

November 2017

Storing class 6 & 8 hazardous substances

KEY FACTS

When class 6.1A, 6.1B, 6.1C, 8.2A and 8.2B substances are stored at a place in quantities above the following thresholds, a hazardous substance location (HSL) must be established there. The thresholds are higher for farms.

SUBSTANCE CLASS	THRESHOLD FOR A PLACE	THRESHOLD FOR FARMS (NOT LESS THAN 4HA)
6.1A	50 L or kg	100 L or kg
6.1B	250 L or kg	500 L or kg
6.1C	1000 L or kg	3500 L or kg
8.2A	50 L or kg	500 L or kg
8.2B	250 L or kg	3500 L or kg

Every HSL for solid or liquid class 6 & 8 substances needs a location compliance certificate.

Storage of class 6 and 8 substances at a place in quantities **at or below** the above thresholds does not require the establishment of an HSL but must meet the basic requirements set out in this guide.

TABLE 1:
Thresholds for establishing an HSL

Introduction

This guide describes the requirements for storing certain toxic (class 6.1A, 6.1B, 6.1C) and corrosive (class 8.2A and 8.2B) substances. It does not cover toxic and corrosive substances that have other classifications. It explains:

- when you need to establish an HSL to store toxic and corrosive substances
- the rules for storing toxic and corrosive substances at HSLs
- when you need a location compliance certificate, and what you need to do to get one
- how to store toxic and corrosive substances outside HSLs
- which substances are incompatible with class 6 & 8 substances
- other requirements when storing these substances, such as having an emergency response plan.

'You' - the PCBU

This guide is written for persons conducting a business or undertaking (PCBUs) who store toxic and corrosive substances at their workplaces. In this guide, 'you' means the PCBU.

In simple terms, a PCBU is an individual or a company carrying on a business, but it can also be other types of organisation. More information on the PCBU and other duty holders in the workplace and their duties is available on our website:

www.worksafe.govt.nz

What is an HSL?

An HSL is an area at which hazardous substances are stored in quantities above a specified amount and for more than specified periods of time. You must put in place controls at an HSL to minimise the risks associated with storing the substances in your workplace. This protects workers and other people in the workplace, as well as the workplace itself, neighbouring properties and the environment.

Do I need an HSL?

See Table 1 above for the thresholds for establishing an HSL for class 6 & 8 substances.

If you have class 6 and 8 substances stored at an area in quantities above these thresholds, you need to formally establish an HSL if you store them for more than two hours (tracked substances) or 24 hours (untracked substances).

Generally class 6.1A and 6.1B substances require tracking and class 6.1C, 8.2A and class 8.2B substances do not. To find out if your substances require tracking, enter them into the *Hazardous Substances Calculator* (the Calculator) at:

www.hazardoussubstances.govt.nz

All HSLs holding solid or liquid toxic and corrosive substances must also have a current location compliance certificate. Enter your substances into the Calculator to find out whether you need a location compliance certificate. See further below for more on location compliance certificates.

You can hold substances in a transit depot for a maximum of three days without establishing an HSL, as long as they are stored in unopened containers.

What if I have different types of substances?

When calculating whether you need an HSL, you must consider all the hazardous substances that will be in the location. This includes hazardous substances with different classifications and different thresholds for establishing an HSL.

Several individual substances that may be under the threshold for establishing an HSL when considered separately may cross the threshold when considered together. You can either calculate this yourself or use the Calculator.

To find out, divide the quantity of the substance by the threshold for that classification and note down the results.

Then, add up the results for all of the substances that will be in that location, and if the result is more than 1, you will need an HSL (and a location compliance certificate for solid or liquid class 6 & 8 substances).

Include all class 6 & 8 substances that will be in the same location in the same calculation unless they are incompatible and stored separately (see *Incompatible Substances* below).

For example, if you hold 26 litres of a class 6.1A substance and 125 litres of a class 8.2B substance in a store that is not an indoor storage cabinet, this will be the calculation for the ratios:

- the class 6.1A substance has a threshold of 50 litres, so the ratio is 26/50, or 0.52.
- the class 8.2B substance has a threshold of 250 litres, so the ratio is 125/250, or 0.5.
- the sum of the two ratios is 1.02. This is greater than 1, so you will need an HSL.

