

14. LABORATORY SAFETY MEASURES

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In all laboratories it is a must to follow safety measures for the smooth functioning of laboratory and safe conduct of analyses, safeguarding the personnel involved in the analyses.

In the soil testing laboratories, we will be having electrical and electronic instruments, glasswares and also chemicals like concentrated acids, alkalis, volatiles, *etc.* Some of the important laboratory safety measures are given hereunder.

General Safety Measures

1. It is important to maintain the lab clean and tidy. Make sure that the working area is properly cleaned and free of any acid or alkali spills, and is well organized.
2. It is advised to wear apron/lab coat whenever we are in the lab. Appropriate protection goggles, hand gloves, masks should be used while handling chemicals in the lab.
3. A laboratory should not be used for eating, drinking or smoking purpose. Never store food in laboratories. Never taste or sniff anything (chemical) from laboratory.
4. It is better not to be alone in the lab. Clean your working space and equipment, and lock the door before you leave the laboratory.

Chemical Safety Measures

1. Make sure that all chemicals are clearly and currently labeled with the substance name, concentration, date, and name of the individual responsible.
2. Never return chemicals to reagent bottles.
3. Handle concentrated acids and alkalis with care. Always keep body and face far from the bottles on opening and pouring the acid from it. In the case of ammonia, allow the bottle to cool before opening. This can be done either below a running tap or inside refrigerator.
4. Never add water to acids. Always add acid into water. Add acid slowly through the sides of the glassware.
5. Never allow a solvent to come in contact with your skin. Always use gloves.

Training Manual on "*Soil Testing and Fertilizer Recommendation*"

6. Never "smell" a solvent!! Read the label on the solvent bottle to identify its contents.
7. Dispose of waste and broken glassware in proper containers.
8. Clean up spills immediately. In case of acid spill onto the eyes, a jet of water flush immediately would help. If acid has spilled on the skin, using a mild alkali on the spilled area is helpful.
9. Wash hands properly using soap/ hand wash solution on leaving the laboratory.