

**ANNEXURE-II**

**BRIEF SUMMARY  
OF  
EIA/EMP REPORT**

**FOR**

**FORMALDEHYDE MANUFACTURING UNIT  
(37% liquid in water)**

**PRODUCTION CAPACITY: 100 MTPD**

**LAND AREA : 0.255 Ha.**

**COST FOR EMP : RS. 11.2 LAKHS**

**COST FOR OH&S : RS. 2.00 LAKHS**

**COST FOR ESC : RS. 10.5 LAKHS**

**BY**

**M/s Trigun Organics.**

Village- Toffanpur, Tehsil- Derabassi,  
District- S.A.S. Nagar, and State- Punjab  
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**PREPARED BY**



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## ANNEXURE-II

### 1.0 INTRODUCTION

**M/s Trigun Organics** is a partnership firm started with the objective to get involved in the business of manufacturing & trading in organic chemicals & allied products, was established on 28th Sep, 2017.

### 1.1 PROJECT LOCATION AND THE SURROUNDING ENVIRONMENT

**M/s Trigun Organics** is proposing to setup a manufacturing unit of Formaldehyde (37% liquid in water) with the capacity of production of 100 M.T per day at Village Toffanpur, Tehsil Derabassi, District S.A.S. Nagar, and State Punjab.

Proposed project shall be established over the purchased land which is already under the possession. The total land area for the proposed project is 0.6301 acre/ 0.255 Ha.

As per EIA Notification dated 14th Sept., 2006 and amended from time to time, the proposed project of manufacturing of Formaldehyde (37% liquid in water) falls under **Activity 5(f)** for project covered under "Synthetic Organic Chemicals Industry".

The location of the project being outside the notified industrial area, and due to the presence of the interstate boundary of Haryana and Punjab within 5 km from the project site makes the general condition applicable for the proposed project. So the project shall be treated as **Category "A"** and will be appraised at MOEF&CC.

**Table- 1.1: Project and Environmental Settings**

S. No.	Particulars	Details
1.	Nature & size of the Project	Manufacturing of Formaldehyde 100 M.T per day at Village Toffanpur, Tehsil Derabassi, District S.A.S. Nagar, and State Punjab by M/s. Trigun Organics.
2.	Total Project Area	0.255 Ha. (Project will be carried out in existing land. No requirement of additional land)
3.	Nearest Highway	<ul style="list-style-type: none"> <li>National Highway NH-22 is at a distance of 4.2 km.</li> </ul>
4.	Nearest Railway Station	<ul style="list-style-type: none"> <li>Dappar Railway station is at a distance of 4.4 km (approx) in North-West direction.</li> <li>Lalru Railway Station is at a distance of 5.5 km (approx) in South-West direction.</li> <li>The nearest major railway station is Ambala Railway station is at a distance of 17.7 km (approx) in South direction.</li> </ul>
5.	Nearest Airport	<ul style="list-style-type: none"> <li>International Airport, Mohali is at a distance of 20.5 km (approx) in NNW direction.</li> </ul>
6.	National Parks/ Wild Life Sanctuaries/ Biosphere Reserves/RF & PF within 10km radius	<ul style="list-style-type: none"> <li>There is no National Park and Biosphere Reserve within 10 Km radius.</li> <li>No RF/PF within the 10 KM of the project site.</li> </ul>

Manufacturing of Formaldehyde 100 M.T per day at Village Toffanpur, Tehsil Derabassi, District S.A.S. Nagar, and State Punjab by M/s. Trigun Organics.

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7.	Nearest Water Bodies	<ul style="list-style-type: none"> <li>• Tangri River, 7.8 km (approx) in East direction.</li> <li>• Ghagghar River, 8.0 km (approx) in WSW direction.</li> <li>• Jarmal Nadi, 3.6 km (approx) in WNW direction.</li> <li>• Dangri Nadi, 8.2 km (approx) in South East direction.)</li> </ul>
8.	Seismic Zone	Zone IV <i>Source-as per IS 1893 – 2002</i>
9.	<b>Cost Details</b>	
	Project Cost	Rs. 465.0 Lakhs
	Cost for Environmental Protection Measures	Rs. 11.5 Lakhs
	Recurring Cost/Annum	Rs. 08 Lakhs
	ESR Activity Cost	Rs. 10.5 Lakhs
10.	Working Days	300 days

