

# Above ground fuel storage on farms

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*GUIDANCE FOR KEEPING HEALTHY  
AND SAFE AROUND FUEL STORAGE  
AREAS ON FARMS*

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**Te Kāwanatanga o Aotearoa**  
New Zealand Government

**WORKSAFE**  
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**These guidelines provide practical advice on ways to manage the health and safety risks associated with the above ground storage of fuel on farms.**

#### **ACKNOWLEDGEMENTS**

WorkSafe would like to acknowledge and thank the stakeholders who have contributed to the development of this guidance.

# Above ground fuel storage on farms

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## KEY POINTS

- The unsafe storage of fuel can expose workers and others to health and safety risks.
- Fuel storage areas must be separated from people, ignition sources and other hazards to minimise the risks of a fire.
- Your fuel tank must be in good condition, and you must make sure access to your tank is without risks.

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## Note

These guidelines use 'must' and 'should' to indicate whether an action is required by law or is a recommended practice or approach.

<b>TERM</b>	<b>DEFINITION</b>
<b>Must</b>	Legal requirement that has to be complied with
<b>Should</b>	Recommended practice or approach

While it is not mandatory to meet some of the requirements when fuel quantities stored are below minimum thresholds (for example, not needing secondary containment for storing less than 2,000L), it is good practice to meet these requirements regardless of the quantity of fuel held.

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# 1.0

## Introduction

### **IN THIS SECTION:**

- 1.1 Who should use these guidelines?
- 1.2 What are these guidelines about?
- 1.3 What is a farm?
- 1.4 What do these guidelines cover?
- 1.5 Everybody has responsibilities for work health and safety



# The unsafe storage of fuel can expose workers and others to health and safety risks.

## 1.1 Who should use these guidelines?

These guidelines are for any person conducting a business or undertaking (PCBU) who manages a farm where fuel is stored.

It may also be useful for workers, fuel distributors and other organisations involved in the supply of fuel to farms.

## 1.2 What are these guidelines about?

These guidelines provide guidance on ways to manage the risks associated with the above ground storage of fuel on farms.

These guidelines describe the requirements for petrol and diesel. However, the requirements for petrol generally also apply to other fuels such as E10, E85, aviation gasoline, racing gasoline and kerosene.<sup>1</sup>

## 1.3 What is a farm?

In these guidelines, a 'farm' means an area of land at least four hectares (4ha) in size. The land's main purpose must be agricultural. This includes dairy farms, horticulture, viticulture, and other similar industries.

If your agricultural property is less than 4ha in area, you must comply with the requirements for fuel storage at places other than farms. See [Managing your hazardous substances](#)

## 1.4 What do these guidelines cover?

These guidelines can help PCBUs of farms meet the requirements of:

- the [Health and Safety at Work Act 2015 \(HSWA\)](#)
- the [Health and Safety at Work \(Hazardous Substances\) Regulations 2017](#) (the Regulations) and
- the [Hazardous Substances \(Hazardous Property Controls\) Notice 2017](#)

The Regulations set out minimum requirements for the storage of fuels on farms.

Some of these requirements (such as emergency response plans and secondary containment) are only mandatory under certain circumstances. However, it is good practice to always adopt these control measures.

<sup>1</sup> You can use the [hazardous substances calculator](#) to work out the requirements for various fuels.

These guidelines are grouped into six main topics areas:

- knowing about fuel
- the fuel storage area
- fuel tanks
- storing fuel in tanks
- storing fuel in drums
- emergency planning.

## 1.5 Everybody has responsibilities for work health and safety

Under HSWA, a PCBU must ensure, so far as is reasonably practicable, the health and safety of its workers and make sure that other people are not at risk from its work. When you see 'you' in these guidelines, it refers to the PCBU.

For more information about the duties of a PCBU, see our special guide [Introduction to the Health and Safety at Work Act 2015](#)

For instance, you must:

- make sure that tanks are maintained so that the fuel tanker driver can deliver fuel safely
- provide safe access to your farm for fuel tankers to deliver fuels safely.

Your workers must also take reasonable care for their health and safety, and take care to make sure their acts or omissions do not adversely affect the health and safety of others.

Other PCBUs also have health and safety responsibilities relating to the delivery and storage of fuel on your farm.

For example:

- tank and container manufacturers must make sure they manufacture tanks and containers that comply with the Regulations
- importers who import tanks and containers for the purpose of storing fuel must make sure that the tanks and containers they import comply with the Regulations
- fuel distributors or suppliers must provide safety data sheets (SDS) for the fuel they are providing
- fuel distributors must make sure they act in ways that ensure people's health and safety is not compromised. For example, if they believe a fuel tank or container is unsafe, they must not fill it.

You must, so far as is reasonably practicable, consult, cooperate and coordinate activities with all other PCBUs you share duties with so that all PCBUs can meet their joint responsibilities.

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# 2.0

## Knowing about your fuels

### **IN THIS SECTION:**

- 2.1 Get an SDS for your fuel from your supplier
- 2.2 Keep an inventory
- 2.3 Fire and explosion hazards of fuel
- 2.4 Health hazards of petrol
- 2.5 Health hazards of diesel
- 2.6 Environmental hazards of fuel
- 2.7 Training
- 2.8 Supervision

# Workers need to understand the physical, health and environmental hazards of fuel.

## 2.1 Get an SDS for your fuel from your supplier

You must obtain an SDS from your supplier. The SDS will include advice on how to treat health effects from fuel exposure and how to prevent soil and water contamination.

## 2.2 Keep an inventory

Fuels must be included in your inventory of hazardous substances at your farm.

For each fuel, your inventory must include:

- the name of the fuel (for example, petrol)
- the UN Number if available (for example, UN 1203)
- the maximum quantity likely to be held on site (for example, 2,000L)
- the location of the fuel
- any specific storage or segregation requirements (for example, store in a cool, dry, well-ventilated area away from sources of ignition, oxidising agents, strong acids, foodstuffs, and clothing)
- the current SDS or a condensed version of its key information.

You can use the Hazardous Substances Online [Calculator](#) to prepare your inventory.

For more information, see our quick guide [Inventory requirements for hazardous substances](#)

## 2.3 Fire and explosion hazards of fuel

Petrol is highly flammable<sup>2</sup> and can be easily ignited causing a dangerous fire. It has a lower flashpoint than diesel, which means it will ignite at a lower temperature. However, diesel<sup>3</sup> can also cause dangerous fires that are difficult to put out.

## 2.4 Health hazards of petrol

Petrol vapours contain hydrocarbons, which are toxic to people.

Short-term exposure to petrol vapours can cause dizziness, feeling sick, headaches and vomiting.

Long-term exposure to petrol can cause brain or nervous system damage, and a higher chance of getting leukaemia – a cancer of the blood or bone marrow.

<sup>2</sup> HSNO class 3.1A, GHS flammable liquid Category 1.

<sup>3</sup> HSNO class 3.1D, flammable liquid Category 4.

## 2.5 Health hazards of diesel

Diesel can cause dry or cracked skin if you often get it on your skin. It can also cause eye, nose, and throat irritation if you breathe in diesel vapours.

## 2.6 Environmental hazards of fuel

Both petrol and diesel are classified as ecotoxic in the aquatic environment.<sup>4</sup> This means they are toxic to organisms that live or swim in water. They can also contaminate the soil.

Care needs to be taken to ensure any fuel spills or leaks do not enter water bodies such as ground water, lakes, ponds, ditches, rivers or streams.

## 2.7 Training

You are responsible for making sure your workers have received the training, information, and instruction they need to safely handle, use and store fuels on your farm.

In general, workers need to be:

- shown where fuels are stored and given information about the harm the fuels can cause and how the workers can keep themselves safe
- shown how to safely dispense the fuel
- shown where information about how to safely handle and store the fuel is kept, including where the SDSs are
- trained about the actions they need to take in an emergency – whether it is a fire, a fuel spill or a medical emergency.