Remember, if you store substances in an HSL together, they must not be incompatible (ie you must not store a class 6.1A toxic cyanide with a class 8.2B corrosive acid).

Storing class 6 and 8 substances in HSLs

The rules for storing these substances in an HSL depend on the type of HSL.

There are specific rules for HSLs that are:

- package stores (other than indoor storage cabinets) for class 6 and 8 substances
- indoor storage cabinets for class 6.1A, 6.1B and 6.1C substances
- indoor storage cabinets for class 8.2A and class 8.2B substances.

You need to meet the requirements for all of the above types of HSLs from 1 June 2019.

Stores (other than indoor storage cabinets)

If you manage or control an HSL that is a store for toxic and corrosive substances and that store is not an indoor storage cabinet, you must make sure that:

- the store is on a floor with immediate access for emergency service workers
- you can appropriately secure the store from access by anyone other than the people that have your permission to access the store
- there are two ways to access the store if it has a floor area larger than 25 m²
- any walls, roof sheeting and main supports in structures built or materially changed after 1 June 2019 are made of non-combustible materials resistant to the substances you are storing
- any storage areas are suitably ventilated if there is a risk of inhaling dusts, mists or vapours
- the store has a system to contain spills or divert them to secondary containment inside your premises and the floors where you decant substances are able to contain a spill or divert it to secondary containment inside your premises
- racks or shelves prevent accumulation of liquid, except if they are spill trays
- you keep any containers of class 6 or 8 substances:
 - away from sources of heat
 - securely closed while not in use
 - in a way that avoids spillage
- containers are not kept near *Incompatible Substances* or substances that can react dangerously with them (see *Incompatible Substances* below)
- if containers are in stacks, they will not collapse and the upper layers will not damage containers in lower layers
- in stores where containers are opened, there is a safety shower, eye-washing facilities, and water for washing hands

- water for washing hands must also be provided in stores where containers stay closed at all times.

You need to meet these requirements from 1 June 2019.

Indoor cabinets for toxic substances

If you manage or control an HSL that is an indoor storage cabinet for toxic substances, you must make sure that:

- the cabinet is marked with:
 - the name and address of the manufacturer or (if imported) the New Zealand distributor
 - its maximum storage capacity
 - a hazard pictogram for a class 6.1 substance.
- the cabinet meets the design requirements of:
 - section 4.4.2.3 of AS/NZS 4452:1997; or
 - European Standard EN 14470:01 with a fire resistance of 60 minutes; or
 - a standard specified in a relevant safe work instrument.
- if mechanical ventilation is required, it meets:
 - the requirements in section 4.4.2.4 of AS/NZS 4452:1997; or
 - a standard specified in a relevant safe work instrument.
- the cabinet does not block exits and stairways that people will use in an emergency
- the cabinet is near a water supply for hand-washing
- the cabinet is not used for storing incompatible substances or substances which could react dangerously with the toxic substances (see *Incompatible Substances* below)
- no more than 250 kg or L of toxic substances are stored in a single cabinet of which:
 - no more than 25 kg or L of these substances are class 6.1A substances
 - no more than 50 kg or L of these substances are class 6.1 B substances
- if there is more than one cabinet in a building or area, the aggregate quantity of toxic substances in all the cabinets does not exceed the quantities in the previous bullet point, unless the cabinets are separated by at least 3 m.

Cabinets for corrosive substances

If you manage or control an HSL that is an indoor storage cabinet for corrosive substances, you must make sure that:

- the cabinet is marked with:
 - the name and address of the manufacturer or (if imported) the New Zealand distributor
 - its maximum storage capacity
 - a hazard pictogram for class 8.2 substances.
- the cabinet meets the design requirements of:
 - sections 4.6.4 and 4.6.5 of AS 3780-2008; or
 - a standard specified in a relevant safe work instrument.
- the cabinet does not block emergency exits
- the cabinet is located near a water supply for hand-washing
- the cabinet is not used for storing incompatible substances or substances which could react dangerously with the corrosive substances (see *Incompatible Substances* further below)
- no more than 1000 kg or L of corrosive substances are stored in a single cabinet of which:
 - no more than 50 kg or L of these substances are class 8.2A substances
 - no more than 250 kg or L of these substances are class 8.2B substances.

