

EXECUTIVE SUMMARY

PROPOSED GRAIN BASED DISTILLERY OF CAPACITY 200 KLPD

AT

**GAT No. 131/4, 131/5, 131/6, GADADHE AKHADA,
(CHINCHALE), TAL. RAHURI, DIST. AHMEDNAGAR,
STATE- MAHARASHTRA,**

BY

M/S. SATRAL CHEMICALS PRIVATE LIMITED

**PROPOSAL FOR
ENVIRONMENT CLEARANCE**

**(Industry falls under 5(g) 'B1' Category as per
the EIA Notification, 2006 and amendments thereof)**

**Area: 55231.65 m²; Cost of the Project: Rs. 150 Cr.
Standard ToR Granted: SIA/MH/IND2/226429/2021**

*M/s. Satral chemicals private limited, at GAT No. 131/4, 131/5, 131/6, Gadadhe Akhada,
(Chinchale), Tal. Rahuri, Dist. Ahmednagar, state- Maharashtra.*

EXECUTIVE SUMMARY

1. INTRODUCTION:

M/s. Satral Chemicals Pvt. Ltd. will be standalone (Grain based) Distillery unit registered under the Company Act 1956. Factory is located at Gat No. 131/4, 131/5, 131/6, Gadadhe Akhada, (Chinchale), Tal. Rahuri, Dist. Ahmednagar, State- Maharashtra.

2. PROJECT LOCATION:

The propose project is located at Gat No. 131/4, 131/5, 131/6, Gadadhe Akhada, (Chinchale), Tal. Rahuri, Dist. Ahmednagar, State- Maharashtra. Within 10 km Influence Zone, there is no Tropical Forest, Biosphere Reserve, National Park, Wild Life sanctuary and Coral Formation Reserve.

The Mula dam (4 Km), Rahuri Railway station (7.0 Km), Town Taharabad (2.98 km), Tehsil Rahuri (12.69 km) District place Ahmednagar (40.29 Km), Highway-NH 49 (0.05 Km) is at a sufficient, safe distance.

3. PRODUCTION DETAILS:

Products and capacities are:

Table 1: Production Details

Sr. No.	Product	Capacity	Unit	Category
1	Ethanol	200	KLPD	Category 'B', Project or Activity -5(g).
2	Rectified Spirit			
	Byproducts			
1	Fusel oil	18	KL/A	
2	CO2	165	MT/D	
3	DDGS	100	MT/D	

The raw material and utilities requirement with source of supply can be quantitatively stated as:

Raw Material	Quantity	Source	Mode of Transportation
Grain/Flour	Maize/Corn: 471-480 TPD @68 % Starch Content Broken Rice: 440-450 TPD @72 % Starch Content	Local	Truck
Bagasse/Coal	Bagasse Requirement + Other biomass like rice husk @100% = 490 - 495	Local	Truck

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	TPD Or Coal: 240-245 TPD		
Antifoam Agent	3 Kg/kl	Local Supplier	Tanker
NaOH (50%)	3 Kg/kl	Local Supplier	Mini Truck
Phosphoric Acid (75%)	1 Kg/kl	Local Supplier	Mini Truck
Enzymes like Amyl glucosidase, Alpha Amalyse, Viscozyme	1.70 Kg/kl	Local Supplier	Mini Truck
Neutralse	3 Kg/kl	Local Supplier	Mini Truck
Yeast	3 Kg/kl	Local Supplier	Mini Truck
H2SO4 (93%)	1 Kg/kl	Local Supplier	Tanker
Ca(OH)2(100%)	3. 7 Kg/kl	Local Supplier	Mini Truck

4. WATER REQUIREMENT OF PROPOSED DISTILLERY UNIT

Sr. no.	Water requirement	Quantity in (m ³ /day)
1.	Total water requirement	3385 m ³ /day
i.	Treated water from CPU	1710 m ³ /day
ii.	Fresh water requirement	1675 m ³ /day
2.	Industrial use	1360 m ³ /day
3.	Domestic purpose	20 m ³ /day
4.	Gardening purpose	25 m ³ /day

5. UTILITIES:

- **Land:** The Company owns total 55231.65 m² for distillery. The green belt will have proposed having area 21246 m².
- **Water:** Fresh Water demand is 1675 m³/day. Permission of Irrigation Department is obtained. Water source is Pravara River/ CGWA- Permission received from irrigation Department.
- **Pollution control Equipment:** distillery boiler: stack 65 m height with ESP, Bag filter is proposed
- **Waste Treatment:** Distillery will be based on “ZERO EFFLUENT DISCHARGE”.

