnel shall be kept. Fuel oil storage shall be in protected and fenced area. The tank will be housed in a dyke wall. As per regulations of CCOE (Chief Controller of Explosives) its testing & certification will be performed each year regularly and all records will be kept properly.

CSR ACTIVITIES

As a part of CSR activity M/s Lakhani Dyestuffs Pvt.Ltd. help to poor & needy local peoples & provide medical support. The distribution of notebooks, umbrella to nearby schools will be done in near feature as a part of CSR activity.

CONCLUSION

1. The water pollution generation details and effluent treatment plant description illustrates that the mitigative measures proposed are adequate, would meet the requirement of MPCB and would not cause any adverse impact on receiving water bodies as the treated effluent will be recycled and reused in the plant at maximum extent.

2. The proposed manufacturing activity does not create any major air pollution problem however certain small emissions of the gaseous form are likely to be generated during the manufacturing process which are proposed to be properly collected and mitigate using air scrubbers, dust collectors and chimney with appropriate height, the D.G sets provided for meeting the power requirement during the power failure from the main grid are proposed to be provided with adequate stack height and appropriate sound controlling enclosures.

3. The solid waste and sludge generated from ETP would be sent to CHWTSDF Taloja. The used & empty plastic bags also drums will be sold to proper authorized dealers.

4. The proposed project will generate employment to extend for the local people and will also increase the income of some local people due to related activity such as, transportation, grocery shops etc.

5. Area surrounding the project site does not have any sensitive area like forestland, reserve forest, aquatic presence and archaeological historical monuments which might be affected by the proposed project activity.

6. Risk identification has been carried out so that the occurrence of the risk causing events can be reduced.

7. All the required steps for alleviating the risk and minimizing any hazard are delineated in disaster management plan in a systematic manner. This can be implemented at time of emergency if at all occurred at the project site.

Overall it can be said that the proposed project will not cause any adverse environmental impact if at all it will have positive socio-economic impacts around the project area.