- if there is more than one cabinet in a building or area, the aggregate quantity of corrosive substances in all the cabinets does not exceed the quantities in the previous bullet point, unless the cabinets are separated by at least 5 m.

Securing your substances

In HSLs for toxic and corrosive substances, you must secure the substances from access by anyone other than the people that have your permission (as the PCBU) to access them.

This could mean locking the substances up or it could involve other methods of security, such as installing a digital key pad and distributing the code only to authorised people.

CLASS 6.1 SUBSTANCES

For class 6.1A and 6.1B substances, and any class 6.1 substance that requires a controlled substance licence you must ensure the substance is under the control of a certified handler and secured from anyone other than the certified handler or a person handling the substance under the certified handler's supervision.

Site plans

If you have an HSL for toxic or corrosive substances, you must have a site plan that shows:

- the physical location of all HSLs holding toxic or corrosive substances, and
- the distance between the HSL and protected and public places, and other HSLs.

PROTECTED PLACE

A protected place includes:

- a place where people reside (eg a house)
- a place of worship, a public building, a school or college, a hospital, a child care facility, or a theatre
- a place where large numbers of people regularly gather (eg a sports ground)
- a place where people are regularly employed (eg a workplace).

A protected place also includes ships that are docked at permanent berthing facilities and public railways.

A protected place is not a small office or other buildings associated with a place where one of the main activities is storing, handling, using or manufacturing class 2, 3, 4, 5, 6 or 8 substances.

PUBLIC PLACES

A public place is any place other than a private property or a protected place that is open to the public and where the public is regularly present, and includes public roads.

Separation requirements

The following table shows separation distances for:

- protected places and HSLs that are stores for packaged toxic substances
- public places and HSLs that are stores for packaged toxic substances
- protected places and HSLs that are stores for corrosive substances.

Because this guide is intended for small business PCBUs, it only shows some quantities. To find out the separation requirements for larger quantities, see [Schedule 17](#) of the Health and Safety at Work (Hazardous Substances) Regulations 2017.

QUANTITY IN KG OR L	CLASS 6.1A	CLASS 6.1B	CLASS 6.1C
Minimum separation between protected places and stores for open packages of class 6 substances (m)			
50 to 250	10		
> 250 to 1000	10	6	
> 1000 to 10000	16	10	10
> 10000 to 20000	18	12	12
Minimum separation between protected places and stores for closed packages of class 6 substances (m)			
50 to 250	5		
> 250 to 1000	5	3	
> 1000 to 10000	8	5	5
> 10000 to 20000	9	6	6
Minimum separation between public places and stores for open packages of class 6 substances (m)			
50 to 250	5		
> 250 to 1000	5	3	
> 1000 to 10000	8	5	5
> 10000 to 20000	9	6	6
Minimum separation between public places and stores for closed packages of class 6 substances (m)			
50 to 250	5		
> 250 to 1000	5	3	
> 1000 to 10000	5	3	3
> 10000 to 20000	5	3	3
	CLASS 8.2A	CLASS 8.2B	
Minimum separation between protected places and containers of class 8 substances (m)			
Open containers		10	5
Closed containers		5	3

TABLE 2: Minimum separation distances between protected and public places and HSLs containing toxic and corrosive substances

Incompatible substances

Not all hazardous substances can be stored together safely. Some substances can react dangerously when they come into contact with incompatible substances.

These substances must be stored separately. When stored outside an HSL, or in an HSL that is a store other than an indoor storage cabinet, containers of class 6 or 8 substances must not be kept near hazardous substances they are incompatible with, or with which they may react dangerously.

Generally, this means separating them by at least 5 m, or, if both substances are solids, by 3 m.

If the HSL is an indoor cabinet, it must not be used for the storage of substances that are incompatible or might react dangerously if stored together.

