

**ERMA New Zealand
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**Approved Practice Guide for
Safe Above-Ground Fuel Storage on
Farms**

**Approved Practice Guide
Under the Hazardous Substances and New
Organisms (HSNO) Act 1996**

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Preface

This guideline has been endorsed by ERMA New Zealand as an Approved Practice Guide.

The document represents best practice and provides guidance on how farmers can meet their legal obligations relating to the above-ground storage of fuels on farms for the following HSNO Regulations, Gazette Notice and code of practice:

- Hazardous Substances (Classes 1 to 5 Controls) Regulations 2001.
- Hazardous Substances (Emergency Management) Regulations 2001.
- Hazardous Substances (Identification) Regulations 2001.
- Hazardous Substances (Dangerous Goods and Scheduled Toxic Substances) Transfer Notice 2004 (as amended).
- Code of Practice for the Management of Existing Stationary Container Systems up to 60,000 litres Capacity, HSNOCOP 13-2, April 2008.

It should be noted that this guideline, whilst providing best practice for the above-ground storage of fuels on farms, is not endorsed as a means of compliance with the Health and Safety in Employment Act or the Resource Management Act, although it may satisfy some requirements under those pieces of legislation.

Rob Forlong
Chief Executive, ERMA New Zealand
10 April 2008

Introduction

Farmers have legal obligations under the Hazardous Substances and New Organisms (HSNO) Act 1996 in relation to the handling and storage of fuel on farms

The purpose of this guideline is to assist farmers to evaluate above ground farm fuel storage systems to ensure they comply with HSNO Regulations and controls, and that hazards associated with fuel storage are safely and effectively managed.

This guideline relates only to above-ground fuel storage. However, the principles outlined in this guideline can relate to all forms of fuel storage on farms.

A farm is defined as an area of land of not less than 4 hectares in size, and does not include golf courses. The land must be used principally for the purpose of agriculture.

This revised version has been published to reflect changes made to the secondary containment requirements for diesel stored in stationary tanks, up to 2500 litres capacity, that were in use prior to April 2004 and complied with the previous Dangerous Goods legislation.

Tripod Supporting Structures

Department of Labour (DoL) approval for the manufacture of tripod (three-legged) stands on fuel tanks was cancelled in 1996, with the intention that the use of existing tripod tanks would be phased out. Use of tripod tanks has continued and many are now reaching the end of their safe working life.

Any tank with a tripod supporting structure that has been manufactured since 1996 will not have been constructed to an approved DoL standard, and therefore will not meet the standards of this guideline.

In line with the removal of Department of Labour approval in 1996:

- **no *new* tripod tank stands shall be manufactured or installed; and**
- **no *existing* tripod tanks shall be reconditioned, sold, or installed in *new* locations; and**
- **current tripod stands must be condemned as tanks reach the end of their useful life.**

Because of the difficulties resulting from poor maintenance and their inherent design characteristics, the continued use of tripod tank stands is not recommended.

Farmers who do continue to use tanks with a tripod supporting structure should be aware of the possible additional physical hazards associated with their use. Because of the light construction of the tripod supporting structures, the hazards are made worse when the stands have not been well maintained. Tripod tanks must also be installed and maintained in accordance with all of the requirements of this guideline.

Guidelines on the Use of Tripod (Three-Legged) Tank Stands

- No new three-legged tank stands shall be sold or installed.
- Tanks with tripod stands cannot be retrofitted.
- Current tripod stands must be condemned as the tanks reach the end of their useful life.
- The risks when using existing tripod stands can be reduced provided that the following points are adhered to:
 - ensuring that the tripod stand is firmly attached both to the tank and to the ground;
 - ensuring all bracing is present and attached, and that the legs and bracing are straight and undamaged;
 - ensuring that the tank has adequate grip for safe climbing and filling;
 - ensuring that the tank is adequately ventilated; and
 - ensuring effective maintenance is carried out.

