



☎ : 0424 - 2244101

Mob : 99767 51115

Fax : 0424 - 2244102

## **VELLALAR COLLEGE FOR WOMEN (AUTONOMOUS)**

**"COLLEGE WITH POTENTIAL FOR EXCELLENCE"**

(Re-accredited with 'A' Grade by NAAC, Bengaluru & Affiliated to Bharathiar University, Coimbatore)

Thindal, Erode - 638 012, Tamilnadu.

e-mail: [principalvcw@gmail.com](mailto:principalvcw@gmail.com) \* website: [vcw.ac.in](http://vcw.ac.in)

### **7.1.3 HAZARDOUS CHEMICALS**



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### DEPARTMENT OF CHEMISTRY

#### STANDARD OPERATING PROCEDURE FOR CHEMISTRY LABORATORY

- Know the potential hazards of the materials used in the laboratory. Be aware of the Safety procedure for any chemicals used in the laboratory. Operation manuals should be read and understood and safety procedures should be followed when operating benchtop instrumentation
- Know the location of safety equipment such as emergency showers, eyewashes, fire extinguishers, fire alarms, first aid kits, and spill kits
- Read and understand all safety procedures regarding the laboratory and the materials used in the laboratory
- Leather shoes, closed toe with slip resistant soles are recommended
- Minimize unsafe work conditions by making sure exits and safety equipment are unobstructed, work benches are uncluttered, and accumulated waste is sequestered appropriately
- A full length lab coat is to be worn always by the students when inside the lab. Clothes made of synthetic fabrics such as nylon should not be worn in areas that hold potential hazards like open flame or reactive chemicals
- Contact lenses are permitted, but not recommended for use inside the lab. Working with volatile organic chemicals is problematic for contact lens wearers
- Restrain or confine long hair and loose clothing. Restrained clothing or hair should not present loose tails that could increase a fire hazard or get caught in moving parts
- Storing food in the lab or in the laboratory refrigerator is not allowed
- All experimental activity or general lab activity should be completed. Potentially hazardous experiments should not be left unattended by lab technician
- Experiments in progress should be made known to the lab technicians for prior approval and take steps to ensure the experiment in progress is adhering to safety measures when unattended
- Minimum possible amount of chemicals and solutions of minimum possible dilutions are to be used all the experiments
- During disposal of used chemicals it is to be ensured that they are segregated into recoverable and disposable
- The disposal of hazardous chemicals must be done strictly as per the guidelines

**Dr. N. VIJAYA**, M.Sc., M.Phil., Ph.D.,  
Assistant Professor & Head  
Department of Chemistry  
Vellalar College for Women (Autonomous)  
Erode - 638 012.