HAZARD CLASSIFICATION	INCOMPATIBLE SUBSTANCES AND MATERIALS
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
8.2A and 8.2B corrosive acids	All class 1 substances Class 4.3A, 4.3B, 4.3C substances All class 5 substances Class 6.1A, 6.1B, 6.1C toxic cyanides Class 8.2A and 8.2B corrosive alkalis
8.2A and 8.2B corrosive alkalis	All class 1 substances Class 4.3A, 4.3B, 4.3C substances All Class 5 substances Class 8.A and 8.2B corrosive acids

TABLE 3:
Incompatible
substances

Signs

Signs let workers, emergency service workers and other people know what hazards to expect at your workplace.

For toxic and corrosive substances, you must display signs whenever you have substances over the thresholds for a place in Table 1. Farms have the same thresholds for the signage requirement as any other place.

For toxic and corrosive substances, the signage must include:

- the word 'HAZCHEM'
- a hazard pictogram or hazard statement for each class of hazardous substance
- the immediate response action in an emergency.

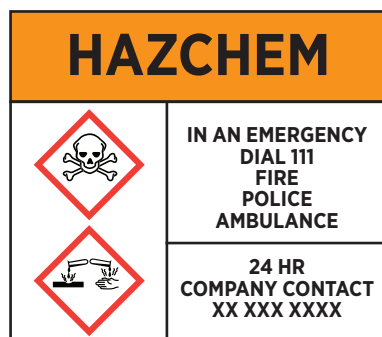


FIGURE 1:
HAZCHEM signage

If substances are in a room or compartment inside a building, display signs at each entrance to the room or compartment. Otherwise display them at every vehicular and pedestrian entrance to the building where the substances are stored and to the land where the building is located.

Don't place signs where they can be hidden or concealed.

To check if signs are doing their job, think about whether emergency service workers will have all of the information they could need to deal with the emergency.

There are specific additional signage requirements for vertebrate toxic agents (VTAs), and the positioning of signage for VTAs can vary for different sites and substances. See our *Guide to Hazardous Substance Signage* for a more complete overview of the signage requirements.

Location compliance certificates

You need a location compliance certificate for every HSL for class 6 and 8 substances in solid or liquid form. A location compliance certificate can be issued by a compliance certifier, if the compliance certifier has confirmed that you are doing everything you are required to do in an HSL for the type of substances that you are storing there.

Before issuing a compliance certificate, the compliance certifier will check that:

ITEM	CHECK
You notified WorkSafe before commissioning the HSL	<input type="checkbox"/>
You meet any applicable certified handler requirements	<input type="checkbox"/>
You have made sure that no one other than the people who have your permission can access the substances	<input type="checkbox"/>
You have provided information, training and instruction to the workers who handle or use the substances and have records of this training	<input type="checkbox"/>
You have separated HSLs the required distance from protected and public places	<input type="checkbox"/>
You have segregated class 6 and 8 substances and incompatible substances	<input type="checkbox"/>
You meet the requirements for storage cabinets or stores other than storage cabinets, as applicable	<input type="checkbox"/>
You have ensured any structure or equipment in the HSL is constructed of materials that are compatible with class 6 or 8 substances	<input type="checkbox"/>
You have ensured that equipment used to handle class 6 and 8 substances and any personal protective equipment (PPE) meets the specified requirements	<input type="checkbox"/>
You have the right signs in the right places	<input type="checkbox"/>
You have complied with any applicable requirements for emergency management	<input type="checkbox"/>
You have the clean-up materials and equipment you need and the secondary containment required for your substances	<input type="checkbox"/>

You need to obtain a location compliance certificate for an HSL for solid or liquid class 6 & 8 substances from 1 December 2019.

Getting a location compliance certificate

The first step to getting a location compliance certificate is to contact a compliance certifier. You can find a list of compliance certifiers on the WorkSafe website.

A compliance certifier is an independent service provider authorised by WorkSafe to issue compliance certificates for people, equipment and locations. For locations, the compliance certifier certifies that the location meets the requirements in the Regulations.

The compliance certifier will check the requirements that apply to your workplace, and if everything is in order, you will be issued a location compliance certificate lasting 36 months.