What maintenance is allowed on existing tanks?

Maintenance includes: painting; replacement of hoses, valves and lost fixings (e.g. bolts/pins); work to ensure that the tripod stand is firmly attached both to the tank and to the ground; making ladder rungs safe; and auxiliary work to ensure that the installation meets the other requirements of this guideline.

What constitutes retrofitting of existing tanks?

A tripod tank must not be used and must be condemned if it requires:

- installation of **new** fittings which require cutting or welding (e.g. vents or handles); or
- welding or patching the tank; or
- straightening, welding or patching (e.g. for rust) of the supporting structure.

HSNO Requirements for Fuel Storage on Farms

The Hazardous Substances and New Organisms (HSNO) Regulations have certain requirements from both the person in charge and the supplier. These include:

- Supply of information.
- Fire extinguishers.
- Emergency response plans.
- Signage.
- Secondary containment.

The amount of fuel stored which ‘triggers’ the specific HSNO controls are set out in the table below. More detailed information about meeting these requirements is contained throughout the relevant sections of this document.

	HSNO Requirements for Petrol									
Amount of Petrol stored on a Farm >4ha (litres)	Fuel Supplier must supply Documentation	Farmer needs to have Documentation (Person in charge)	1 Fire Extinguisher	Training / Approved Handler requirements	2 Fire Extinguishers (Total)	Signage	Emergency Response Plans	Secondary Containment	Location Test Certificate	Tank Test Certificate
5	Yes	Yes								
50	Yes	Yes	Yes							
100	Yes	Yes	Yes	Yes						
200	Yes	Yes	Yes	Yes	Yes					
250	Yes	Yes	Yes	Yes	Yes	Yes				
1000	Yes	Yes	Yes	Yes	Yes	Yes	Yes			
2000	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
2500+	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Below Ground >250 litres	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

	HSNO Requirements For Diesel						
	Tank Test Certificate	Secondary Containment	Emergency Response Plans	Signage	2 Fire Extinguishers (Total)	Farmer needs to have Documentation (Person in charge)	Fuel Supplier must supply Documentation
Amount of Diesel stored on a Farm >4ha (litres)							
1						Yes	Yes
100						Yes	Yes
200						Yes	Yes
250						Yes	Yes
500					Yes	Yes	Yes
1000				Yes	Yes	Yes	Yes
2500			Yes	Yes	Yes	Yes	Yes
5000			Yes	Yes	Yes	Yes	Yes
Below Ground >250 litres	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Isolation of Flammable Liquids

Farm fuel storage shall be located so that it meets the parameters outlined below.

- Petrol storage shall be greater than 15 metres from an **ignition source**.
- Diesel storage shall be greater than 6 metres from an **ignition source**.

Ignition sources include anything that could ignite vapour from the fuel storage area.

Examples are:

Naked flames These include fires or incinerators (keep them well clear of the fuel storage area), plus the use of tools such as welders. It also includes smoking – smoking shall never be allowed within 15 metres of fuel storage.

Electrical appliances These include electrical fittings such as switches, lights, three-pin plugs and switch boards, plus any electrically powered tools or machines. Also included are electric fences and electric fence controllers.

Running Engines These include compressors, freezer motors, etc. Vehicle motors shall be switched off when either delivering fuel, or when filling from the storage tank. An exception is the use of approved fuel dispensing equipment.