You must keep records about the training and instruction you give your workers.

These records, which could be a note in your notebook, must be made available to an inspector or compliance certifier on request.

## 2.8 Supervision

In addition to training, you should supervise new workers using fuel on your farm to ensure they are following the correct procedures that will protect themselves from any risks to their health and safety.

This should be documented and recorded as outlined in *Training* above.

For more information, see our quick guide [Information, training and instruction for workers handling hazardous substances](#)

<sup>4</sup> HSNO class 9.1B, hazardous to the aquatic environment chronic Category 2.

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# 3.0

## The fuel storage area

### **IN THIS SECTION:**

- 3.1 Separation distances
- 3.2 Storing petrol in tanks or drums
- 3.3 Storing diesel in steel tanks
- 3.4 Storing diesel in plastic tanks
- 3.5 Ignition sources
- 3.6 Hazardous areas around fuel storage
- 3.7 Secondary containment
- 3.8 Compliance certificates
- 3.9 Signs
- 3.10 Tank labels

Fuel storage areas must be separated from people, ignition sources and other hazards to minimise the risks of a fire.

### 3.1 Separation distances

Because fuels are flammable, there are minimum distances needed between where they are stored and other buildings or activities.

The set minimum distances vary according to the fuel being stored and the type of storage.

For example, there are different requirements for:

- petrol stored in tanks
- petrol stored in drums
- diesel stored in steel tanks
- diesel stored in plastic tanks.

Tables 1 and 2 provide you with a summary of:

- the legal requirements which must be followed (M) and
- good practice (GP) guidance (which is not mandatory to follow but is recommended).

Farms producing food products may have additional requirements relating to proximity of bulk fuel storage to certain areas. For example, bulk fuel storage must not be within 20m of a farm dairy (as per NZCP1 requirements under the Animal Products Act 1999).

In addition, fuel should not come into contact with stock food, animal health products or drinking water sources at any time, including spills.

### 3.2 Storing petrol in tanks or drums

KEEP FUEL STORES AWAY FROM	EXAMPLE(S)	DISTANCE FROM THE STORAGE OF LESS THAN 2,000L OF PETROL <sup>5</sup>	
		In tanks	In containers of less than 250L
Combustibles	<ul style="list-style-type: none"> <li>- Hay</li> <li>- Wooden buildings</li> <li>- Wooden platforms</li> </ul>	6m (M)	6m (GP)
Other hazardous substances	<ul style="list-style-type: none"> <li>- Pesticides</li> <li>- Fertilisers</li> <li>- Cleaning agents</li> </ul>	6m (GP)	6m (GP)
Public places	<ul style="list-style-type: none"> <li>- Including public roads</li> </ul>	6m (GP)	6m (GP)
Protected places	<ul style="list-style-type: none"> <li>- House, residential building, livestock building, packhouse or any building or open area where large numbers of people are likely to gather</li> </ul>	20m (M)	15m (M)
Other buildings	<ul style="list-style-type: none"> <li>- Farm sheds</li> </ul>	6m (M)	6m (GP)
Property boundary		6m (GP)	6m (GP)
Obstacles, obstructions, rubbish, or vegetation cover		3m (GP)	3m (GP)

**TABLE 1:**  
Separation distances for the storage of petrol on farms

If 2,000L or more is stored at the location, different separation distances apply, and a compliance certificate will be required. For more information, see [Location compliance certificate](#)

### 3.3 Storing diesel in steel tanks

A 2,500L diesel tank must be located at least 2m away from a protected place, such as house or public building.

There are no separation distances specified to sources of ignition or hazardous areas.

<sup>5</sup> The requirements in Table 1 relate to locations on farms where the combined quantity of each class 3.1B or 3.1C pesticide or veterinary medicine, or any petrol, aviation gasoline, or racing gasoline stored at the location is less than 2,000L.



### 3.4 Storing diesel in plastic tanks

Plastic fuel tanks can be used to store diesel on farms. The following minimum separation distances must be complied with.

KEEP FUEL STORES AWAY FROM	EXAMPLE(S)	DISTANCE FROM DIESEL STORED IN PLASTIC TANKS
Combustibles	<ul style="list-style-type: none"> <li>- Hay</li> <li>- Wooden buildings</li> </ul>	6m (M)
Other hazardous substances	<ul style="list-style-type: none"> <li>- Pesticides</li> <li>- Fertilisers</li> <li>- Cleaning agents</li> </ul>	6m (M)
Protected places	- House, residential building, livestock building, packhouse or any building or open area where large numbers of people are likely to gather	45m (M)
Other buildings	- Farm sheds	6m (M)
Property boundary		20m (M)
Obstacles, obstructions, rubbish, or vegetation cover		3m (M)

**TABLE 2:**  
Separation distances for the storage of diesel on farms in plastic tanks

For more information, see [Health and Safety at Work \(Hazardous Substances - Polyethylene Above Ground Stationary Tanks for Diesel Fuel\) Safe Work Instrument 2017](#)

### 3.5 Ignition sources

Ignition sources are anything that could ignite fuel vapours. A plastic diesel tank must be located at least 6m away from an ignition source but other fuel tanks must be at least 15m away from ignition sources.

IGNITION SOURCE	EXAMPLE
Naked flames	<ul style="list-style-type: none"> <li>- Fires</li> <li>- Incinerators</li> <li>- Welding torches</li> <li>- Lit cigarettes</li> </ul>
Sparks from tools	- Grinders or tools that could cause sparks, such as metal drills
Electrical appliances	<ul style="list-style-type: none"> <li>- Fittings such as switches, lights, three-pin plugs and switchboards</li> <li>- Electrically-powered tools or machines</li> <li>- Electric fence controllers</li> <li>- Overhead powerlines</li> <li>- Batteries</li> </ul>
Running engines	- Engines such as compressors or freezer motors
Static electricity	- A large static electricity build-up will release a spark, which can cause a fire