**1.2 RAW MATERIALS & UTILITIES**

**1.2.1 Raw Material Requirement**

The raw materials required for the Sugarcane based sugar mill can be broadly categorized and given in Table below :-

**Table -1.2: Raw Material Requirement**

S. No.	Particular	Quantity	Source of the Raw Material & Mode of Transportation
1.	Methanol	45.5 MTPD	Sourced from kandla port, Mumbai & transported via Road network
2.	WATER	50 KLD	Own Bore well
3.	Silver Granular	0.05 Kg PD	Sourced from local market & transported via road network
4.	Wood Briquette (for Boiler)	0.5 TPD	Sourced from local market & transported via road network

*Source: Detailed Project Report*

**1.2.2 WATER REQUIREMENT**

Water requirement for manufacturing of formaldehyde is given in below table no. 1.3.

**Table 1.3 Water Requirement**

S. No.	Particulars	Proposed Requirement (KLD)	Source
1.	Domestic Water	1.2	<b>Source:</b> Ground Water through bore well
2.	Industrial Water	50	

*Source: Detailed Project Report*

**1.2.3 POWER REQUIREMENT**

Total Power requirement for the project is estimated to be 0.25 MW.

**Table 1.4: Power Requirement**

S. No.	Particulars	Details	Source
1.	Total Connection Load	250 KW	<b>Source:</b> PSTCL (Punjab State Transmission Corporation Ltd)
2.	Average running load power requirement	175 MW	

*Source: Detailed Project Report*



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**1.2.4 Land Requirement**

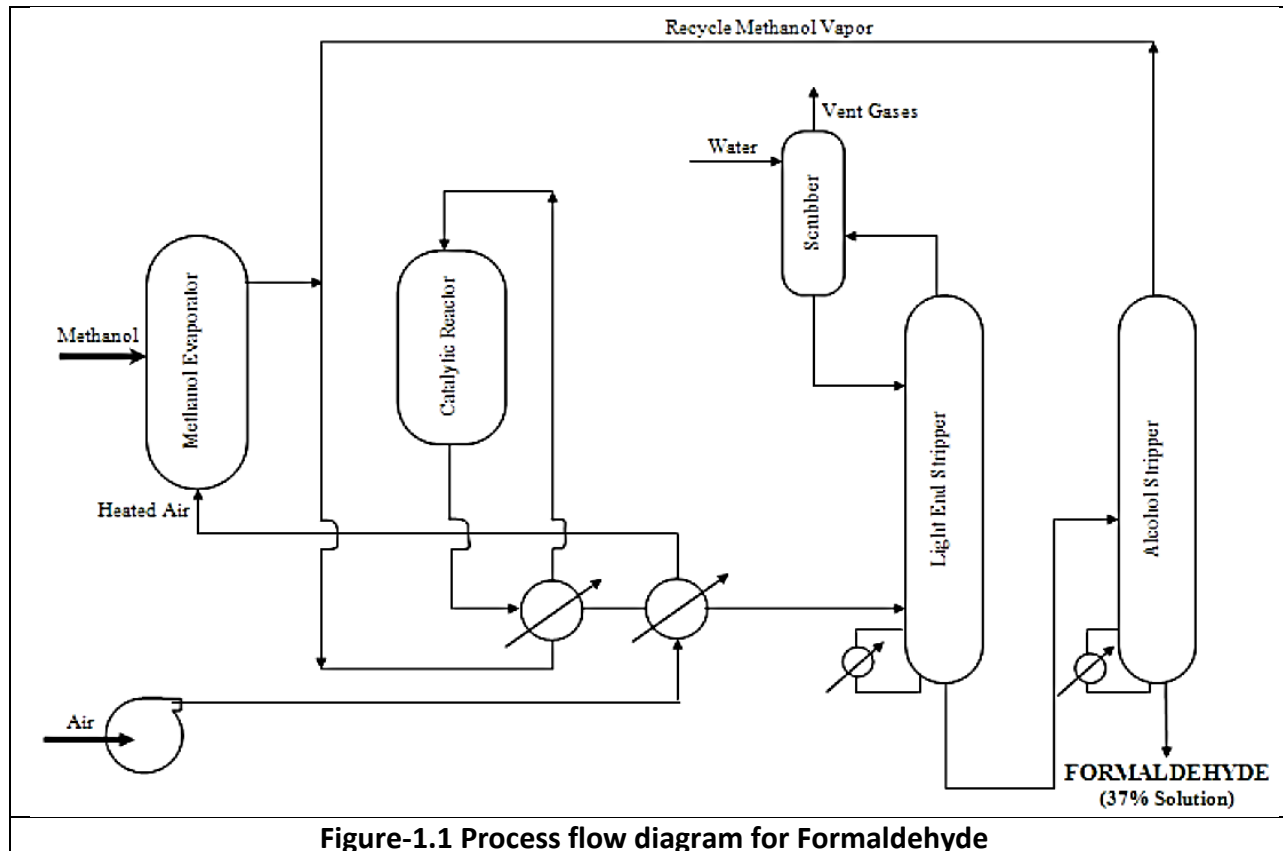
The total land required for the proposed project is given in **Table 1.5.**

