



**HIMADRI CHEMICALS & INDUSTRIES LIMITED.
MAHISTIKRY UNIT (III), HARIPAL, DIST- HOOGHLY, WEST-BENGAL, INDIA.
COAL TAR DISTILLATION & NAPHTHALENE PLANT
ENVIRONMENTAL IMPACT ASSESSMENT (EXECUTIVE SUMMARY)**

EXECUTIVE SUMMARY

The purpose of this assessment (EIA) is to identifying and evaluating potential environmental concerns and liabilities associated with current activities (Coal tar distillation & Naphthalene plant) at Mahistikry Site of Himadri Chemicals & Industries Limited in the State of West Bengal, India. This assessment is mainly based on qualitative & quantitative views and estimates and in some cases attempt has been made to quantify some of these discharges (Solid, Liquid and Gaseous).

Based on Findings and Observations, an attempt has been made to identify the following issues/ concerns relating operations in Himadri chemicals & Industries Limited, Unit-III.

The project meet IFC Performance Standards (PS) and the World Bank Group applicable EHS Guidelines upon successful implementation of the mitigation methods.

1. BACKGROUND

The Chemical industries have always played major role in the economic development of the country. West-Bengal, being an industrialized State, has a significant contribution in industrial as well as economic development of the country. Besides, necessary infrastructure; availability of natural resources like water, Coal, Power, market potential; and easy of export/import of raw materials and finished products have also resulted in the substantial growth of industries in the State. Some industries are away from normal & demand some precautions w.r.t environment.

2 BRIEF DESCRIPTIONS

Location of Plant

M/s. Himadri Chemicals & Industries Limited, Mahistikry plant located in the district of Hooghly in the State of West Bengal. The Works is located approximately 55 KM from Kolkata. The Site is located close proximity of NH2/NH6. The nearest railway station is Singur, about 8 KM away and singur station is located at a distance of about 40 KM from Howrah railway station. The nearest airport (both domestic and International) is located



HIMADRI CHEMICALS & INDUSTRIES LIMITED.
MAHISTIKRY UNIT (III), HARIPAL, DIST- HOOGHLY, WEST-BENGAL, INDIA.
COAL TAR DISTILLATION & NAPHTHALENE PLANT
ENVIRONMENTAL IMPACT ASSESSMENT (EXECUTIVE SUMMARY)

at Kolkata, about 45 KM from the site.

The location detail is depicted below-

DETAILS OF ENVIRONMENTAL SETTING

Sr. No.	Particulars	Details
1	Plant site Latitude	22°52'15.91" North
2	Plant site Longitude	88°12'52-56" East
3	Plant Site Elevation	29 ft (above MSL)
4	Climatic Conditions	Avg. Annual Max. Temp: 39.5° C Avg. Annual Min. Temp: 18.5°C Annual Avg. Rain fall 120-160 cm. Predominant Wind direction: SW & NE Average wind speed: 1-5 kmph ;Humidity: 60-90 (RH)
5	Land use at the proposed project site	Agricultural/Industrial land
6	Nearest Highway	NH-2 /Durgapur Expressway
7	Nearest Railway Station	Singur
8	Nearest Airport	Dum-Dum

3 PRODUCTION CAPACITIES OF PLANT

List of products with capacity (maximum) manufactured are as shown bellow.

Sr. No.	Name of Products	Quantity MT/Month
1	Coal Tar Pitch(Binder & IMP)	5000
2	Oil	2000
3	Naphthalene	400

Coal Tar consumption @90000 MT/annum (330 working days /annum)



4 DESCRIPTION OF ENVIRONMENT

The base line data were monitored for May 2008 to July 2008, with regard to environmental quality in the area viz. ambient air quality, noise levels, water quality, flora & fauna and parameters concerning human interest. The relevant impacts on various environmental components were predicted using appropriate mathematical models and impact assessment techniques. An appropriate environmental management plan delineated to minimize the adverse impacts.