**TABLE 3:**  
Example of ignition sources

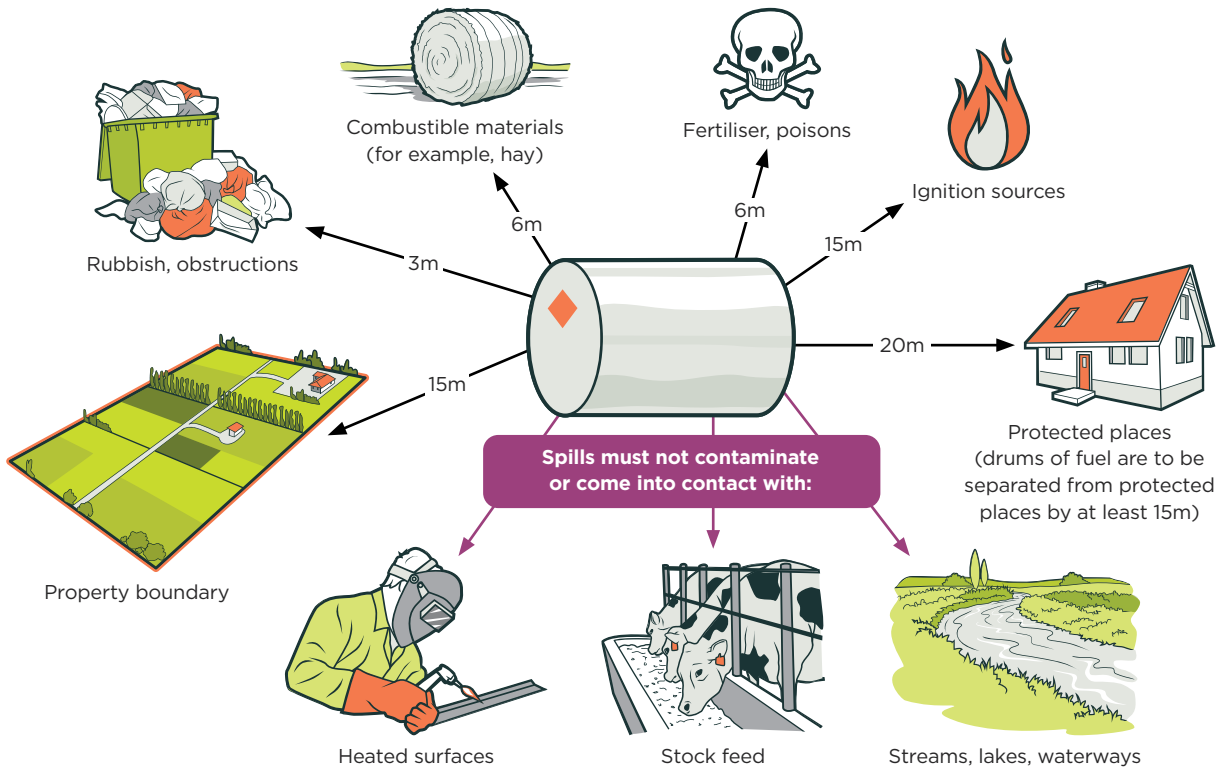


FIGURE 1: Required distances for petrol storage areas

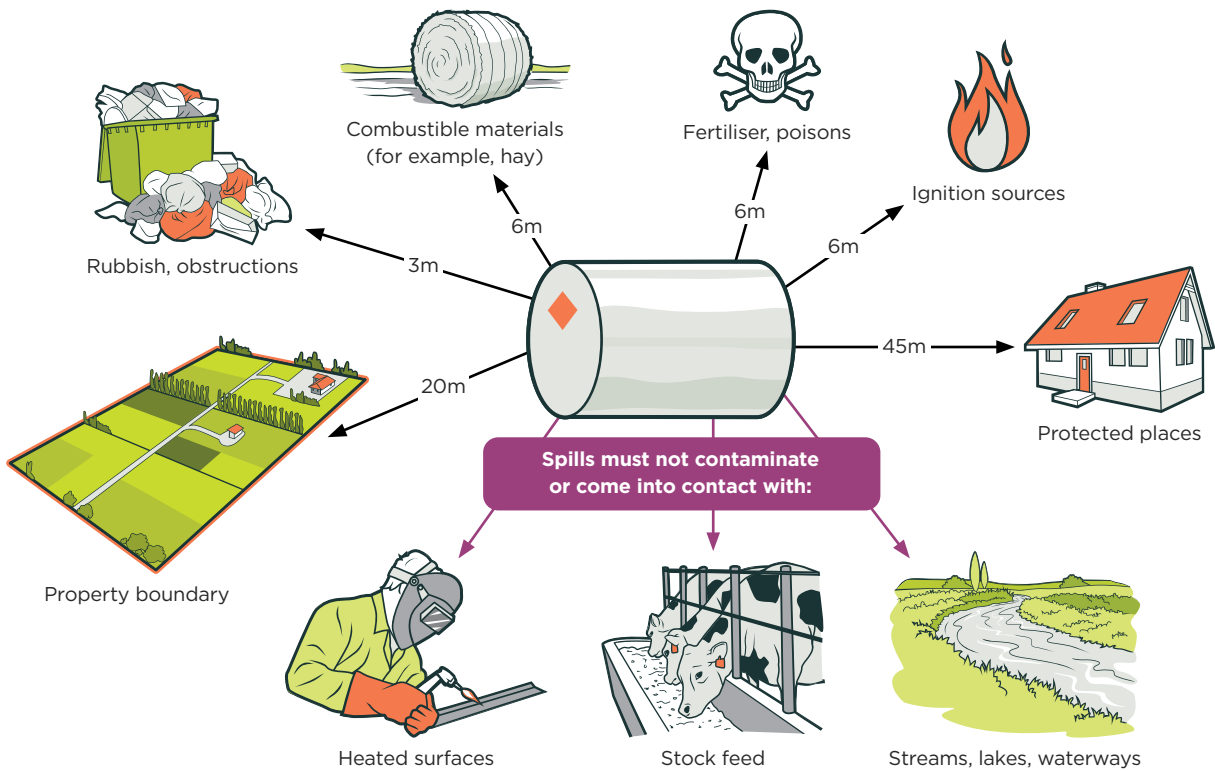


FIGURE 2: Required distances for diesel in plastic tanks

### 3.6 Hazardous areas around fuel storage

A hazardous area is an area where explosive vapours may be expected to be present in such quantities as to require special precautions for the construction, installation, and use of equipment.

For information on hazardous areas and how to manage them, see [Appendix 4](#)

Hazardous areas are not required for diesel.

### 3.7 Secondary containment

A secondary containment system is a physical barrier or container that can hold the contents of tanks or drums in case they spill or leak. Secondary containment includes double skin tanks, drip trays, compounds, and bunds.

You do not need a secondary containment system if you store, at a single location, on your farm:

- less than 2,500L of fuel in a tank or
- less than 2,000L of fuel in drums.

However, the tank or drums must be located so that spills will not endanger buildings or water bodies, like streams, lakes, or natural water.

#### Double skin tanks

A double skin tank's outer skin is the secondary containment system.

The outer skin must comply with the secondary containment sizing requirements. They can only be used in specific locations. For details, see the [Reduced secondary Containment for certain above ground stationary tanks - Safe Work Instrument 2017](#)

### 3.8 Compliance certificates

Compliance certificates are issued by compliance certifiers authorised to issue compliance certificates for locations or stationary container systems.

To find a compliance certifier, see [Register of compliance certifiers](#) on our website.

#### Location compliance certificate

You must have a location compliance certificate if you store over 2,000L of petrol, at a single location on your farm.

**Diesel does not require a location compliance certificate.**

You do not need a location compliance certificate if you store less than 2,000L of petrol in a tank which:

- meets certain safety requirements - check that the tank design is certified and that the tank manufacturer is a certified fabricator before you buy a new tank. You can check these by looking at our records [Stationary containment system design and fabricator record](#)
- is situated at least 20m from any protected place
- is situated 6m from any combustible materials
- is in a compound or other place where spills will not endanger buildings or flow into any streams, lakes or natural water.

You do not need a location compliance certificate if you store less than 2,000L of petrol in containers that are:

- secured in one or more containers each of which has a capacity of less than 250L
- purpose-made UN or UL marked containers (note that old oil drums are **not** compliant)
- stored in a compound or other place where spills will not endanger buildings or flow into any natural water bodies, like streams or lakes.

The containers must also be stored:

- at least 15m from any protected place, and
- in the open, or in a well-ventilated building.

### Stationary container system (tank) compliance certificates

If you have a tank containing fuel, you may need a stationary container system compliance certificate to certify that your tank is safe and complies with the minimum legal requirements for fuel storage.

The thresholds above ground tank certification vary as follows.

#### Above ground diesel tanks

Above ground tanks storing diesel or kerosene need a stationary container system compliance certificate if the tank has a water capacity:

- greater than 5,000L
- of 60L or over and is connected to a burner (including a heater or boiler) or
- of 500L or over and is connected to a stationary engine.

#### Above ground petrol tanks

Tanks storing need a stationary container system compliance certificate if the tank has a water capacity:

- over 2,500L in volume, or
- over 50L in volume and connected to a stationary engine.

## 3.9 Signs

You must have signs if you hold more than 2,000L of petrol or 1,000L or more of diesel at a location on your farm.



Signs must be:

- made of a durable material that will not easily fade
- in plain English
- readily understandable with the information (correct words and pictograms) clearly visible and legible from at least 10m away under varying conditions (for example, rain or poor light).

**Note:** A tank label can serve as signage, but it must contain the word HAZCHEM.

### Signs for the storage of petrol



If you hold more than 2,000L of petrol in an area, you must position a hazard sign immediately next to the area.