**Table 1.5 Land Requirement**

S.no.	Type Of Use	Area (Sq. ft.)	Area (Ha.)	Percentage (%)
1	Plant Area	1733	0.0161	6.31
2	Office & Admin	400	0.0037	1.46
3	Open area	7200	0.0669	26.23
4	Parking area	700	0.0065	2.55
5	Green Belt and Open area	9055	0.0841	32.99
6	Utility	776	0.0072	2.83
7	Storage Area	1140	0.0106	4.15
8	Solvent Tank Area	4891	0.0454	17.82
9	Workshop & Service room & other facility	1550	0.0144	5.65
<b>Total</b>		<b>27445</b>	<b>0.2550</b>	<b>100.00</b>

**1.4 MANUFACTURING PROCESS**

Manufacturing Process is given below:



**Figure-1.1 Process flow diagram for Formaldehyde**

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### 1.5 ENVIRONMENTAL BASELINE STUDY

1<sup>st</sup> March 2018 to 31<sup>st</sup> May 2018

Parameters	No. of Sites	Description	Permissible Level
Air Quality	8	PM <sub>10</sub> - 67.2 µg/m <sup>3</sup> and 96.58 µg/m <sup>3</sup> PM <sub>2.5</sub> - 29.3 µg/m <sup>3</sup> to 54.3 µg/m <sup>3</sup> SO <sub>2</sub> - 4.2 µg/m <sup>3</sup> to 10.2 µg/m <sup>3</sup> NO <sub>2</sub> - 16.1 µg/m <sup>3</sup> to 28.2 µg/m <sup>3</sup> CO - 0.54 µg/m <sup>3</sup> to 1.08 µg/m <sup>3</sup> VOC - <0.50 µg/m <sup>3</sup>	100 µg/ m <sup>3</sup> 60 µg/ m <sup>3</sup> 80 µg/ m <sup>3</sup> 80 µg/ m <sup>3</sup> 80 mg/ m <sup>3</sup> <0.50 µg/m <sup>3</sup>
Ground Water Quality	8	pH - 7.37 to 7.82 Hardness - 198.77 to 327.52 mg/l TDS - 386.0 to 570.0 mg/l	6.5-8.5 200-600 mg/l 500-2000 mg/l
Surface Water Quality	8	pH - 7.27 to 7.92 Hardness - 186.23 to 343.65 mg/l TDS - 235 to 626 mg/l BOD - 5 to 18 mg/l COD - 12.74 to 55.21 mg/l	---
Soil Quality	8	pH - 6.96 to 7.94 Nitrogen - 245 to 270 kg/ha Organic Matter - 0.52 % to 0.91 %	---
Noise Level	8	Noise Level (Day) - 50.35 Leq dB to 63.24 Leq dB Noise Level (Night) - 40.55 Leq dB to 51.88 Leq dB	75 Leq dB (A) 70 Leq dB (A)

#### 1.5.1 Biological Environment

Biological environment of the area was studied during the study period.

No Wildlife Sanctuary, National Park, Biosphere Reserves, Wildlife Corridors, migratory routes of birds, within study area of 10 km radius. No endangered schedule-I species have been reported in the study area and conservation plan have been prepared and incorporated in EIA report.

