

Storage of Hazardous Chemicals in Warehouses

2025

Information Sheet

The storage of large quantities of hazardous chemicals in warehouses may present significant risks to workers and the environment. Such risks can be minimised by the implementation of safe storage practices. The hazards that chemicals pose can be identified from the information on the label and in the safety data sheet (SDS). The SDS also provides information in relation to conditions for safe storage, stability and reactivity, and accidental release measures.



This information sheet relates to packaged chemicals, that is, chemicals that are contained in packagings of varying sizes and materials of construction, for example, intermediate bulk containers (IBCs), drums, jerricans, composite packagings, pressure receptacles, aerosols, and gas cartridges. The information provided here relates to the storage of large quantities of hazardous chemicals. Information on the safe storage of smaller quantities of hazardous chemicals is contained in our [Storage of Hazardous Chemicals Information Sheet](#).



Good practices for the safe warehousing of hazardous chemicals

- ✓ A defined storage system based on a risk assessment is implemented.
- ✓ A chemical inventory management system, which includes a chemical inventory listing all chemicals, their quantities, and hazard classifications, is in place.
- ✓ A system for receipt of deliveries to check that packaging is in good condition prior to acceptance on site is in place.
- ✓ Unidentified chemicals which arrive on site are quarantined and not placed in the storage area.
- ✓ Vehicles containing packaged dangerous goods are parked in a safe place during loading and unloading.
- ✓ A traffic management plan, including defined vehicle routes with appropriate speed limits, is in place.
- ✓ All passageways for forklifts, trucks, pedestrians, and loading bays are kept clear.
- ✓ Training is provided to all forklift drivers.
- ✓ All hazardous chemicals are correctly labelled (dangerous goods transport label or CLP label).
- ✓ SDSs, if required to be provided, are readily accessible to all workers at risk of exposure.
- ✓ Training is provided to all workers who handle hazardous chemicals.
- ✓ Packaging is stacked in a manner that facilitates safe handling operations.
- ✓ Drums stored on their sides are prevented from moving by suitable chocks.
- ✓ Visual inspections of the chemicals and their packaging are carried out on a regular basis and a procedure is in place for dealing with issues such as damage to containers, leaks or illegible labels.
- ✓ A suitable, well-ventilated area is designated where there is a risk of an explosive atmosphere developing, for example, during the transfer of chemicals from large to smaller containers (an ATEX risk assessment must be carried out if there is a risk of explosive atmosphere occurring).
- ✓ Solvent and gas detection systems, if required, are installed at appropriate heights.
- ✓ When chemicals are transferred from large containers to smaller ones, it is ensured that the relevant hazard label information is transferred to the smaller container.

Chemical Segregation

- ✓ Proper storage conditions for a hazardous chemical are available before it is permitted on site.
- ✓ A risk assessment to assign all hazardous chemicals to an appropriate storage area is carried out.
- ✓ Aerosols are stored in a separate building.

Guiding principles of chemical segregation based on hazard classification are outlined in the table below. However, the SDS should be the main source of information on storage conditions and chemical segregation.

Chemical Segregation Table		Acid	Base	Oxidising	Flammable	Health Hazard/ Toxic
						
Acid		Compatible	Non-Compatible	Store According to the SDS	Non-Compatible	Non-Compatible
Base		Non-Compatible	Compatible	Store According to the SDS	Non-Compatible	Store According to the SDS
Oxidising		Store According to the SDS	Store According to the SDS	Compatible	Non-Compatible	Store According to the SDS
Flammable		Non-Compatible	Non-Compatible	Non-Compatible	Compatible	Store According to the SDS
Health Hazard/ Toxic		Non-Compatible	Store According to the SDS	Store According to the SDS	Store According to the SDS	Compatible

Compatible



Store According to the SDS



Non-Compatible

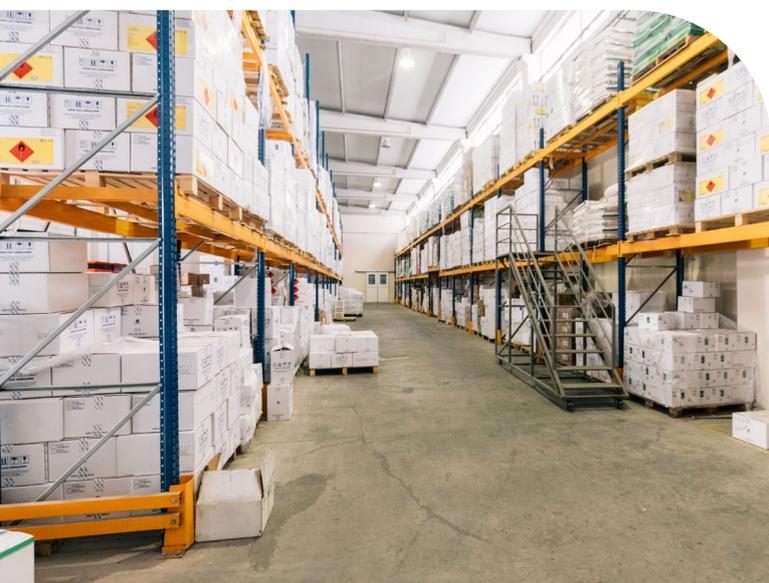


Pressure receptacles (gas cylinders) should be:

- ✓ Stored vertically, properly secured to prevent them falling over, and regularly inspected for damage or weak points.
- ✓ Protected from external heat sources, sources of ignition and flammable materials.
- ✓ Stored in a well-ventilated area for flammable, toxic, or asphyxiant gases.
- ✓ Stored in such a way that they are not at risk from vehicle impact.

Warehouse racking should be:

- ✓ Suitably designed and constructed to withstand the anticipated loading of chemical packages placed on it.
- ✓ Inspected at appropriate intervals for damage or weak points.
- ✓ Immediately replaced or repaired if damaged.



Spillage and containment

- ✓ Secondary containment (for example, a bunded area) is in place to minimise the spread of any chemical spillage within a storage area.
- ✓ Secondary containment and spill kits are in place. The use of, for example, specialised chemical cabinets, individual container bunded trays or bunded pallets is considered if the storage area does not have built-in secondary containment.
- ✓ Appropriate training and control measures are in place for dealing with chemical incidents such as liquid spills, toxic gas releases or fires.

Flammable chemicals

- ✓ All potential sources of ignition (for example, electrical, mechanical friction, sparks or air heaters) in the flammable storage area and where an explosive atmosphere may be present are controlled.

For more information on explosive atmospheres in the workplace, please refer to Part 8 of the Safety, Health and Welfare at Work (General Application) Regulations S.I. 299 of 2007 titled “Explosive Atmospheres at Places of Work.”

Emergency preparedness

- ✓ Emergency exits are kept clear at all times.
- ✓ All safety equipment, such as fire extinguishers, first-aid boxes, emergency showers or eye washes are inspected and tested at suitable intervals, and records of these inspections are maintained.
- ✓ Appropriate training is provided on the use of emergency equipment.

Further information:

Visit: www.hsa.ie/chemicals

Email queries to chemicals@hsa.ie

Contact our HelpDesk:

Email: contactus@hsa.ie

Phone: 0818 289 389

HSA

An tÚdarás Sláinte agus Sábháilteachta
Health and Safety Authority