

Corrosive Substances - An Overview

What are corrosive substances?

Corrosive substances are substances that cause damage to other substances by means of chemical reaction. They are a class 8 dangerous good.

Corrosive substances may cause severe harm to humans when in contact with living tissue such as skin, and damage or destroy surrounding materials such as steel and aluminium, in an uncontained situation.



Where are corrosive substances most likely to be found?

Common corrosive substances include acids such as sulphuric acid, strong bases such as sodium hydroxide, batteries and their fluids. Many chemicals are classified as class 8 substances, including cleaners and sanitisers, but also feature in other forms such as gasses and solids.

Corrosive substances can be found in many industries today including food processing, manufacturing, healthcare, hospitality and agriculture.

Risks of corrosive substances to humans

In many cases, corrosive substances will burn and destroy body tissue instantly on contact. The longer a corrosive is in contact with the body, the worse the injuries will be and in severe cases, corrosive burns can cause death.

Breathing in corrosive vapours can quickly burn the inner lining of the nose, throat, windpipe and lungs. In the event of digestion, corrosives will again burn the sensitive lining of the mouth, throat, oesophagus and stomach. In non-fatal cases, severe scarring of the throat can occur resulting in the loss of swallowing ability.

How do I store corrosive substances?

When storing class 8.2A and 8.2B substances in quantities above the following thresholds, a hazardous substance location (HSL) must be established:

Class	Threshold for a place	Threshold for farms (not less than 4HA)
8.2A	50L or kg	500L or kg
8.2B	250L or kg	3500L or kg

There are specific rules for storing these substances in an HSL, depending on the type of HSL. There are specific rules for HSLs that are:

1. Package stores (other than indoor storage cabinets) for Class 8 substances
2. Indoor storage cabinets for Class 8.2A & 8.2B substances

These requirements must be met from 1 June 2019.

Design requirements for cabinets

The following list is a summary from the AS 3780 Standard:

- Self-closing doors
- Class 8 hazard labelling. Labelling must include:
 - the word 'HAZCHEM'
 - a hazard pictogram or statement for each class, and,
 - the immediate response action in the event of an emergency

- Display of AS design compliance
- Ventilation bungs, for venting when required
- The name and address of the New Zealand manufacturer/importer
- Display of its maximum storage capacity

Storing corrosive substances indoors and outdoors

Indoor storage

When using an HSL that is an indoor storage cabinet, the cabinet must meet the design requirements of sections 4.6.4 and 4.6.5 of AS 3780-2008.

Indoor storage cabinets should come with ventilation ports, which can be opened in situations where venting is required.

No more than 1,000L, or kg, of toxic substances can be stored in a single cabinet, of which:

- No more than 50L or kg are Class 8.2A substances
- No more than 250L or kg are Class 8.2B substances

If there is more than one cabinet in a building, the total quantity of corrosive substances in all cabinets, cannot exceed the above quantities – unless the cabinets are separated by a distance of at least 5m.



Hazero Corrosive Cabinet - 250L

Indoor storage cabinets need to be near a water supply for hand-washing, and in a location that does not block exits or stairways that people use in an emergency.

The cabinet should not be used for storing other incompatible class substances, or other corrosive substances which could react dangerously when mixed.

Hazero Corrosive Cabinets are available in six sizes:

- [Hazero Corrosive Cabinet - 30L](#)
- [Hazero Corrosive Cabinet - 60L](#)
- [Hazero Corrosive Cabinet - 100L](#)
- [Hazero Corrosive Cabinet - 160L](#)
- [Hazero Corrosive Cabinet - 250L](#)
- [Hazero Corrosive Cabinet - 350L](#)

Outdoor storage

When storing corrosive substances outdoors, the storage facility is termed a 'package store'. Some of the requirements of these stores include:

- The walls, roof sheeting and main supports in structures built or changed after 1 June 2019, are made of non-combustible materials, which are resistant to the substances stored inside
- There is suitable ventilation if there is a risk of inhaling dusts, mists or vapours
- There is a system to contain spills or divert them to secondary containment inside your premises
- Racks or shelves prevent liquid accumulating, unless they are spill trays
- In stores where containers are opened, there is a safety shower, eye-washing facilities, and water for washing hands

Refer to the [WorkSafe website](#) for more details.

Secondary containment

Secondary containment is required when storing corrosive substances below the threshold amounts (therefore outside an HSL), and on a farm. On farms you must ensure spills will not reach any protected place, waterway or boundary with another property.

For HSLs that are indoor storage cabinets, the bund height must be 150mm as per AS 3780.

For an HSL that is a package store (other than an indoor storage cabinet), the level of secondary containment necessary is stipulated in Section 13.30 of the HSWR Regulations 2017 – see table below:

Container size	Total pooling potential	Minimum secondary containment
60L or less	Less than 20,000L	25% of total pooling potential
	More than 20,000L	5% of total pooling potential (or) 5,000L – whichever is greater
More than 60L, and up to 450L (200L drums included)	Less than 20,000L	25% of total pooling potential (or) 110% of the capacity of the largest container – whichever is greater
	More than 20,000L	5% of total pooling potential (or) 5,000L – whichever is greater
More than 450L (IBC units included)	Less than 5,000L	25% of total pooling potential (or) 110% of the capacity of the largest container – whichever is greater
	More than 5,000L	5% of total pooling potential (or) 5,000L – whichever is greater

Incompatible corrosive substances

Some substances will react negatively and dangerously, when they come into contact with incompatible substances, and these must be stored separately.

Hazard Classification	Total pooling potential
8.2A & 8.2B corrosive acids	All Class 1 substances Class 4.3A, 4.3B & 4.3C substances All Class 5 substances Class 6.1A, 6.2B & 6.1C toxic cyanides Class 8.2A & Class 8.2B corrosive alkalis*
8.2A & 8.2B corrosive alkalis	All Class 1 substances Class 4.3A, 4.3B & 4.3C substances All Class 5 substances Class 8.2A & Class 8.2B corrosive acids*

**It is important to note that although they are of the same hazard classification, it is critical that class 8 acids are stored separately to class 8 alkalis (or bases). If two of these substances cross-contaminate, e.g. hydrochloric acid and sodium hydroxide (alkali), a very strong chemical reaction could occur, generating dangerous gasses and heat.*

Creating safer working environments

At Hazero our mission is zero hazards. Our extensive range of quality products will help you store, contain and control and clean-up dangerous goods and hazardous substances.

View our full range of Hazero Corrosive Cabinets [here](#).

Need help creating a safer working environment?

Contact our team today on 0800 688 844 or email us at help@hazero.co.nz. Our team are also available for on-site assessments across New Zealand, click [here](#) to request a site visit.

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