#### 1.5.2 Demography & Socio-economic Environment

- Total number of households are about 17380
- Total population of villages under the study area is 92328 out of which males are 49616 (53.73%) and females are 42712 (46.26%).
- The average family size is about 5.3 persons per family.
- Sex ratio (No. of females per 1000 males) is 860 which indicates that females are less in number than their male counterpart in the study area.
- Out of the total population, the population of children within the age of 0-6 age-group is about 11306 (12.24%).
- Child Sex ratio is 784 i.e. No .of female child per 1000 male child.
- Scheduled caste population is about 24314 (26.33%) while the Scheduled tribes population is not found in the region.
- Out of the total population in the region 62407 i.e. 67.49% are literates.



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### **1.6 Mitigation Measures for control of Pollution**

#### **1.6.1 Air Pollution Control**

- All the exhaust gas emissions will be channelized all through the process and will be reused for various purposes like heating & remained chemical utilization
- remaining gas will be exhausted through a chimney
- Multi Clone Dust Collector with Boiler as an air pollution control measures to control the emission of particulate matter the flue gas emission will remain well within gaseous emission norms prescribed by the CPCB.
- Scrubber is installed for scrubbing the residual Formaldehyde from the main product stream which also controls the odour problem
- To control the air emissions from D.G. Set, stack height of 4.0 m (AGL) shall be provided
- Green belt will be developed on 33% area of the total project area which will help in attenuating the pollutants emitted by the plant.
- Adequate measures for control of fugitive dust emissions will be taken.

#### **1.6.2 Waste Water Treatment**

- Fresh water requirement of the project will be met by ground water through tubewell.
- Domestic wastewater @ 1.2 KLD will be discharged in to soak pit through septic tank & will be utilized for greenbelt development to reduce the water consumption.
- The waste water generated from the Industrial use will be treated in ETP with tertiary treatment
- ETP treated water will be reuse in the process to reduce the water demand.

#### **1.6.3 Noise Management**

- Green belt development (plantation of dense trees across the boundary) will help in reducing noise levels in the plant as a result of attenuation of noise generated due to plant operations, and transportation.
- Personal protective equipments like ear plugs and ear muffs will be provided to employees working in the noise prone areas.
- Time to time oiling and servicing and O and M of machineries will be done.
- Acoustic enclosure for Turbine and D.G. sets would be used.

#### **1.6.4 Solid Waste Management**

- Boiler ash stored separately & will be given to farmers
- ETP sludge will be disposed at TSDF site situated near Nimbua, dera Bassi
- Discarded Bags will be collection, storage & separately and sell to authorized vendor

#### **1.6.5 Odour Management**

- Scrubber is installed for scrubbing the residual Formaldehyde from the main product stream
- Temperature will be kept under control during operation phase.
- Cascade system to be used for less exposure.

#### **1.6.6 HAZARDOUS WASTE GENERATION AND DISPOSAL**

No hazardous waste will be produced from the project activities except some used oil generated from D.G sets; which will be sold to recyclers authorized by Punjab Pollution Control Board.

#### **1.6.7 ENVIRONMENTAL MANAGEMENT PLAN (EMP)**

Breakup of EMP cost of the proposed project is given in the Table below:-



Manufacturing of Formaldehyde 100 M.T per day at Village Toffanpur, Tehsil Derabassi, District S.A.S. Nagar, and State Punjab by M/s. Trigun Organics.

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S. No.	Particulars	Initial Cost (in Rs. Lakhs)	Recurring Cost (in Rs. Lakhs)
1.	Air Pollution Control	3.00	2.00
2.	Wastewater Treatment	2.00	1.00
	ETP Soak Pit		
3.	Fire and Safety	2.00	2.00
4.	Green Belt Development	0.50	0.10
5.	Rain Water Harvesting Plan	2.00	0.40
6.	Occupational Health & Safety	2.00	2.50
	<b>Total</b>	<b>11.5</b>	<b>8.0</b>

#### 1.6.8 Corporate SOCIAL RESPONSIBILITY (CSR)

CSR activities will be done as per the applicable law. Breakup of CSR of the proposed project is given in the below:-