4.1 AIR ENVIRONMENT

The ambient air quality monitoring was carried out at 4 AAQM locations, with a frequency of twice a week continuously for three months, to assess the existing sub regional quality status. The Repairable Dust Sampler and High Volume Sampler along with the analytical methods prescribed by West Bengal pollution Control Board were used for carrying out air quality monitoring. At all these sampling locations, RSPM, SPM, SO₂, and NO_x were monitored on 24 hourly basis and grab sample were collected and analyzed for the CO and HC to enable the comparison with ambient air quality standards prescribed by West Bengal pollution Control Board/Central Pollution Control Board(CPCB).

Suspended Particulate Matter (SPM)

The arithmetic mean and 98th percentile values of 24 hourly concentrations of SPM value at all the locations ranged between 200-240 µg/m³ and 180-190 µg/m³ respectively. The stipulated standard of SPM for industrial area is 500 µg/m³ and 200 µg/m³ for residential area. The 24 hourly concentration values show that the values are well within the prescribed limit.

Respirable Suspended Particulate Matter (RSPM)

The arithmetic mean and 98th percentile value of 24 hourly RSPM values at all the locations ranged between 40-45 µg/m³ and meeting the CPCB standards (residential areas 75 µg/m³). The 24 hourly concentration values show that the values are well



**HIMADRI CHEMICALS & INDUSTRIES LIMITED.
MAHISTIKRY UNIT (III), HARIPAL, DIST- HOOGHLY, WEST-BENGAL, INDIA.
COAL TAR DISTILLATION & NAPHTHALENE PLANT
ENVIRONMENTAL IMPACT ASSESSMENT (EXECUTIVE SUMMARY)**

within the prescribed limit.

Sulphur Dioxide (SO₂)

The arithmetic mean and 98th percentile value of 24 hourly SO₂ at all the locations ranged between 6-8 µg/m³ & 5-7 µg/m³ and respectively, which are very well within the stipulated standards of 80 µg/m³ for residential areas.

Oxides of Nitrogen (NO_x)

The arithmetic mean and 98th percentile value of 24 hourly NO_x at all the locations ranged between 35-40 µg/m³ & 30-35 µg/m³ and respectively, which are much lower than the standards stipulated by CPCB for residential areas (i.e. 80 µg/m³).

4.2 WATER ENVIRONMENT

Ground water Quality

Collected ground water samples were analyzed for various desirable characteristics of drinking water.

Color: All the two samples were color less meeting desirable norms (< 5.0 HAZEN unit)

p^H: All the samples meet the desirable standards (pH ranges from 7.2 & 7.53)

Total Dissolved Solids (TDS): TDS in samples ranges from 144 mg/l & 443 mg/l . All the samples meet the permissible limit of 500 mg/l

Calcium: Calcium contents in the water ranges from 44 mg/l & 182 mg/l , all the samples meet the permissible limit of 200 mg/l.

Magnesium: Magnesium content in the water ranges from 16mg/l & 20 mg/l .All samples meet the desirable limit of 30 mg/l.

Sulfate: Sulfate content in the water ranges from 130 mg/l(Max). All samples meet the desirable limit of 200 mg/l.

Total Alkalinity: Total alkalinity in the water samples ranges from 144 mg/l to 310 mg/l All the samples are within the permissible limit of drinking water 600 mg/l for drinking



**HIMADRI CHEMICALS & INDUSTRIES LIMITED.
MAHISTIKRY UNIT (III), HARIPAL, DIST- HOOGHLY, WEST-BENGAL, INDIA.
COAL TAR DISTILLATION & NAPHTHALENE PLANT
ENVIRONMENTAL IMPACT ASSESSMENT (EXECUTIVE SUMMARY)**

water.

Chemical oxygen demand (COD): COD <27 mg/L in two sampling stations.

Heavy metals like copper, cadmium (0.007 mg/l), lead(0.008), chromium, nickel and Arsenic(<0.005) are well below to prescribe limit in all samples.

Other Parameters: Potassium, Sodium, Chloride (118 mg/l), Iron (ranges from 0.05 to 0.08 mg/l).

Surface water Quality

Collected surface water samples were analyzed for various desirable characteristics of drinking water.

Color: Samples was color less meeting desirable norms (Pt-Co-APHA- 204).

p^H: All the samples meet the desirable standards (pH around 7.9)

Total Dissolved Solids (TDS): TDS in sample 189 mg/l .