<b>HAZCHEM</b>		
<b>Petrol</b>	<b>3Y</b>	<b>UN 1203</b>
	<p><b>EXTREMELY FLAMMABLE LIQUID AND VAPOUR</b>  <b>KEEP AWAY FROM IGNITION SOURCES</b>  <b>NO OPEN FLAME - NO SMOKING</b>  <b>IN THE CASE OF FIRE CALL 111</b></p>	
	<p><b>ECOTOXIC TO AQUATIC LIFE - CONTAIN SPILLS,          PROTECT WATERWAYS</b>  <b>IN CASE OF SPILL CALL REGIONAL COUNCIL          POLLUTION HOTLINE [0800 xxx xxx]</b></p>	

**FIGURE 3:**  
An example  
of a petrol sign

### Signs for the storage of diesel or kerosene

If you hold more than 1,000L of diesel or kerosene in an area, you must position a hazard sign immediately next to the area.

<b>HAZCHEM</b>	
<b>DIESEL FUEL</b>	
	<p><b>IN AN EMERGENCY DIAL 111</b>  <b>FIRE POLICE</b>  <b>AMBULANCE</b>  <b>24 HR COMPANY CONTACT</b>  <b>XX XXX</b></p>
	<p><b>Keep away from sparks, open          flames and hot surfaces</b>  <b>No smoking</b>  <b>Avoid release to the          environment</b></p>
<b>3Z</b>	<b>UN 3082</b>

**FIGURE 4:**  
An example  
of a diesel sign

For more information, see our quick guide [Hazardous substances signage](#)

### 3.10 Tank labels

Tanks must be labelled to clearly identify:

- what each fuel tank contains
- the hazard pictograms and hazard statements consistent with the correct classification of the contents and
- the steps to take to avoid unintended ignition of the fuel.

It is also good practice to include information about what to do in an emergency and information for Fire and Emergency NZ if a fire involving the fuel were to occur.



Labels should be at least A3 in size and positioned so they can be easily read from ground level.

Split tanks or combination tanks must clearly identify the products they hold. A clearly identified tank will prevent incorrect product mixes at delivery or when you are using the fuel.



Figures 5 and 6 are examples of labels for diesel and petrol tanks that meet the regulatory requirements and also give information about what to do in an emergency and information for Fire and Emergency NZ.

For other fuels, see our quick guide [Labelling, decanting and repackaging hazardous substances in the workplace](#)

**Note:** If the label is also serving as signage, it must contain the word HAZCHEM (see [Signs](#)).

<b>Diesel</b>	
	<p><b>COMBUSTIBLE LIQUID</b></p> <p><b>KEEP AWAY FROM IGNITION SOURCES</b></p> <p><b>NO OPEN FLAME - NO SMOKING</b></p> <p><b>IN THE CASE OF FIRE CALL 111</b></p>
	<p><b>ECOTOXIC TO AQUATIC LIFE - CONTAIN SPILLS, PROTECT WATERWAYS</b></p> <p><b>IN CASE OF SPILL CALL REGIONAL COUNCIL POLLUTION HOTLINE [0800 xxx xxx]</b></p>

**FIGURE 5:**  
Example label  
for a diesel tank

<b>Petrol</b>	
	<b>EXTREMELY FLAMMABLE LIQUID AND VAPOUR</b> <b>KEEP AWAY FROM IGNITION SOURCES</b> <b>NO OPEN FLAME - NO SMOKING</b> <b>IN THE CASE OF FIRE CALL 111</b>
	<b>ECOTOXIC TO AQUATIC LIFE - CONTAIN SPILLS,</b> <b>PROTECT WATERWAYS</b> <b>IN CASE OF SPILL CALL REGIONAL COUNCIL</b> <b>POLLUTION HOTLINE [0800 xxx xxx]</b>

**FIGURE 6:**  
Example label  
for a petrol tank

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# 4.0

## Fuel tanks

### **IN THIS SECTION:**

- 4.1 Tanks - structure and safety
- 4.2 Foundations for tank supports
- 4.3 Tripod tanks
- 4.4 Rust and tanks
- 4.5 Safe access
- 4.6 Tank ventilation
- 4.7 Fittings, pumps and hoses
- 4.8 Delivery tank wagon access to fuel storage
- 4.9 Trailer tanks
- 4.10 Managing old tanks



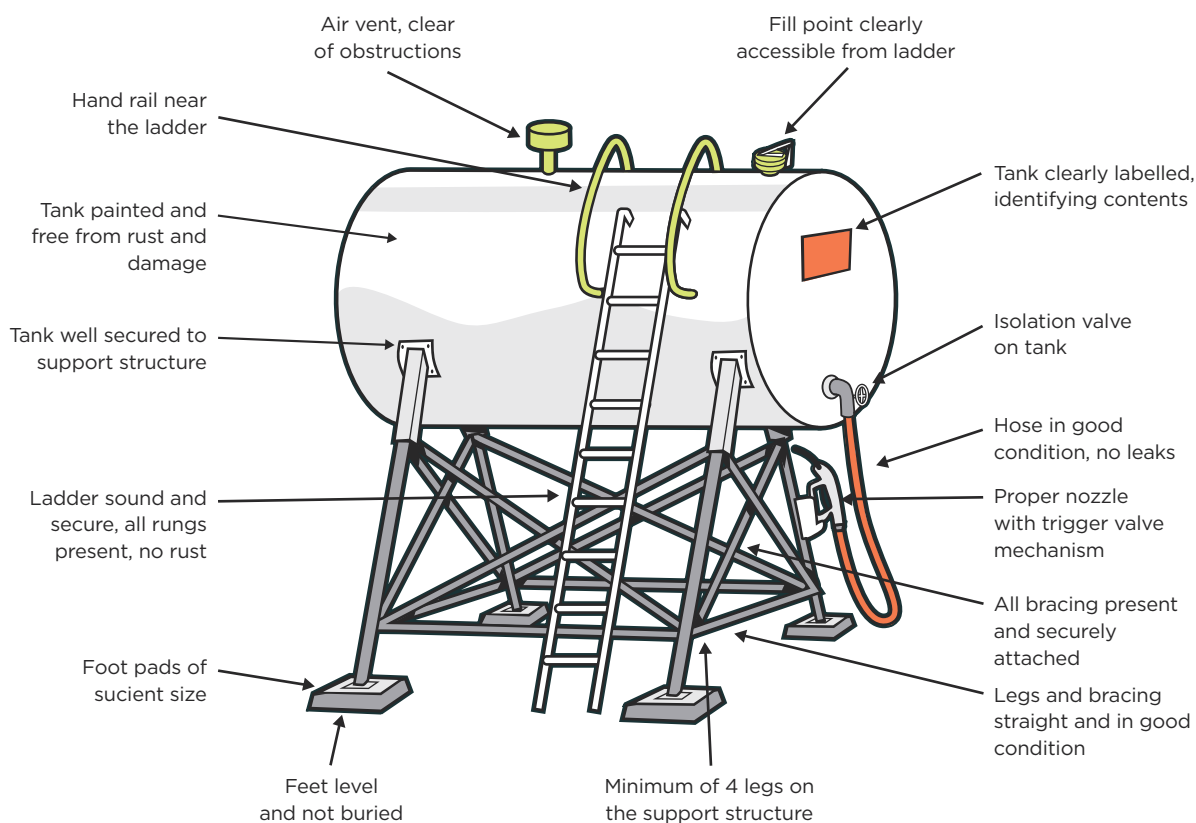
Your fuel tank must be in good condition and you must make sure access to your tank is without risks

#### 4.1 Tanks - structure and safety

Your tank should:

- be well maintained, free from rust and damage and painted if made of a material prone to corrosion
- have no major dents or cracks
- be stable with a minimum of four legs on the support structure that are braced and in good condition
- be well secured to the support structure
- have footpads of sufficient size on the support structure and be level with the ground and not buried
- have a sound and secure access, such as a ladder (with all rungs present, no rust and suitable handrails)
- have a proper nozzle with trigger valve mechanism
- have a hose in good condition with no leaks
- have an isolation valve on the tank outlet before the dispensing hose
- have a fill point clearly visible from the ladder
- have an air vent that is clear and not obstructed
- have a label identifying its contents
- have the manufacturer's name on the tank if it was manufactured after 2004
- be in a clear area that is not used to store material or machinery.

