FS_ITA06

Industrial and Trade Activities
Above Ground Storage

If your day-to-day activities involve the collection, processing, or storage of environmentally hazardous substances (EHS), then your activities may pose a risk to the environment if these products or wastes are not handled correctly.

The Law

The Polluter Pays

The **Resource Management Act 1991 (RMA)** is a law designed to protect our environment. It is illegal for any substance to be discharged into rivers, lakes and streams, or into the stormwater system, or land or air unless authorised by resource consent or a district or regional plan. Polluters can be fined up to $1,000, issued abatement notices, or prosecuted and fined up to $600,000 for breaching the RMA.

Landowners: you are responsible for any work on your land. Make sure the contractor you hire knows how to do the job properly.

Employers: you are responsible for the actions of your staff. Make sure you train them well and give them the proper tools to do the job correctly.

Workers: you are responsible for doing the job in a manner that does not breach the environmental protections put in place by your employer. If you cause pollution, you and/or your company could be held liable for clean-up costs and/or penalties

The incorrect storage and handling of EHS may lead to the contamination of our environment through accidental spills or leaks, inappropriate storage of used empty containers, or the tracking of loose products across an uncontained area

This factsheet applies to the above ground storage and transfer of liquids and solids only and should be read in conjunction with Chapter E33 of the Unitary plan which places specific storage requirements on businesses that store environmentally hazardous substances (E33.6.1.1.(5), (8) ,(9)). These requirements are in line with HSNO.

Hazardous Substances and New Organisms Act (1996)

The Hazardous Substances and New Organisms Act (1996) (HSNO) is the legislation that governs the management of hazardous substances in New Zealand. HSNO sets out specific requirements relating to the storage of hazardous substances to ensure they are stored safely. HSNO identifies many hazardous substances that have ecotoxic properties and sets out particular controls to

protect the environment from their damaging effects. Auckland Council is responsible for environmental protection in the Auckland Region and supports full compliance with the HSNO requirements.

Types of hazardous substances

Under HSNO, a hazardous substance can be any substance that has at least one of the following hazardous characteristics:

- Explosive
- Flammable
- Ability to oxidise
- Corrosive toxic
- Ecotoxic (i.e can kill living things directly or by building up in the environment)
- Can generate a hazardous substance on contact with air or water

As a guide, the following classes of hazardous substances are considered environmentally harmful:

- All hazardous substances (liquid or solid) with any Class 9 (Ecotoxic) HSNO classifications
- All detergents and surfactant materials
- All infectious materials
- All liquids with BOD5 levels above 300 mg oxygen/litre, (including many foodstuffs and beverages).

HSNO

All HSNO requirements are legally binding and have important implications for human health and safety, and environmental protection.

If you store hazardous substances on your site, you will need to ensure that all your hazardous substances are correctly classified or assigned to a Group Standard.

This factsheet covers the bunding requirements of environmentally hazardous substances only, and for further information about classification or for information on how to assess your HSNO requirements, please contact a HSNO Test Certifier.

A list of Test Certifiers is available on the website epa.govt.nz

AUP Requirements: Secondary containment for storing environmentally hazardous substances (EHS's)

Many environmentally hazardous substances are not classified as hazardous by HSNO and some are environmentally hazardous at levels below the HSNO trigger volumes. These include substances such as milk, detergents, vegetable oils, soft drinks and alcoholic drinks.

When the quantity of an EHS exceeds that used for domestic purposes, secondary containment (usually utilising a bund) is required. The HSNO definition of a secondary containment system is:

"…a system in which liquids will be contained if they escape from the container/s they are in. The most common form of secondary containment system for above ground stationary containers is a compound (bund)".

If the substance is stored outside, the containers should be stored in a manner which prevents the entry of rainwater into the container. Associated bunding should also be covered to prevent rainwater filling up the bund. This rainwater can be hard to dispose of as it can become contaminated and should not be discharged to the stormwater system

There should be no valves allowing the discharge of the bund contents and any old pre-existing valves should be padlocked to prevent accidental discharges

Storage within buildings must comply with the secondary containment system requirements. Whilst preference is given to the use of 'traditional' tank secondary containment systems, the 110% secondary containment requirement may be met within the building itself e.g. 110% secondary containment may be provided within the building by forming a 'lip' on doorways and calculating the floor area capacity

Container Type	Minimum capacity requirements for secondary containment
Tank(s)	A least 110% of the capacity of largest tank; or[1] 25% of total storage capacity[1].
Drums and IBC's	An effective storage of at least 100mm (allowing for slope) with a setback distance equivalent to half the height of the stacked/stored drums; or[1], At least 25% of total storage capcity[1].
[1]Whichever is greater, taking into account displacement volume of any internal equipment/stored material.	

All ancillary equipment and refuelling equipment must be within the secondary containment system.

Double skinned tanks do not take account of the spill risk around filling of the tank, any refuelling nozzles/hoses or ancillary pipework that could fail and cause a leak/spill, they also do not protect against damage caused to the tank. Therefore, it is best practice to provide additional secondary containment.

Unless additional secondary containment is provided for the tank and its ancillary equipment, double skin tanks will not prevent all spill risks. As well as the need for secondary containment, it may be appropriate, and possibly required by HSNO, to secure the storage area to avoid vandalism and/or theft

Ancillary equipment and maintenance checks:

- A bund should be able to capture a spill or leak from pumps, pipes, valves and decanting vessels associated with bunded containers.
- Loading points for tanks are to be within the bund.
- Tanks and drums should be stored a distance of half the height of the tank or stack of drums away from the inner edge of the bund - this is called the 'set-back' distance. If a leak happens, the contents may 'jet-out' under pressure and escape the bund. A set-back minimises the risk of a leak escaping the bund in these circumstances

Contact an ITA Specialist

In our experience it helps to work proactively and collaboratively. Call our contact centre and ask to speak to an Industrial and Trade Activity Specialist in the Proactive Compliance or Specialist Unit of Regulatory Services or email your enquiry to the address below and we'll be happy to get in touch to provide assistance and advice.

- Formal procedures should be developed for the inspection and maintenance of bunded areas and the draining of stormwater if the bund is not roofed. Small amounts of accumulated stormwater will eventually evaporate, however after heavy rainfall, if the bund is uncovered and empty, it may indicate that there is a leak in the bund somewhere.
- All bunds, tanks, and pipework should be inspected regularly for signs of leaks, spills, or damage. Any defects to bund walls or lining should be repaired promptly and damage to tanks, containers, or pipework should be dealt with immediately
- Bunded areas serve the additional purpose of protecting containers from being damaged or knocked by vehicles or equipment.

Inspection and Maintenance checks		✓ or ✗	**Observations**
Condition of containers which store substances	Is the tank fit for purpose		
	Are any tanks, drums or IBCs damaged		
	Are all lids and caps on?		
	Are all valves closed		
Secondary containment storage capacity	Is the secondary containment system suitably sized for the tanks or containers to be stored in that area		
	Is there sufficient room to take account for the 'set-back' distance required?		
Storage conditions	Are containers stored correctly?		
	If the containers in the bund are stacked – are there suitable supports or restraining structures to prevent containers falling?		
	Is the bund or lining damaged?		
Tank ancillary equipment	Is all tank ancillary equipment stored in the secondary containment system?		
Leaks and spills	Are any spills evident?		
	Is there any leaking?		
	Is there any tracking of EHS outside of the bunded area?		
	Does the bund need to be emptied of accumulated rainwater?		