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safer working environments

Toxic Substances - An Overview

What are toxic substances?
Toxic substances are a class 6 dangerous good and are subdivided into two classes, class 6.1 – toxic substances or class 6.2 – infectious substances.

Class 6.1 - Toxic substances
These are substances liable either to cause death or serious injury or to harm human health if swallowed or inhaled, or by skin contact.

Class 6.2 - Infectious substances
These are substances known or reasonably expected to contain pathogens. Pathogens are defined as micro-organisms (including bacteria, viruses, parasites, fungi) and other agents such as prions, which can cause disease in humans or animals.

Where are toxic substances most likely to be found?
Common class 6 substances include cyanides, lead compounds, phenol, cresols, some pesticides, biological samples and clinical wastes. One of the most common are agrichemicals, which according to **Grosafe** nearly half of those registered in New Zealand are classified as acutely toxic at some level.

Risks of toxic substances to humans
Toxic substances can cause serious health effects to people. Health effects may include, drowsiness, dizziness, nausea, and in the most serious cases, unconsciousness and death. Some short and long term impacts can be skin irritation and reaction, eye irritation, respiratory damage and lung injury.
The degree of hazard from exposure to a toxic substance is related to the type of substance an individual is exposed to, the concentration, the path into the body and the amount absorbent.

How do I store toxic substances?
When storing Class 6.1A, 6.1B and 6.1C 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)
6.1A	50L or kg	500L or kg
6.1B	250L or kg	3500L or kg
6.1C	1000L or kg	3500L or kg

There are specific rules for storing these substances in an HSL, depending on the type of HSL. These specific rules for HSLs are:
1. Package stores (other than indoor storage cabinets) for Class 6 substances
2. Indoor storage cabinets for Class 6.1A, 6.1B & 6.1C substances

These requirements must be met from 1 June 2019.

A Certified Handler must be involved in the storage, use and disposal of the most dangerous acutely toxic poisons (Classes 6.1A & 6.1B).

Design requirements for cabinets
The following list is from the AS/NZS 4452 Standard:

- Self-closing doors
- Class 6 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/NZS design compliance
- Ventilation bungs
- The name and address of the New Zealand manufacturer/importer
- Display of its maximum storage capacity

Storing toxic substances indoors and outdoors
Indoor storage
When using an HSL that is an indoor storage cabinet, the cabinet must meet the design requirements of section 4.4.2.3 of AS/NZS 4452:1997, or the European Standard EN 14470:01 with a fire resistance of 60 minutes.

No more than 250L, or kg, of toxic substances can be stored in a single cabinet, of which:

- No more than 25L or kg are Class 6.1A substances
- No more than 50L or kg are Class 6.1B substances

If there is more than one cabinet in a building, the total quantity of toxic substances in all cabinets cannot exceed the above quantities – unless the cabinets are separated by a distance of at least 3m.

Indoor 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. Hazero Toxic Substances Cabinets are available in six sizes:

- **Hazero Toxic Cabinet - 30L**
- **Hazero Toxic Cabinet - 60L**
- **Hazero Toxic Cabinet - 100L**
- **Hazero Toxic Cabinet - 160L**
- **Hazero Toxic Cabinet - 250L**
- **Hazero Toxic Cabinet - 350L**

Outdoor storage
When storing toxic 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.

Hazero Toxic Cabinet - 250L

Secondary containment
Secondary containment is required when storing toxic 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 HSL's that are indoor storage cabinets, the bund height must be 150mm as per AS/NZS 4452.

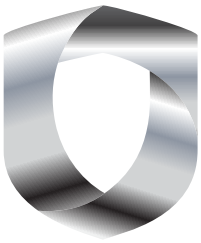
For an HSL that is a package store (other than an indoor storage cabinet), the level of secondary containment necessary is stipulated in Section 13.30 of the HSWR Regulations 2017 – see table below.

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
6.1A, 6.1B, 6.1C substances	All Class 1 substances All Class 5 substances
6.1A, 6.1B, 6.1C toxic cyanides	All Class 1 substances All Class 5 substances All class 8.2 corrosive acids

The Hazero Shield of Honour



The Hazero Shield of Honour is more powerful than a "lifetime guarantee".

It means our reputation is on the line not only when a product is sold, but every single time it is used. If the product doesn't meet your expectations over the next 99 years, we or our descendants (we're a multi-generational company), will refund, replace, or repair it. Free of charge.

You don't need a receipt. Or even a reason. No questions asked. Naturally, that's so long as you use your Hazero product as intended and in accordance with existing legislation.

Shield your people. Shield your business.
Find out more **here**.

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 Toxic 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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