Figure 7 shows a safe above ground fuel tank.



**FIGURE 7:** A safe above ground fuel tank on a farm

## 4.2 Foundations for tank supports

The legs or cradles of a tank should be mounted on adequate foundations. The foundation requirements for tanks are specific to the:

- size of the tank
- volume it holds
- seismic and wind requirements.

Check with the tank manufacturer for guidance on the foundation that is required for your tank.

Tanks should not be located on dirt if there is a risk that spills will endanger buildings or water bodies, like streams, lakes, or natural water.

The feet should be level, and on top of the ground or concrete. Do not bury the feet or let them get buried because this leads to rapid corrosion of the feet and makes it difficult to check their condition.

## 4.3 Tripod tanks

The manufacture of tanks with tripod stands was stopped in 1996. These tanks do not meet current design specifications. There have been a number of incidents involving old tripod tanks.

On the farm, you are responsible for keeping yourself, your workers, and other people healthy and safe. This includes making sure tanks are safe and will not cause an incident resulting in harm to you, your workers, delivery drivers or others.

As tripod tanks only have three legs, it is critical that all elements are in sound condition. In particular, the foundation/ground must be sound.

Fuel distributors have a primary duty of care to ensure, so far as is reasonably practicable, the health and safety of themselves and others is not at risk. Fuel distributors should refuse to fill any tank that they believe is unsafe.

It is not safe or appropriate to install tripod tanks on new stands. Installing a new stand will invalidate the original design approval – these approvals make sure any new tanks manufactured are safe.

If your tripod tank needs work beyond painting, replacing hoses or valves or other general maintenance, you will need to get a new tank.

Your fuel distributor may be able to help you source a safe and compliant replacement tank.

#### 4.4 Rust and tanks

Rust can have a major impact on the soundness of a tank and the tank's support. It can affect the safety of the tank.

##### Rust on tank supports

Rust has a major effect on the support stand's strength.

Major areas of concern for rust are:

- at the connections, bolts, welded points and main contact support to the tank
- at all welded joints, especially between the ladder rungs and the legs
- on welded sleeves used on some models to fit legs or spreaders
- at the joints between the feet and legs (this is why it is important that the feet are not buried)
- on the feet.

The key to preventing rust damage is good maintenance. Remove rust as soon as it appears with a wire brush, and repaint with a rust-inhibiting undercoat and topcoat.

Care needs to be taken when removing rust so that sparks are not generated.

If there is significant rusting, the tank should be inspected to confirm that the tank supports are structurally sound. Contact the tank manufacturer, a competent person such as a structural engineer, or your fuel distributor for advice.

##### Rust on fuel tanks

Rust has a major impact on a fuel tank's soundness.

Areas at risk of rust damage are:

- on the top of tanks, especially if they are cylindrical tanks mounted on end
- on the underside
- around the fill point and drain plug
- on the welded seams
- at the joints between the tank and supports
- at the joints between the feet and legs
- on the feet.

Dry surface rust or shallow pitting will not affect the tank's structural integrity or ability to contain fuel safely. However, if you find evidence of deep pitting, or rust, you should have the tank inspected by a person qualified for this work.

## Rust and fuel quality

It is important to minimise rust in fuel by keeping the storage tank in good condition.

### 4.5 Safe access

You must have sound and secure access to overhead tanks. This access may be by a fixed walkway or a ladder.

Walkways should comply with *AS 1657 Fixed platforms, walkways, stairways and ladders - Design, construction and installation*.

The safest ladders are fixed ladders attached to the tank support stand. Sometimes free-standing (portable) ladders are also used.

Ladders should be trade or industrial standard with a rating of either 120kg or 150kg and comply with the *AS 1892.1 Portable ladders, Part 1: Performance and geometric requirements*. They should also be structurally sound, and free from clutter or plant growth.

#### Fixed ladders

There have been several incidents where fuel drivers fell from free-standing ladders while filling tanks. Because of this, we recommend fixed ladders on farm fuel tanks.

Fixed ladders must be safe, robust, and secure. Check that all the ladder rungs are present and are free of damage and corrosion. It is important to remove any rust on welded joints between the ladder rungs and supports.

If the ladder is attached to a support stand leg, position the ladder directly below the tank's handholds.

Fixed ladders attached to tank supports should have handrails (see Figure 7).

#### Free-standing (portable) ladders

If it is not practicable to have a fixed ladder, free-standing ladders must be on stable footing away from obstacles. You must provide a flat, clear, and solid surface for free-standing ladders.

Do not use free-standing ladders on tripod tanks.

### 4.6 Tank ventilation

Tanks must be ventilated. Ventilation prevents splashback during filling, and unsafe pressure or vacuums developing in the tank.

The ventilation pipe and any gauze must be kept obstruction-free and in good condition.

### 4.7 Fittings, pumps and hoses

Use fittings, pumps, and hoses carefully, and keep them in good condition. This will help prevent spills or leaks.

Make sure the hose is made of a material that is compatible with the fuel. Replace the hose if it shows signs of deterioration.

Have an isolation valve on the tank outlet before the hose so you can isolate the tank contents if the hose or nozzle leaks. The isolation valve should be fire-safe and suitable for the purpose.

Fit the hose with a proper fitting nozzle with a trigger valve.

Fittings, pumps, valves, and hoses should not leak. If they do, repair, or replace them.

#### 4.8 Delivery tank wagon access to fuel storage

You must ensure, so far as is reasonably practicable, that the means of entering and exiting your farm are without risks to the health and safety of any person. You must make sure your farm has safe access for fuel delivery. This includes safe all-weather entry and access to your property. The access must also be kept in good repair.

Trim overhanging trees to avoid damaging the delivery tank wagon. Take care with any overhead power lines when trimming trees. For more information, see our guidance [Power lines on rural properties](#)

Discuss the best access and requirements with your fuel delivery company.

Make sure everyone on the farm is aware of the potential hazards when a delivery tank wagon is on-site. Let everyone know when the delivery tank wagon will arrive.

#### Bridges and culverts

If the delivery tank wagon will need to go over a bridge or culvert to access the fuel storage, they must be able to take the weight of a fully-laden delivery tank wagon.

If there is doubt, you should supply evidence that bridges and culverts can hold the necessary traffic.

#### Access between the delivery tank wagon and the fuel tank

Plan for turnarounds, so the delivery tank wagon does not have to reverse to the fuel site. This minimises difficult manoeuvring.

Have a good clearway between the delivery tank wagon and the fuel tank's filling point. Do not have obstacles, such as rubbish and machinery, within 3m of the tank legs. This means the driver can safely move between the tank wagon and the tank ladder.

#### Access to the fuel tank fill point

Clear the tank delivery fill-point of anything that could prevent the delivery hose nozzle from completing inserting into the tank.

Make sure the driver can open and access the dip and fill points from the ladder without stretching to reach. Drivers should not have to climb off the ladder, or on to the tank, unless a suitable access platform is available.

The driver should be able to see into the fill point clearly from the ladder while refuelling the tank.

#### 4.9 Trailer tanks

Trailer tanks are a way to transport up to 2,000L of fuel. However, not all fuel storage containers can be put on a trailer and used as a trailer tank. The Regulations set a number of [requirements](#) about the design, construction and way the tank is installed onto a trailer.

Check with your supplier that any trailer tank you purchase meets the requirements. There should be a manufacturer's plate on the trailer tank.