Compliance certifiers set the cost of issuing and renewing compliance certificates, so contact several to discuss their services and fees.

Storing class 6 & 8 substances outside HSLs

If you hold toxic or corrosive substances below the threshold quantities, or for less than the period of time specified for establishing an HSL, or if you hold VTAs temporarily (see below) you still need to meet the following basic storage requirements.

Basic storage requirements

The basic storage requirements for storing toxic and corrosive substances outside an HSL include making sure:

- the storage place can be appropriately secured from access by anyone other than the people that have your permission (as the PCBU) to access the place
- water is available for personal hygiene (eg for washing hands)
- all storage and handling areas have adequate ventilation
- no incompatible substances that could cause a dangerous reaction are nearby (see *Incompatible Substances* above)
- containers are kept away from heat sources, are securely closed when not in use, and are kept in a manner that avoids spillage
- there are spill containment measures in areas where you open containers or transfer substances.

You need to meet these requirements from 1 June 2018.

Requirements for farms

If you store toxic or corrosive substances below the threshold for establishing an HSL on a farm, you must make sure that:

- the storage area is no less than 10 m from any protected place (see further above for more on protected places)
- there is no combustible vegetation or refuse on the ground within 3 m of the storage area
- you use secondary containment or store the substances in an area where any spills will not reach any protected place, waterways, or boundaries with other properties
- storage areas are at least 15 m from the boundary of your property.

You need to meet these requirements from 1 June 2018.

Temporary storage of VTAs

If you are temporarily storing class 6.1A, 6.1B or 6.1C VTAs for an imminent pest control or pesticide application task, you do not need to establish a HSL as long as you meet the basic storage requirements described above.

Examples of temporary storage include holding the substances in a vehicle, or in an area for handling bait or loading aircraft. In other words, temporary storage means placing a substance somewhere in order to get ready for a job, and not storage between separate jobs or permanently.

However, you must tell WorkSafe where you will hold these substances at least 24 hours before you set up the temporary storage place.

This requirement commences on 1 June 2019.

Emergency management

Whether you store substances at an HSL or not, you must prepare for any emergency that could foreseeably happen at your workplace. If you hold more than a specified quantity of hazardous substances at your workplace, this includes preparing an emergency response plan (ERP).

When you enter your hazardous substances into the Calculator, it will tell you whether you need to prepare an ERP.

WorkSafe has an up-to-date template for an ERP called the *Emergency Response Flipchart* that helps you prepare your response for emergencies, including emergencies involving class 6 and 8 substances.

You can find the flipchart and Calculator at: www.hazardoussubstances.govt.nz

Clean-up materials and equipment

To prepare for emergencies involving toxic and corrosive substances, make sure you have equipment and materials for dealing with and cleaning up spills and leaks, including:

- the right PPE
- spill handling and spill containment equipment
- chemicals for neutralising or decontaminating spills
- absorbent materials
- an appropriate leak proof disposal container.

See your safety data sheet for more information on emergency management.

Secondary containment

A secondary containment system prevents direct exposure of people to harmful hazardous substances by containing spills or leaks.

It also protects substances from being contaminated by incompatible substances and materials that could cause a dangerous reaction.

Whether you need secondary containment depends on the quantity of the substances you have in your workplace and the size of the containers you store them in. You can enter your substances, container sizes and other information into the Calculator to find out whether you need secondary containment.

Further information

WorkSafe has other guidance with useful information for handling class 6 and 8 hazardous substances: our guide to certified handler requirements, or information sheets on which VTAs require controlled substance licences.

The following resources are available at: www.hazardoussubstances.govt.nz

- The *Hazardous Substances Calculator*, where you can enter the substances in your workplace to find out the key controls that you have to put in place.
- *Your Practical Guide* to working safely with hazardous substances is an introduction to many controls for a hazardous substances workplace and explains how they work together.
- The *Emergency Response Flipchart*.

Abbreviations

TERM	DEFINITION
ERP	Emergency response plan
HSL	Hazardous substance location
PCBU	Person conducting a business or undertaking
PPE	Personal protective equipment
VTA	Vertebrate toxic agent