7 Laboratory equipment. Safety rules

Laboratories are places where we can enjoy science, but there are dangers that come from using chemical products and cutting or piercing equipment. Knowing the equipment and safety rules minimises the risk of accidents.

7.1 Laboratory safety rules

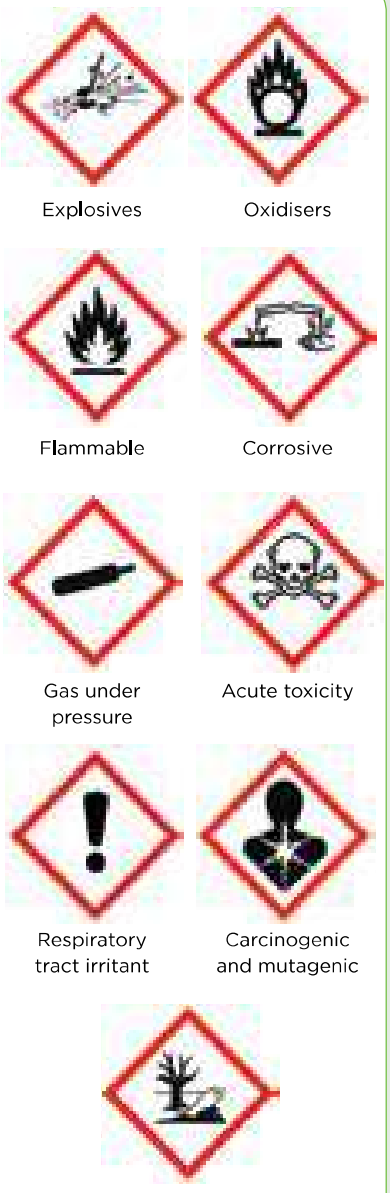
Safety rules must be followed closely when working in the laboratory in order to prevent accidents. However, if an accident –for example burns or cuts– does happen, tell your teacher immediately.

- Keep the work area clean and tidy. When you have finished, clean and tidy away the equipment you have used.
- Use a lab coat and always fasten it to protect clothing.
- Use protective goggles and, if necessary, latex gloves.
- Do not wear long scarves, clothing or objects that hamper your movements. Tie up long hair.
- Do not walk around the laboratory without a reason and, above all, do not run.
- Wash your hands with soap after touching any chemical product. Cover any wounds.
- Do not leave bottles open or inhale their contents. Do not taste or swallow the products.
- Avoid touching heat sources. Do not handle flammable substances close to them.
- Strong acids and bases must be handled very carefully because most of them are corrosive.
- If you have to mix an acid with water, add the acid to the water and never the other way around.
- If a product splashes you, wash the affected area with lots of water.
- Check the hazard symbols on the bottles of chemical products (right).

7.2 Basic laboratory equipment

A lot of different equipment is found in laboratories. The page on the right shows the basic equipment. Throughout this course, you will learn how to use it, as well as learning how to use any new equipment you might need.

Chemical products: labels



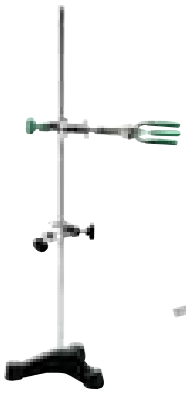
Understand, think, search

28 The labels shown in the pictures on this page are not only used for laboratory products. They are also found on other products, such as home cleaning products. Under your parents' or guardians' supervision, check the cleaning products in your home and write a short report to share the information that you find with your classmates.

29 Of all the equipment shown in the picture on the next page, which do you think is used for measuring volume? What about mass?

30 Research the difference between the terms 'volumetric' and 'graduated' when talking about glass equipment.

Basic laboratory equipment


Support


Spirit burner


Hoop


Tripod


Dropper


Mesh


Watch glass


Separating funnel


Wash bottle


Test tubes and rack


Bunsen burner


Beaker

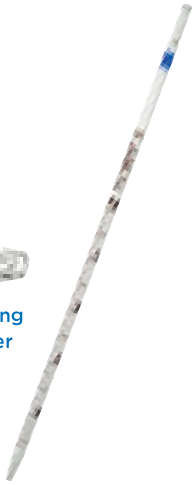

Funnel


Erlenmeyer flask


Distillation flask


Rounded flask


Measuring cylinder


Pipette


Burette


Double clamps


Wooden clamps


Petri dish


Ceramic dish


Mortar


Rod