When you buy a trailer tank, the supplier should make sure the tank has the correct dangerous goods label on the tank. Over time this may become damaged or faded. You must make sure the placard remains readable and clear.

### 4.10 Managing old tanks

Non-compliant, disused, or obsolete fuel tanks can be a risk to the safety of people and the environment. These tanks should be decommissioned by a competent person to avoid contamination. They should not be on-sold for storage.

For more information on managing old tanks, see [Appendix 5](#)

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# 5.0

## Storing fuel in tanks

### **IN THIS SECTION:**

5.1 Storing petrol in tanks

5.2 Storing diesel in tanks

# The storage of fuel in tanks must meet certain regulatory requirements.

## 5.1 Storing petrol in tanks

The requirements for storing petrol in above ground tanks are summarised in Table 4.

AMOUNT OF PETROL STORED (L)	50	100	200	250	1,000	2,000	2,500+
Safety data sheets (SDS)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Inventory	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Labels	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Petrol must be secured	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Training and supervision	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Hazardous areas	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Fire extinguishers (number)	1	1	2	2	2	2	2
Signs	-	-	-	-	-	Yes	Yes
Emergency response plans <sup>6</sup>	-	-	-	-	-	Yes	Yes
Secondary containment	-	-	-	-	-	-	Yes
Location compliance certificate	-	-	-	-	-	Yes	Yes
Stationary container system compliance certificate	Yes <sup>7</sup>	Yes <sup>7</sup>	Yes <sup>7</sup>	Yes <sup>7</sup>	Yes <sup>7</sup>	Yes <sup>7</sup>	Yes <sup>8</sup>

**TABLE 4:** Storage requirements for storing petrol in fuel tanks

<sup>6</sup> Refers to specific hazardous substance response plans. General emergency response plans are always required.

<sup>7</sup> Stationary container system certificate required when 50L or more of petrol is stored in an above ground tank that is connected to a stationary engine.

<sup>8</sup> Above ground tanks require stationary container system certificate when they store 2,500L or more of petrol.



## 5.2 Storing diesel in tanks

**Note:** Unless specified, the requirements apply to both underground and above ground tanks.

AMOUNT OF DIESEL STORED ON A FARM (L)	60	250	500	1,000	2,000	2,500+	5,000
Safety data sheets (SDS)	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Inventory	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Labels	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Diesel must be secured	No	No	No	No	No	No	No
Training and supervision	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Hazardous areas	-	-	-	-	-	-	-
Fire extinguishers (number)	-	-	2	2	2	2	2
Signs	-	-	-	Yes	Yes	Yes	Yes
Emergency response plans <sup>9</sup>	-	-	-	-	Yes	Yes	Yes
Secondary containment	-	-	-	-	-	Yes	Yes
Location compliance certificate	-	-	-	-	-	-	-
Stationary container system compliance certificate	Yes <sup>10</sup>	Yes	Yes <sup>11</sup>	Yes <sup>12</sup>	Yes <sup>12</sup>	Yes <sup>12</sup>	Yes <sup>12</sup>

**TABLE 5:** Storage requirements for storing diesel in fuel tanks

<sup>9</sup> Refers to specific hazardous substance response plans. General emergency response plans are always required.

<sup>10</sup> Stationary container system certificate required when 60L or more of diesel stored in an above ground tank connected to a burner (does not include burners and tanks for heating a farm dwelling).

<sup>11</sup> Stationary container system certificates required if 500L or more of diesel is stored in an above ground tank connected to a stationary engine.

<sup>12</sup> Above ground tank storing diesel require stationary container system certificate at 5,000L or more.

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# 6.0

## Storing fuel in drums

### **IN THIS SECTION:**

- 6.1 Storing fuel in drums or containers
- 6.2 Storing petrol in drums
- 6.3 Storing diesel in drums
- 6.4 Storing diesel exhaust fluid

# The storage of fuel in drums must meet certain regulatory requirements.

## 6.1 Storing fuel in drums or containers

It is good practice to make sure any fuel drums and containers are stored at least 6m away from:

- combustibles, such as hay
- any other hazardous substances.

Drums and containers of fuel, other than diesel, should also be stored at least 6m from:

- public places
- other buildings
- the property boundary.

## 6.2 Storing petrol in drums

The requirements for storing petrol in drums or other containers with a capacity less than 250L are summarised in Table 6.

AMOUNT OF PETROL STORED ON A FARM IN DRUMS (L)	50	200	250	1,000	2,000
Safety data sheets (SDS)	Yes	Yes	Yes	Yes	Yes
Inventory	Yes	Yes	Yes	Yes	Yes
Labels	Yes	Yes	Yes	Yes	Yes
Petrol must be secured	Yes	Yes	Yes	Yes	Yes
Training and supervision	Yes	Yes	Yes	Yes	Yes
Hazardous areas	Yes	Yes	Yes	Yes	Yes
Fire extinguishers (number)	1	2	2	2	2
Signs	-	-	-	-	Yes
Emergency response plans <sup>13</sup>	-	-	-	-	Yes
Secondary containment	-	-	-	-	Yes
Location compliance certificate	-	-	-	-	Yes

**TABLE 6:** Storage requirements for petrol in containers with a capacity less than 250L

<sup>13</sup> Refers to specific hazardous substance response plans. General emergency response plans are always required.

### 6.3 Storing diesel in drums

Table 7 gives you a summary of the control measures to comply with when you store certain amounts of diesel in drums or other containers with a capacity less than 250L.

AMOUNT OF DIESEL STORED ON A FARM IN CONTAINERS (L)	60	500	1,000	2,000
Safety data sheets (SDS)	Yes	Yes	Yes	Yes
Inventory	Yes	Yes	Yes	Yes
Labels	Yes	Yes	Yes	Yes
Training and supervision	Yes	Yes	Yes	Yes
Hazardous areas	-	-	-	-
Fire extinguishers (number)	-	2	2	2
Signs	-	-	Yes	Yes
Emergency response plans <sup>14</sup>	-	-	-	Yes
Secondary containment	-	-	-	Yes
Location compliance certificate	-	-	-	-

**TABLE 7:**  
Storage requirements  
for diesel in drums

### 6.4 Storing diesel exhaust fluid

Diesel exhaust fluid (DEF)<sup>15</sup> is often stored on farms in intermediate bulk containers (IBCs) or other containers.

Keep containers of DEF securely sealed and protected against physical damage and at least 1m from the diesel tank.

Empty containers must be decontaminated in accordance with all label safeguards until the containers are cleaned and destroyed.

<sup>14</sup> Refers to specific hazardous substance response plans. General emergency response plans are always required.

<sup>15</sup> DEF is classified as skin corrosion/irritation Category 3 (6.3B), eye irritation Category 2A (6.4A), acute vertebrate hazard Category 3 (9.3C).

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# 7.0

## Get prepared for a fuel emergency

### **IN THIS SECTION:**

- 7.1 HSWA emergency plan
- 7.2 Hazardous substances emergency response plan (ERP)
- 7.3 Fire
- 7.4 Fuel spills and leaks
- 7.5 Notifying WorkSafe

# You need to be prepared so that you and your workers know what to do if an emergency occurs on your farm.

## 7.1 HSWA emergency plan

You must have an emergency plan for your farm.

An emergency plan is a written procedure telling people in a workplace what to do in an emergency. For more information, see our fact sheet [Emergency plans](#)

Your workers must be trained so that they know:

- what to do
- who is responsible for what if an emergency were to occur and
- when and how to use fire extinguishers.

If fuel spills or leaks, the prime concern is the safety of people nearby. If anyone is injured, make sure they receive first aid or medical treatment.

You must have a general emergency plan for your farm. In addition, if you hold more than 2,000L of fuel you will need a specific hazardous substances emergency response plan (ERP).

However, it is recommended that your general farm emergency plan should include all the information you need to respond to a hazardous substances emergency on your farm.