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CHEMICALS

### Students Actively Handling Hazardous Chemicals





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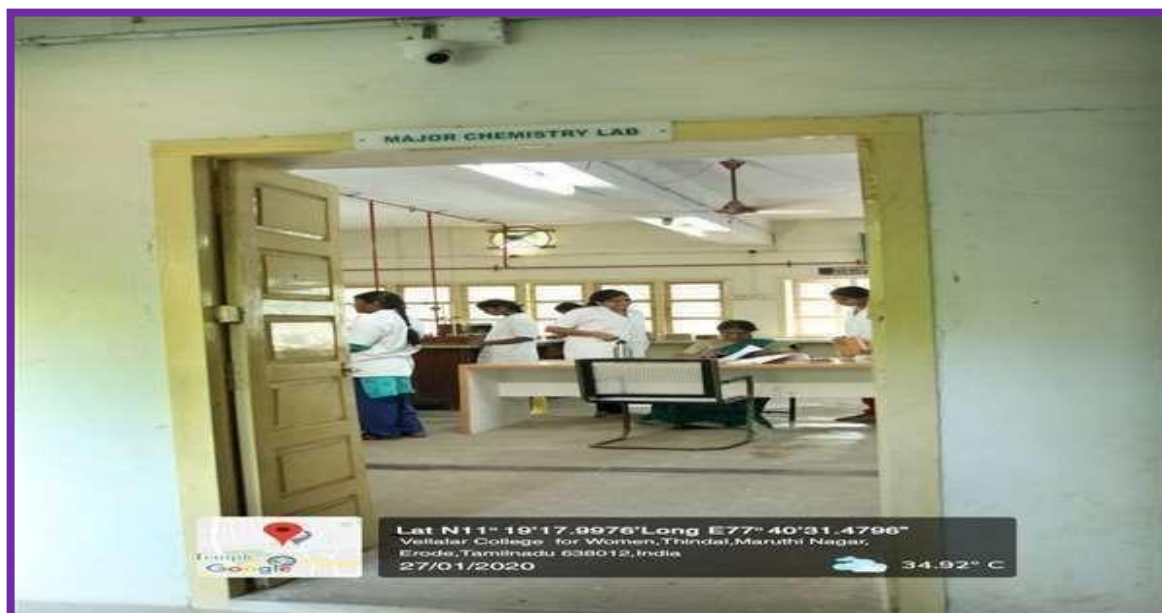
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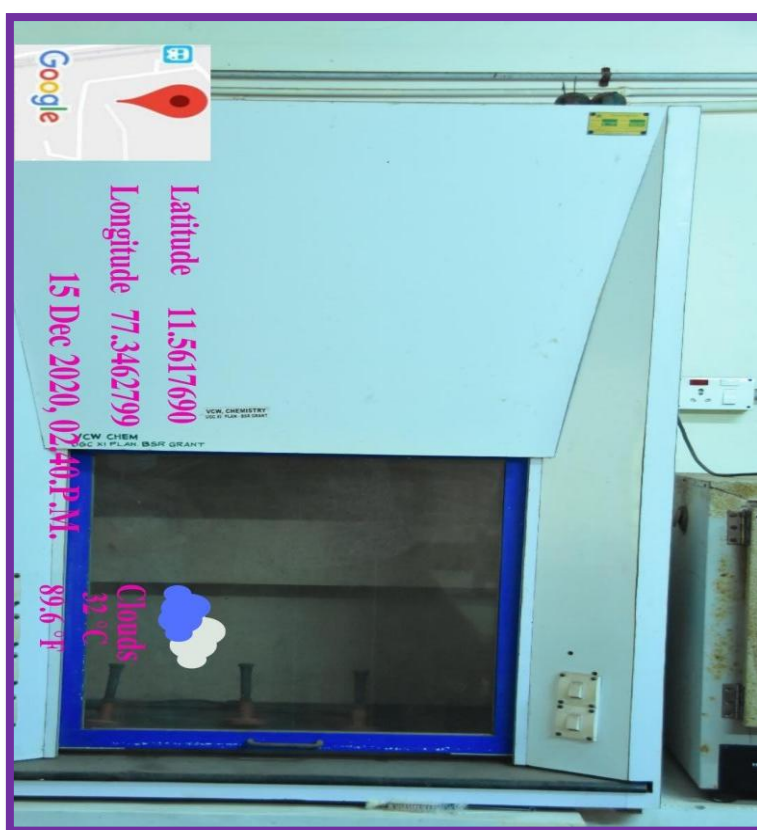
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### TWO BED DEIONISER 200 LITRES/HR





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Time: 15-02-2020 12:55

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Latitude: 11.321485  
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Time: 15-02-2020 12:49

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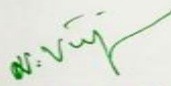
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### **Chemistry Lab-Waste Water Management**

Semi-Micro analysis and less usage of chemicals play an important role in the management of waste water from the chemistry lab. The waste water is collected in common effluent treatment tanks constructed on the Institution premises. Since it gets mixed with other wastewaters, the chemical concentration is still diluted. Also in the four tanks, the process of settling and oxidation may occur which facilitates the primary, secondary treatments of waste water. The bicarbonate used in the chemistry lab may help the pH maintenance and neutralization process to certain extent. The oxidizing agents like potassium permanganate and potassium dichromate may improve the oxidation process of chemical wastes in the waste water. After the treatment, the water is used for irrigation purposes. The semi micro level presence of inorganic chemicals like Zn, Mn, Fe, Cu, Ca and Chlorides used in our chemistry lab may act as a micro nutrient for the plant growth.

  
**Dr. N. VIJAYA**, M.Sc., M.Phil., Ph.D.,  
Assistant Professor & Head  
Department of Chemistry  
Vellalar College for Women (Autonomous)  
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### Chemical Waste Management - Chemistry Department





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Elevation: 207.76±12 m  
Accuracy: 11.1 m  
Time: 15-02-2020 15:51

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Latitude: 11.32432  
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### Chemical Waste Management – CDF Department

