Handling and Storage of Hazardous Substances — study guide

Hazardous substances can poison, burn, or blow up, and they often give no warning until it is too late. This guide covers the safety data sheet, how substances enter the body, the hazard classes and the control hierarchy.[1][2]

Safety Data Sheets (SDS)

Safety Data Sheets provide detailed information on substances that have the potential to cause harm to people or the environment. Precautions that help control the risks of working with hazardous substances include storing chemicals according to the SDS, keeping only the minimum quantity of substance necessary, and ensuring employees are properly trained in the storage and handling of hazardous substances.

How substances enter the body

Hazardous substances can enter the body in four ways: **inhalation, absorption, ingestion, and contact with the eyes**.

Hazard classes

Common hazard classes shown on labels and data sheets include: dangerous to the environment; corrosive; long-term (chronic) health hazards; and oxidising.

The control hierarchy

Choose controls in this order, from most to least preferred: **1)** eliminate; **2)** substitute; **3)** enclose; **4)** engineering controls; **5)** procedural controls; **6)** personal protective equipment. PPE is the last line of defence — the least preferred option, used only after the higher controls have been considered.

Key facts to remember

- SDS give detailed information on substances harmful to people or the environment.
- Precautions: store per SDS, keep minimum quantities, train employees.
- Entry routes: inhalation, absorption, ingestion, eye contact.
- Hazard classes: dangerous to the environment, corrosive, long-term health hazards, oxidising.
- Control hierarchy: eliminate → substitute → enclose → engineering → procedural → PPE.

Sources

1. Control of Substances Hazardous to Health (COSHH) Regulations 2002 (UK) — assessment and control of hazardous substances.

2. IMO/UN Globally Harmonized System (GHS/CLP) for hazard classification and

labelling, as used with the IMDG Code for dangerous goods.