CIE Chemistry IGCSE

AO3 Practical Skills 1: Demonstrate knowledge of how to safely use techniques, apparatus and materials

Flashcards

Why must techniques, materials and apparatus be used and carried out safely?

Why must techniques, materials and apparatus be used and carried out safely?

- To ensures that no risks are posed to the person carrying out the experiment
- May also ensures the results are valid as results may be affected if the experiment is not being carried out safely

Give examples of experimental techniques

Give examples of experimental techniques

- Measurements
- Purification
- Synthesis
- Observation
- Analysis

What safety precautions must be taken when carrying out an investigation into the rate of reaction between hydrochloric acid and sodium thiosulfate?

What safety precautions must be taken when carrying out an investigation into the rate of reaction between hydrochloric acid and sodium thiosulfate?

- The person observing the black cross should be careful to not breathe in heavily when looking down the beaker as the sulfur dioxide produced during the reaction causes lung and eye irritation.
- Clear up any chemical spillages or broken glass immediately
- Keep the room well ventilated
- Wear safety goggles
- Avoid contact between skin and chemicals

How can you ensure the safe use of Bunsen burners?

How can you ensure the safe use of Bunsen burners?

- Tie hair back and wear safety goggles.
- Make sure the orange safety flame is on when not in use.
- Turn off the gas when the flame is not lit.
- Remove any flammable chemicals from the laboratory.
- Keep the laboratory well ventilated.

Why is it important that glassware is handled carefully?

Why is it important that glassware is handled carefully?

Glassware is fragile so may break if not handled with care.

If glassware breaks during an experiment, hazardous chemicals may be spilled.

It is also important that there are no small cracks in glassware as this could allow gas to escape (this would significantly affect results when measuring the volume of gas produced by a reaction).

How could a gas syringe be damaged during an experiment?

How could a gas syringe be damaged during an experiment?

If a large volume of gas is rapidly produced during an experiment, the plunger may be completely pushed out of barrel. This would result in breakages.

The gas syringe could also be damaged if it is not clamped into position correctly.

What is a risk assessment?

What is a risk assessment?

A risk assessment should be carried out before an experiment to highlight any potential risks. It should put in place ways to prevent the risk as well as actions that can be taken if the risk arises.

What are hazard symbols?

What are hazard symbols?

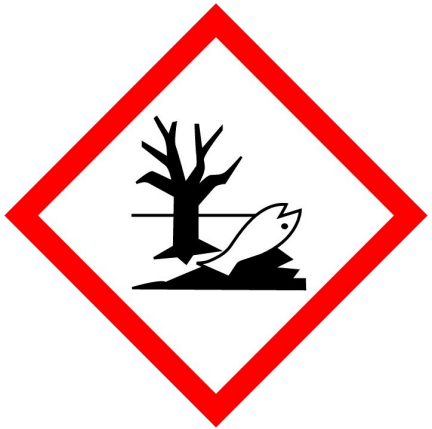
Symbols that are placed on chemical bottles and indicate what hazards are associated with that chemical.

Give examples of hazard symbols that you may come across in the laboratory

Give examples of hazard symbols that you may come across in the laboratory

- Irritant
- Corrosive
- Harmful to the environment
- Flammable
- Health hazard

Which hazard do each of these symbols relate to?



Which hazard do each of these symbols relate to?

Environmental hazard

Corrosive

How are corrosive chemicals handled safely?

How are corrosive chemicals handled safely?

- Avoid skin contact with the chemical by wearing gloves
- Wear safety goggles to avoid the chemical splashing in your eyes
- Clear up any spillages immediately