Calcium: Calcium contents in the water 50 mg/l

Magnesium: Magnesium content in the water 34 mg/l

Sulfate: Sulfate content in the water 11.8 mg/l

Total Alkalinity: Total alkalinity in the water sample 96mg/l

Chemical oxygen demand (COD): For water sample COD have 23 mg/l.

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

Other Parameters: Potassium, Chloride (24 mg/l), Iron (2.13 mg/l as Fe).

Conclusions: Surface water samples from ponds meets the permissible limit set by the authority (BIS)

4.3 NOISE ENVIRONMENT



HIMADRI CHEMICALS & INDUSTRIES LIMITED.
MAHISTIKRY UNIT (III), HARIPAL, DIST- HOOGHLY, WEST-BENGAL, INDIA.
COAL TAR DISTILLATION & NAPHTHALENE PLANT
ENVIRONMENTAL IMPACT ASSESSMENT (EXECUTIVE SUMMARY)

The values of noise levels during daytime varied between 52 to 62 dB(A) Highest daytime value was recorded near Durgapur expressway (west side of Naphthalene plant), however it is less than the prescribed limit for the commercial (65 dB(A)). The values of noise levels during night time varied between 42 to 48 dB (A) .Highest value also less than prescribed limit (70 dB (A)).

4.4 WASTE MANAGEMENT

4.4.1 WASTE WATER MANAGEMENT

The site has got Effluent Treatment Units, for treating all liquid effluents generated at site this unit operates by Chemical treatment, anaerobic & Microbiological Process. After complete treatment total water recycled back to cooling tower and there is no water discharge outside.

4.4.2 SOLID WASTE MANAGEMENT

Dust (pitch) collected from process recycled back to process again. Sludge generated from effluent treatment plant disposed through West Bengal Waste Management Limited, RAMKY.

Municipal waste collected & disposed by local authority on daily basis.

4.5 ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impacts and Mitigation Measures:

Environmental Components	Potential Impacts	Source	Mitigation Measures	Remarks
Water-Ground	Spillage(chemical	Operation	Immediate removal by	

CONFIDENTIAL

PREPARED BY-JAYDIP HAJRA

Page 6



HIMADRI CHEMICALS & INDUSTRIES LIMITED.
MAHISTIKRY UNIT (III), HARIPAL, DIST- HOOGHLY, WEST-BENGAL, INDIA.
COAL TAR DISTILLATION & NAPHTHALENE PLANT
ENVIRONMENTAL IMPACT ASSESSMENT (EXECUTIVE SUMMARY)

	& Oil)		physical means	
Water-Surface	Spillage(chemical & Oil)	Operations	Physical removal & chemical treatment	—
Air-Quality	Increase in SPM, SO ₂ & NO _x	Running of Thermic fluid heater & Steam Boiler.	Engineering control like scrubber, Proper atomization of FO	
Noise	Increased Noise level	From operation of equipments & Vehicle movement.	Reduction of noise at source & or construction of noise abatement wall	—
Waste Water	Water pollution	Process operation	Chemical treatment coupled with both Anearobic & Aerobic treatment & finally recycle back to process through sand & activated charcoal filter.	
Solid waste	Water & Air Pollution	ETP Operation	Disposal through west Bengal waste	—



HIMADRI CHEMICALS & INDUSTRIES LIMITED.
MAHISTIKRY UNIT (III), HARIPAL, DIST- HOOGHLY, WEST-BENGAL, INDIA.
COAL TAR DISTILLATION & NAPHTHALENE PLANT
ENVIRONMENTAL IMPACT ASSESSMENT (EXECUTIVE SUMMARY)

			Management Ltd(State Pollution Control Board approved)	
--	--	--	--	--

4.6 ENVIRONMENT MONITORING

Analysis	Frequency	Numbers
Stack Monitoring of each stack	Monthly	All stacks
Ambient Air Quality Monitoring	Monthly for 24 hours or as per the statutory conditions	Four locations
Industrial Effluent (Consents Conditions)	Ones in a three Month	Two Sample(Influent & Effluent)
Ground Water Analysis	Ones in six month	Two Sample