Note: Regardless of the amount of fuel you have on your farm, you may need a hazardous substances ERP because of other hazardous substances present.<sup>16</sup>

## 7.2 Hazardous substances emergency response plan (ERP)

You must have an ERP if you store over 2,000L of fuel on your farm.

For information on preparing and testing an ERP, see our guidance [Emergency plans](#)

Emergency Response Flipchart at: [www.hazardoussubstances.govt.nz](http://www.hazardoussubstances.govt.nz)

<sup>16</sup> You can use the [hazardous substances calculator](#) to work out if you require an ERP.

## 7.3 Fire

If there is a fire, raise the alarm – phone Fire and Emergency New Zealand on 111.

- Fight the fire only if it is safe to do so.
- Make sure people are in a safe area.

Do not put yourself or others at risk.

### Fire extinguishers

Fire extinguishers are used to put out a fire before it reaches the fuel, therefore preventing a more dangerous situation.

Tables 4, 5, 6 and 7 set out how many fire extinguishers you must have depending on the different amounts of fuel you store. But even if you are not required to have them, it is good practice to always have a fire extinguisher near to where you store fuel.

For information on the number of extinguishers you should have for other fuels, see our quick guide [Hazardous substances that activate key safety controls](#)

Your workers should know how to use fire extinguishers, but they should only use them when it is safe to do so.

### Type of extinguishers

Your fire extinguishers must have a rating of at least 30B. You can find this information on the side of your fire extinguisher. A 2kg dry powder or 9L foam fire extinguisher meets these requirements.

Inspect your fire extinguishers every year, and get them pressure tested every five years.

A [Register of test stations](#) is available on the WorkSafe website.

### Where to place fire extinguishers

Your fire extinguishers must be clearly visible and accessible near where the fuel is stored.

## 7.4 Fuel spills and leaks

Stop the spill or leak at the source if it is safe.

Then:

- stop the fuel escaping to drains or waterways
- clean up the spill if it is safe to do so
- contact your fuel supplier or council about getting rid of contaminated material.

Tell your local council about any fuel spills on your property, especially if the spill endangers a waterway. Most councils have an emergency pollution hotline you can call. This number should be recorded on your emergency plan.

With petrol spills, take special care not to ignite petrol vapours.

### Cleaning up minor spills (less than 200L)

You should follow these steps to clean up a fuel spill of less than 200L:

- keep anyone not cleaning up the spill away
- wear the correct personal protective equipment (PPE)
- stop the spill or leak at the source if it is safe to do so

- stop the spill from spreading by using absorbent materials such as sand, soil or spill containment socks. Remember that spilt fuel must not get into any body of water, including storm-water drains
- clean up the spill using your spill kit
- dispose of all the fuel and contaminated clean-up materials according to the directions on the SDS
- clean your PPE after use.

You should also think about why the spill happened and review the farm's procedures so that it will not happen again.

## Spill kits for fuels

Generally, your spill kit should contain the items set out in Table 8.

EQUIPMENT	EXAMPLES INCLUDE
PPE	Such as: <ul style="list-style-type: none"> <li>- overalls</li> <li>- gumboots</li> <li>- gloves</li> <li>- goggles</li> <li>- facemasks</li> </ul>
Spill handling equipment	Such as a broom and a plastic shovel. Do not have metal shovels as they can spark, which is dangerous when you are cleaning up a fuel spill
Spill containment equipment	<ul style="list-style-type: none"> <li>- drain guards</li> <li>- barriers</li> <li>- drip pans</li> <li>- absorbent material, like absorbent pads, dry sand, vermiculite, zeolite, or spill containment socks</li> </ul>

Leak-proof disposal container to put the waste in once the spill is cleaned up

**TABLE 8:**  
Spill kit items

Make sure everyone knows where the spill kit is kept and how to use it.

## Cleaning up major spills (200L or more)

Do not try and deal with the spill yourself.

Evacuate the area, put barriers up to keep people out and alert Fire and Emergency NZ.

Make sure you have your inventory and the correct SDSs to give to emergency services workers.

## 7.5 Notifying WorkSafe

You must let WorkSafe know if one of the following events occur as a result of work:

- a death
- notifiable illness or injury (includes the loss of consciousness or sudden illness caused by exposure to any substance)
- a notifiable incident (these are incidents that expose someone to a serious risk such as leakage of a substance and implosion, explosion, or fire).

For more information, see our quick guide [What events need to be notified?](#)

To notify WorkSafe, go to: [Notify WorkSafe](#)



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# Appendices

## **IN THIS SECTION:**

**Appendix 1:** Glossary

**Appendix 2:** Referenced documents

**Appendix 3:** Checklist for safe farm fuel storage

**Appendix 4:** Hazardous areas

**Appendix 5:** Managing old tanks

## Appendix 1: Glossary

TERM	DEFINITION
Calculator	<a href="#">hazardous substances calculator</a>
Competent person	A competent person is someone who has the appropriate skills, training, knowledge, and experience to perform the task or role.
E10	E10 means a blend of 10 per cent ethanol and 90 per cent petrol.
E85	E85 means a blend of 85 per cent ethanol and 15 per cent petrol.
ERP	Emergency response plan.
GP	Good practice.
Hazard pictogram	A hazard pictogram is a symbol that indicates the hazardous properties of a substance.
Hazard statement	A hazard statement is a phrase that describes the nature of the hazard in a substance.
HSWA	<a href="#">Health and Safety at Work Act 2015</a>
IBC	Intermediate bulk container.
(M)	Legal requirement.
NZCP1	Design and Operation of Farm Dairies (Operational Code).
PCBU	Person conducting a business or undertaking.
PPE	<p>Personal protective equipment.</p> <p>Anything used or worn by a person (including clothing) to minimise risks to the person's health and safety.</p> <p>This may include - but is not limited to:</p> <ul style="list-style-type: none"> <li>- overalls</li> <li>- gumboots</li> <li>- gloves</li> <li>- goggles</li> <li>- facemasks.</li> </ul>
the Regulations	<a href="#">Health and Safety at Work (Hazardous Substances) Regulations 2017</a>
SDS	Safety data sheet.
UN or UL marked containers	United Nations or Underwriters Laboratories marked containers.

## Appendix 2: Referenced documents

### Standards

*AS 1657 Fixed platforms, walkways, stairways and ladders – Design, construction and installation*

*AS 1892.1 Portable ladders, Part 1: Performance and geometric requirements*

*AS/NZS 60079.10.1: 2009 Classification of hazardous areas – Explosive gas atmospheres*

### Code

NZCP1 Design and Operation of Farm Dairies (MPI Operational Code)

### Statutes

[Electricity \(Safety\) Regulations 2010](#)

[Hazardous Substances \(Hazardous Property Controls\) Notice 2017](#)

[Health and Safety at Work \(Hazardous Substances\) Regulations 2017](#)

[Health and Safety at Work \(Hazardous Substances – Polyethylene Above Ground Stationary Tanks for Diesel Fuel\) Safe Work Instrument 2017](#)

[Health and Safety at Work Act 2015](#)

[Reduced secondary containment for certain above ground stationary tanks – Safe Work Instrument 2017](#)

### Registers

[Compliance certifier register](#)

[Register of test stations](#)

### WorkSafe Guidance

[Emergency plans](#)

[Hazardous substances signage](#)

[Hazardous substances that activate key safety controls](#)

[Information, instruction, supervision and training](#)

[Introduction to the Health and Safety at Work Act 2015](#)

[Inventory requirements for hazardous substances](#)

[Labelling, decanting and repackaging hazardous substances in the workplace](#)

[Notify WorkSafe](#)

[Power lines on rural properties](#)

[What events need to be notified?](#)

