

Laboratory Waste

Laboratory waste is waste that is generated from laboratories in industry and in educational centres such as secondary schools and universities. This waste can be broken down into a number of categories:

• Clinical;

- 🕂 Hazardous;
 - Biological; C Electrical;
- Laboratory.

Reducing laboratory waste will have a number of benefits, saving money and reducing disposal costs while also encouraging safety in the lab.

How to Reduce Laboratory Waste

- 1. Look at purchasing procedures. Buy only what is needed, reducing wastage due to expiry.
- Find a reliable supplier who will deliver small amounts of chemicals at short notice. Ask if they will take back unused chemicals.
- A centralised purchasing programme should be considered. This means that all orders are placed with a delegated person who may be able to take advantage of bulk pricing.
- 4. All chemicals and wastes in the lab should be labelled. A waste chemical has no use. This labelling system should be standardised.
- 5. Separate waste into the following streams for treatment, reuse or disposal:
 - Sharps including scalpels and syringes;
 - 🕂 Glassware;
 - Biological samples;
 - General lab waste such as wipes, gloves, tissue;
 - Chemicals.

How to Reuse Laboratory Waste

Reusing an item is often the best way of reducing waste.

- 1. Try to incorporate recovery activities during the experiment.
- A chemical swap might be possible with other institutions in your area.

- All wastes should be segregated based on chemical incompatibilities e.g. hazardous and non-hazardous wastes should not be mixed together. The same is true of organic and inorganic waste.
- 4. Waste consisting of the same material type can be segregated.
- 5. Waste streams that are capable of being recycled should be stored separately i.e. recoverable metals or solvents.

How to Recycle Laboratory Waste

- Some material generated in the lab will be non-hazardous waste such as paper and packaging waste that can be recycled. To promote and encourage recycling of this material place recycling bins in the lab.
- 2. Make sure the recycling bin is labelled clearly by placing a label on the bin stating paper only, ensuring that hazardous wastes such as chemicals are not placed in the bin.
- Bins for the collection of hazardous materials should be placed in the lab. These should be emptied regularly and looked after by lab personnel/technicians.
- 4. All waste from the lab should be collected by a waste collector with a valid waste collection licence, who is specialised in hazardous waste collection and who is licensed to treat and dispose of the waste.

Disposal of Laboratory Waste

- Lab glassware is not suitable for recycling, as its melting point is higher than that of conventional glass. Broken glassware should be collected in puncture proof containers and disposed of in large containers by technical staff. It is not to be placed in a normal waste bin.
- Sharps such as syringes and scalpel blades should be collected in containers labelled "Sharps".
- Biological waste such as agar plates, waste from dissections etc. should be separated and collected separately. Where appropriate this can be autoclaved.







