



**VISHWKARMA GOVERNMENT ENGINEERING COLLEGE,  
CHANDKHEDA  
CHEMICAL ENGINEERING DEPARTMENT**

**Brief Report on Industrial Visit to Harsh Organo chem, Vatva.**

Name of Department/Organizer	:	Chemical Engineering Department
Date & Time	:	30/08/2019
Venue	:	2207, Phase-IV, G I D C, Vatva, G I D C, Ahmedabad, Gujarat 382445
No of Participants	:	25 Students and 2 faculties

**Objective of the Event**

7<sup>th</sup> semester students of Chemical Engineering Department of Vishwakarma Government Engineering College Chandkheda visited industry Harsh Organo chem, Vatva on 30/08/2019. These visit falls under major activity head of “Technical/ Research skill” with sub-activity head of “Industrial / Exhibition Visit with Report”. The visit was organized for one day on 30/08/2019. Total 25 students took benefit of this industrial visit. These students were accompanied by following faculty members.

1. Prof. Z.Z.Painter (Asst. Professor, Chemical Engg. Department)
2. Prof. Dolly Gandhi (Asst. Professor, Chemical Engg. Department)

**Details of the Event**

Harsh Organo Chem (I) Pvt Ltd, established in 1982, has been one of the finest companies for manufacturing different types of Intermediates. It is an ISO 9001 2008 Approved Company. Many of the world’s leading companies choose Harsh Organo Chem (I) Pvt Ltd for the raw material in their products.

Sr. No	Item	Time
1	Reporting Time	10:00 AM
2	Introductory talk about Objective and its activity and lunch	10:00 AM to 10:30 AM
3	Visit to Plant	10:30 AM to 12.00 PM
4	Group photo	12:00PM to 12.15 PM

## **Observations**

- First we observed HNO<sub>3</sub>, Oleum , H<sub>2</sub>SO<sub>4</sub> big storage tanks at the right side of the plant.
- There is a wall built to prevent the leakage of acids to the plant called as Dyke.
- Then inside we observed small storage tanks which keeps the raw materials temporarily and use for further process.
- Observed activity of an agitator and is covered for insulation and supported with bracket support. Agitator vessel was fabricated by bricks because it contacts with acids. Sight glass observed which is use to measure liquid level.
- Observed Globe valves, ball valves, Gate valves etc. Understood that when a valve handle is perpendicular it's closed.
- Steam leakage observed in the plant and it's a loss for the company.
- Top suspended basket centrifuge has observed. The cake which formed was wet. The liquid which removed from it sent to effluent treatment.
- Plate and frame filter observed. The wet cake fed to the filter and liquid sent to the effluent treatment.
- Effluent collection tank observed. In that tank water is coming from one pipe and effluent is coming from another pipe.
- Tray dryer observed .Inside it contains several trays with wet cake and provide heat for the drying.
- Cyclone separator observed. To form fine particles further it fed to separator where at the end C/S decreasing.
- Bagging area observed where H-acid and K-acid stored.
- Three scrubbers in a series observed. It use removes NO<sub>x</sub> and SO<sub>x</sub>. Final one of the scrubber having the shape like venture. Finally the chimney is use to remove the gases. On the top of the chimney we can take a sample and check for the concentration of NO<sub>x</sub> and SO<sub>x</sub>.
- Bag filter has observed. Its use to remove particulate materials in the gas. Very fine black particles observed.
- Jacketed reactor vessel has observed with several inlet nozzles for(Pressure valves, Temperature valves etc). Jacket has observed which around 80% of the vessel is. It has two outlets, One for jacket outlet and reactor outlet.
- Glass wools has observed. Glass wools are covered the agitator blades to prevent corrosion of metals because acids are corrosive.
- Equipment parts & Equipment which are intended to installed (Agitator shaft, propeller blades, Heat exchanger etc ) observed.
- NH<sub>3</sub> Use as a medium to make cool water to the plant.
- In case of any emergency they have safety masks and safety clothes.

## **Factors need to be improved**

- Safety measures should be improved
- Actions needed to be taken to prevent leakage of utilities