**Appendix 3:**

# Checklist for safe farm fuel storage

Site: \_\_\_\_\_

Date: DD / MM / YEAR

ISSUE	YES	NO	N/A	ACTIONS
<b>Location of flammable liquids</b>				
Are ignition sources a safe distance from fuel storage areas? - over 15m for petrol - over 6m for diesel	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Is the petrol tank at least 20m from areas of high intensity land use or areas of regular habitation?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Is the diesel tank at least: - 20m away from areas of regular habitation or high intensity land - 6m from farm sheds?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
<b>Emergency response plans</b>				
If storing over 2,000L <sup>17</sup> of fuel, is an ERP available?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Have you tested the emergency response plan in the last 12 months?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
<b>Safety data sheets (SDSs)</b>				
Do you have a SDS for the fuel you store? (SDSs must be readily accessible to workers and emergency service workers)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
<b>Fire extinguishers</b>				
Do you have fire extinguishers for: <b>Petrol:</b> Less than 50L = no extinguisher needed Between 50L and less than 200L = at least one extinguisher Over 200L = two extinguishers <b>Diesel:</b> Less than 50L = no extinguisher Over 500L = two extinguishers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Are fire extinguishers located so that they are clearly visible and readily accessible in an emergency?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
<b>Secondary containment</b>				
Is the fuel in an area where spills will not endanger buildings, or flow into water bodies?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
If you store over 2,000L of petrol or diesel, is the storage area bunded to contain spills?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Do you regularly clear the bund of leaves and other debris?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	

<sup>17</sup> Or over 1,000L of petrol if stored where a spill would endanger buildings or water bodies.

## Checklist for safe farm fuel storage

ISSUE	YES	NO	N/A	ACTIONS
<b>Training</b>				
Are workers who handle and store fuels trained in safe fuel handling? (Training should include fuel hazards, safe use and handling, and emergency procedures)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
<b>Signs and labelling</b>				
If you store over 1,000L of diesel, do you have warning signs?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Are your fuel tanks labelled clearly with their contents?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
<b>Location compliance certificate</b>				
If you store over 2,000L of petrol in an above ground tank, do you have a current location compliance certificate? (Location compliance certificates last one year)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
<b>Stationary container system (tank) test certificate</b>				
If the petrol tank is larger than 2,500L, do you have a stationary container system compliance certificate?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
If the diesel tank is larger than 5,000L, do you have a stationary container system compliance certificate?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
<b>Tank ventilation</b>				
Is the vent pipe at least half the size of the filling pipe (and no smaller than 25mm diameter)?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
<b>Tank fill pipe</b>				
Does the petrol storage tank fill pipe extend from the fill point to at least 25mm below the lowest level of liquid in the tank?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
<b>Tank structural safety</b>				
Are the tank supports sound and stable? (Look for corrosion, buckling or bent legs and bracing. Do not use tripod stands.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Is the tank support on a solid, level foundation? (Consider stability when using a ladder to access the fuel tank)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Are ladders in sound condition and secure? (Look for corroded, bent or damaged rungs)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Is the storage tank of sound construction? (Look for corrosion, leaks and seals)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Are fittings, pumps and hoses leak-free and undamaged?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
<b>Access to fuel storage for drivers</b>				
Can the delivery tanker safely access the property off a public road?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Can the delivery tanker securely access the fuel site from a farm road?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Is the fuel site clear of obstacles, allowing the driver unimpeded access to the tank and access ladder?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Is the tank fill point clear of debris or obstacles?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	

## Checklist for safe farm fuel storage

ISSUE	YES	NO	N/A	ACTIONS
<b>Farm fuel storage (up to 2,000L) in drums less than 250L in size</b>				
Is the fuel in drums smaller than 250L?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Is the fuel at least:				
- > 15m from protected places	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
- > 6m from the farm shed for diesel drums?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Is the fuel stored in the open, or in a well-ventilated building?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Is the fuel stored in a bund preventing spills from endangering buildings or waterways?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Do you refill drums outside buildings?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Is static electricity avoided when refilling drums? (Do not use plastic or synthetic equipment; earth the drums)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	

Date actions completed: DD / MM / YEAR

Signature:

## Appendix 4: Hazardous areas

You must determine hazardous areas around flammable liquids in accordance with *AS/NZ 60079.10.1:2009 Explosive atmospheres: Classification of areas - Explosive gas atmospheres*. The extent of the hazardous areas must be reflected in your site plan.

Hazardous areas are not required for diesel.

### What is a hazardous area?

A hazardous area is an area where an ignitable or explosive gas atmosphere is, or may be expected to be, present in such quantities as to require special precautions to prevent the risk of ignition or explosion. This includes where explosive vapours may be present around a place where flammable substances, such as petrol and kerosene, are used or stored.

**Zone 0** – an area in which an explosive gas atmosphere is present continuously or for long periods or frequently.

**Zone 1** – an area in which an explosive gas atmosphere is likely to occur in normal operation occasionally.

**Zone 2** – an area in which an explosive gas atmosphere is not likely to occur in normal operation but, if it does occur, it will exist for a short period only.

### Hazardous areas around petrol tanks

*AS/NZS 60079.10.1 (Annex ZA 5.2.1.2)* provides the following example of hazardous areas around petrol tanks.

For vertical and horizontal vented tanks:

- Zone 0: Inside tank.
- Zone 1: Outside the tank, within a space from ground level to 3m vertically above the tank shell and extending laterally to 3m from the shell; then reducing to 4m above ground level, and extending laterally from the shell to the bund wall, and within 3m radius of a tank vent outlet.
- Zone 2: Outside that described in Zone 1 above and extending vertically from ground level to the height of the bund or 1m, whichever is greater, and laterally to a distance from the tank shell according to the table below:

Capacity of tank (L)	1,000	2,000	4,000
Lateral distance (m)	3	4	5

### Managing hazardous areas

Hazardous areas must be protected from ignition sources including electrical equipment, naked flames, and hot sources.

If there is any electrical equipment, it must be suitable for the zone or placed at a safe distance out of the zone.

The [Electricity \(Safety\) Regulations 2010](#) require:

- any electrical device or instrument installed in a hazardous area to be correctly rated for the zone
- a verification dossier to be kept for the electrical equipment. The dossier must include periodic re-inspection reports from the four-yearly inspections by a licensed electrical inspector.

Any electrical fittings must comply with relevant [Electricity \(Safety\) Regulations 2010](#)

For more information about the requirements of the Electricity (Safety) Regulations 2010, see the Energy Safety website: [worksafe.govt.nz](http://worksafe.govt.nz)

## **Appendix 5: Managing old tanks**

Non-compliant, disused, or obsolete fuel tanks can be a risk to the safety of people and the environment. These tanks should be decommissioned by a competent person to avoid contamination. They should not be on-sold for storage.

### **When to decommission a fuel tank**

Decommissioning should be carried out when a tank:

- is not being used
- is non-compliant or cannot achieve compliance certification
- has signs of significant rust pitting leading to wet rust
- has product weeping from welded seams
- is significantly dented or damaged, or
- has leg supports and platforms that are significantly rusted or damaged, causing the tank to be unstable.

### **Management of obsolete non-compliant tanks**

Obsolete non-compliant tanks pose a risk to delivery drivers and you and your workers. An obsolete tank may be unstable and filling it may cause it to collapse or fall over onto people, or plant and machinery.

Unused tanks should be identified or tagged as 'out of service' to prevent them accidentally being filled by a fuel supplier.

Obsolete non-compliant tanks should, where at all possible, be decommissioned, degassed and destroyed by a person skilled and competent in this field. There may be professional engineers or tradespeople who do this in your area. You should contact your fuel distributor for advice.



## Disclaimer

This publication provides general guidance. It is not possible for WorkSafe to address every situation that could occur in every workplace. This means that you will need to think about this guidance and how to apply it to your particular circumstances.

WorkSafe regularly reviews and revises guidance to ensure that it is up-to-date. If you are reading a printed copy of this guidance, please check [worksafe.govt.nz](http://worksafe.govt.nz) to confirm that your copy is the current version.

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