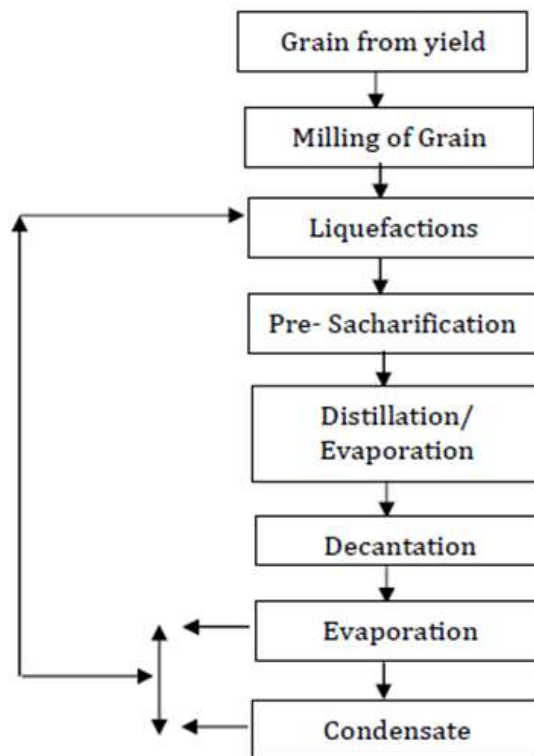
M/s. Satral chemicals private limited, at GAT No. 131/4, 131/5, 131/6, Gadadhe Akhada, (Chinchale), Tal. Rahuri, Dist. Ahmednagar, state- Maharashtra.

Spent Wash: Spent wash generated from the analyzer column during the operation, will be sent to biomethanation process. Bio-Methanated will be concentrated in standalone Multi – Effect Evaporator (MEE). Spent wash will be used for DDGS which will be used for Byproduct.

- **Power:** Proposed Connected Load: 4 MW. Source: Turbine Generator (4 MW).
- **Fuel:** Bagasse 490 TPD and Coal 240 TPD will be obtained from nearby market.
- **Man Power:** Man Power Requirement is 130 Nos.
- **Total project cost:** The Total Project Cost is Rs. 150.00 Cr. per year. Funds earmarked for CER activity will be Rs. 3 Cr.
- **EMP Cost:** The Capital Cost of Project is Rs. 22 Cr. And Recurring Cost is Rs. 45 Lakhs / annum

6. MANUFACTURING PROCESS:

Distillery: The incoming com grain is inspected upon receipt; Inspection is carried out to determine the bushel weight, moisture content, mode infestation and general appearance. The accepted quantity corn grain is unloaded into silos for storage before milling. The stored grain is weight to determine the incoming quantity.



Manufacturing Process Grain based Distillery

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7. WASTE WATER GENERATION:

This will generate three types of waste namely liquid, gaseous and solid. Responsible care of these will be taken.

For Grain based distillery

While the effluent generated from grain based distillery would be in the form of FOC less, PRC less, Thin Slop and RC leese. All these streams will be fully recycled back in the process. Other effluent will be treated in to propose CPU. Treated water from CPU will be recycled back in process there by achieving Zero Liquid Discharge of process effluent.

1) Gaseous Emission:

Sr. No	Source	Pollutant	In-plant Measures	Control Equipment
1	Boiler	SPM, CO, SO ₂	Feed Bagasse/husk drier, also will be used methane. Improved quality of water	Dampers, ID Fan, CO ₂ meter, Fly-ash arrestor ESP, Light ash through very tall stack.
2	Fermentation	CO ₂	Tank covered	Collected and scrubbed
3	Distillation	HC	Closed circuit	-
4	Spent-wash	HC, Heat	Heat Exchanger	(Not open to sky cooling)
5	Other effluents	H ₂ O, CO ₂	Closed transfer	Fully Aerobic regime.

2) SOLID WASTE:

Details	Qty. (TPD)	Disposal Method
Boiler Ash	Bagasse - 5.0 MT/D Coal - 9 T/D	Brick Manufacturer
CPU Sludge	5.0 MT/D	Manure
Yeast sludge	5.0 KL/D	Manure
DDGS	100 MT/D	Cattle feed

Handling of solid waste is considered, which is limited in volume. Some of it is already proposed to be used for good cause to serve as raw material or fuel or as manure. Hazardous waste is only in the form of limited waste oil and can be used after separation a either for lubricating the carts or burnt in boiler along with bagasse. Ash is useful both for brick-making as well as foe farming, and hence, much in demand. Thus, this leads to conservation of natural resources.