Sr. No.	Planned Activities under CSR as per specific needs
1	<p><b>Community Health Improvement.</b></p> <ul style="list-style-type: none"> <li>Organising periodical medical checkup camps, Distribution of medicines to the medical centers in Ballopur and Tohaffapur village adjacent to the project site</li> <li>Eye checkup camps</li> <li>Health awareness camps for child and mother care, health and hygiene practices</li> <li>Disinfection facilities for dug wells and other potable water sources.</li> </ul>
2	<p><b>Community Education Facilities</b></p> <ul style="list-style-type: none"> <li>Augmentation of furniture, blackboard, etc in village schools</li> <li>Award scholarship to meritorious students</li> <li>Distribution of educational books, stationary, uniforms and aids etc.</li> </ul>
3	<p><b>Community Welfare Activities</b></p> <ul style="list-style-type: none"> <li>Worship places development &amp; beautification</li> <li>Distribution of seeds &amp; saplings</li> </ul>
4	<p><b>Infrastructural Development</b></p> <ul style="list-style-type: none"> <li>Maintenance/ Repair of Hand Pumps/ Bore wells</li> <li>Grampanchayat dugwell de-siltation &amp; deepening</li> </ul>
6	<p><b>Afforestation Programs</b></p> <ul style="list-style-type: none"> <li>Plantation of trees in villages road side/ Panchayat House</li> <li>Development of nursery</li> </ul>

#### 1.7 PROJECT BENEFIT

The Project plant in the area will generate rural employment. Industrial activity in the region will have positive impact on the social economic condition of the area by providing employment to the local inhabitants; wages paid to them will increase the per capita income, housing, education, medical and transportation facilities, economic status, health and agriculture.



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### **1.7.1 Justification for the Implementation of the Project**

The following points justify implementation of this project:

- The easy availability of infrastructure, man power, raw materials will reduce the production cost as well as demand supply gap. The same will bring revenue to the state exchequer by way of Duties and Taxes.
- The development of green belt in and around the plant premises will improve on the aesthetics of the area. Moreover, it will help in reducing the noise levels within the plant boundary.
- The setting up of the proposed plant will help in providing employment to local people.
- There will be an increase in indirect employment & earnings of the small time shop owners like tea vendors, transporters, etc.
- The implementation of Rain Water Harvesting Scheme will help in increasing the ground water level of the area.
- Better maintenance and installation of proper pollution control equipments will help in reducing such emissions.
- CPCB guidelines for fugitive emissions will be followed.
- No forest land is involved.
- No court case/ litigation are pending against this project.
- No National Park, Biosphere Reserve, Wild Life Sanctuary, within the study area.
- Proper care will be taken by incorporating sound-proof enclosures for equipments and providing earmuffs and earplugs for operators.
- The proposed project will generate employment for the local people.
- There will not be major pollution due to the project activity, as the project will be implemented with environment friendly technology.

### **1.7.2 Socio-Economic Environment**

M/s Trigun Organics will actively contribute to improve the socio – economic conditions of the area and also will actively participate in various socio economic activities like; educational campaigns, health check-ups, training programme etc. (as per the need) which will lay stress on the overall development of the project site. Following points will be stressed upon:

- During operation the plant will generate employment for local population
- Skilled employees will be recruited through open recruitment process.
- Trained operators and workers in various aspects of ESH (Environment, Health and Safety) will be employed.
- The managers and officers involved in Environment Management Cell would undergo refresher workshop and up-gradation of information on various environmental issues from time to time.
- The industry would help in promoting the activities related to environmental awareness in the nearby villages.

### **1.7.3 Green Belt Development**

- Out of the total project area 33% will be utilized for green belt development.





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- Plantation will be done as per Central Pollution Control Board (CPCB) Norms & in consultation with the DFO/DM.
- The plantation in and around the project site will help to attenuate the pollution level.
- Native species will be given priority for Avenue plantation.
- The periphery will be devoted to generation of green belt area.
- The plantation would start along with the start of the construction activities of the proposed unit.

#### **1.8 Conclusion**

M/s Trigun Organics will generate a fair amount of direct, indirect and induced employment in the region. The local economy will receive a boost due to employee spending and services generated by the company. Due to the implementation of the project activity there shall be improvement in the standard of living viz. better education, improved health, sanitation facilities etc. This is envisaged as a major positive benefit. The company's management shall recruit semi skilled and unskilled workers from the nearby villages due to availability of local labors. The employment provided due to the proposed project would rapidly increase the social status of the villagers.

Company commitment towards environment & using the latest technology, along with optimal usage of available resources will reduce the impact and makes the project viable.