Responsible measures are taken for mitigating the impact on the environment with proper discharge and disposal.

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8. BASELINE MONITORING DETAILS:

Description of Environment: The area around the proposed Distillery Plant is being surveyed for physical features and existing environmental scenario. The field survey and baseline monitoring has been done from the period of March 2021 to May 2021.

We have conducted baseline monitoring for Air, water, soil & noise for various locations within 10 Km.

Air : 8 locations, results within the prescribed limit.

Surface Water : 2 locations, results are found to be satisfactory.

Ground Water : 8 locations, results are found to be satisfactory.

Soil : 8 locations

Noise : 8 locations, results within the prescribed limit.

Baseline Environmental Studies were conducted at 8 locations December 2020 to February 2021 during and the data submitted indicated: PM10 (43.6µg/m³ to 37.2 µg/m³), PM2.5 (18.5 to 16.6 µg/m³), SO₂ (8.9 to 6.2 µg/m³) and NO_x (24.4 to 19.1 µg/m³), CO (0.9 to 0.7 mg/m³)

Baseline environmental data – air quality, surface and ground water quality, soil characteristic, flora and fauna, socio-economic condition of the nearby population is obtained by monitoring. Quality of surface water, ground water, air is found to be within limit and satisfactory. Soil characteristics are also agreeable. There are no eco-sensitive areas and endangered species of flora & fauna within 10 km area. People in study area are mainly dependent on agriculture. For improving their status and avenue for livelihood, industries like this are required.

9. ANTICIPATED ENVIRONMENTAL IMPACT AND MITIGATION MEASURES:

- **Water pollution:** This is Zero Liquid Discharge unit. No water is discharged from the site to surrounding area. The effluent is given physico-chemical treatment. Then this water is combined with Moderate effluent which is treated with equalization, neutralization, aeration, secondary clarifier and tertiary treatment.
- **Air pollution:** Air pollution control equipment like ESP, ID Fan, dampers. Stack 65 m height will be installed.
- **Solid waste:** Handling of solid waste is considered. Some of it is already proposed to be used for good cause to serve as raw material or fuel or as manure. Waste oil is the only hazardous waste and can be used after separation either for lubricating the carts or burnt in boiler along with bagasse. Ash is useful for brick-making.
- **Noise:** Sturdy foundation provided for machines, personal protective equipment like ear plugs given to workers, tree belt as sound barrier around factory and sides cladding.
- **Green Belt:** for proposed project 21246 m² land will be provided.

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- **Socio-Economic Environment:** The construction of the proposed project is expected to provide temporary indirect employment to a good number of skilled and unskilled workers. The project will contribute to the socio-economic development of the area at the local level in turn reducing migration for employment. Hence the proposed project will have positive impact on the socio-economic environment.

Likely impact of the project on air, water, land, flora-fauna and nearby population is kept very minimal. The emissions in air are controlled by air pollution control equipment like efficient ESP, dampers, ID Fans and tall Stack. Air modeling is done to study Ground Level Concentration. The incremental concentration is very small and resultant concentration is well within limit. As this is ZLD, surface or ground water is not polluted. All waste water generated is treated and recycled. There are no endangered species of flora-fauna in study area. Monitoring will be done regularly to keep a watch.

In case of hazardous operation, safety systems are incorporated. There is risk of fire while preparation and storage of alcohol. The study is done for pool fire and appropriate firefighting equipment is provided throughout the factory premises. Workers are trained for safety and emergency cases.

Identification of hazards in handling, processing and storage of hazardous material and safety system are provided to mitigate the risk. There is risk of fire while preparation and storage of alcohol. The study is carried out for pool fire and appropriate fire-fighting equipment are provided throughout the factory premises. Workers are trained for safety and emergency cases. Precautions suggested by Factory Inspectors, MPCB and Experts are taken into account while preparing the Disaster Management Plan for the factory. Bagasse storage is kept limited due to everyday consumption for own sugar plant.

Disaster management cell and plan is prepared to tackle man-made and natural disaster. People in this cell are trained to face emergency cases. Safety equipment are also provided to workers and installed in the premises. Workers are also trained to avoid accidents during operation.

10. PROJECT BENEFITS:

It is seen that the Project is aimed to fulfill the objective of Sustainable Development. It will certainly improve social status.

Proposed Schedule and Approval for Implementation

The plant activities will be completed in a period of 24 months from the date of receipt of all the approvals from statutory authorities.

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