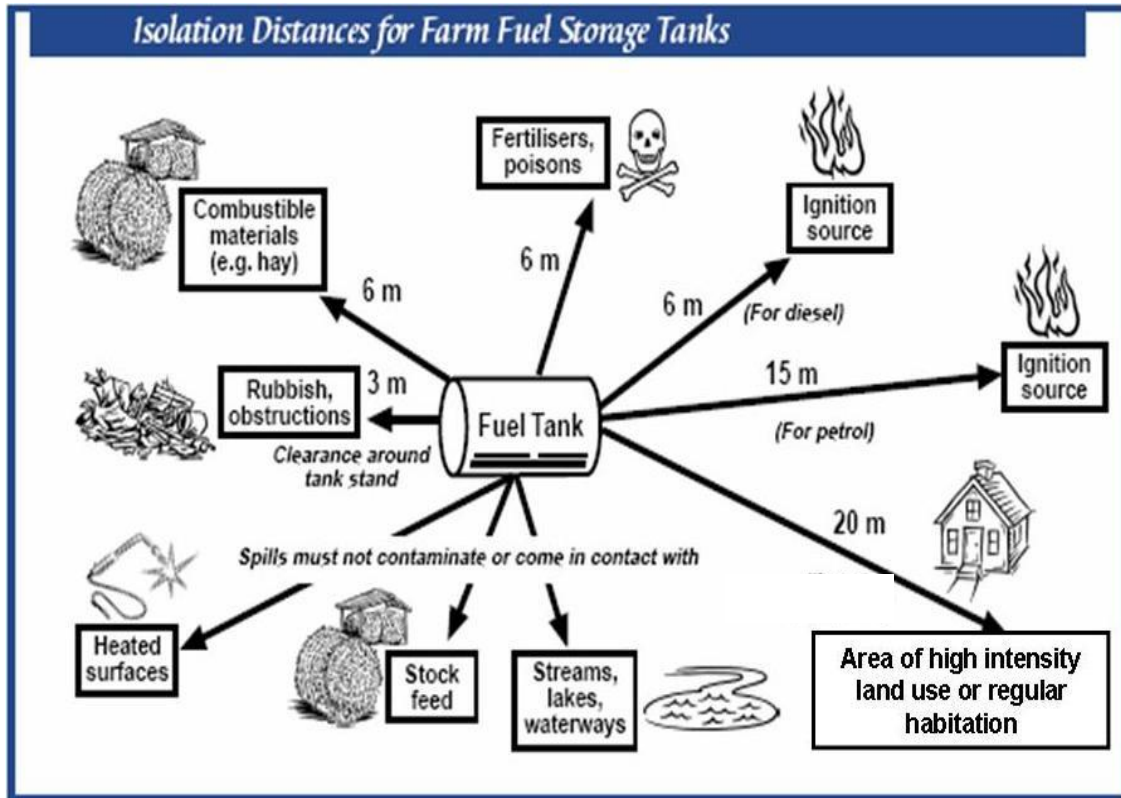
Sparks from tools Any grinders or tools that could cause sparks (e.g. metal drills).

Static electricity A sufficiently large build-up of static electricity will cause a spark to discharge, and if this happens in an area containing flammable vapours, fire or explosion can result. Build-up of static electricity can be lessened through earthing the fuel tank. Metal tank supports provide a good earth contact, but where tanks are not earthed through a metal support structure, they must always be earthed using an earthing rod.

All fuel storage shall be:

- at least 20 metres from any area of high intensity land use, or regular habitation;
- at least 6 metres from any other hazardous materials, e.g. oxidisers, fertilisers, poisons;
- at least 6 metres away from any combustible materials, e.g. hay, LPG, other fuels;
- positioned so that any spills cannot contaminate stock feed;
- positioned so that spilt fuel cannot come into contact with any heated surfaces;
- positioned so as to avoid accidental collision by vehicles;
- positioned so that any spills will not contaminate streams, lakes or waterways.

The isolation distance is extremely important when the tank is either being filled or fuel is being drawn off. Farm fuel tanks shall be positioned so that they exceed the minimum isolation distances shown in the diagram below. With the exception of the clearance distance around the tank stand, quoted distances are current legal requirements.



Definitions

Areas of high intensity land use are structures made of (or containing) combustible materials that would sustain a significant fire, or high density traffic routes. Examples of areas of high intensity land use include: wooden buildings, packing sheds, cool storage facilities, hay sheds, other petrochemical storage and agrichemical stores.

Areas of regular habitation are buildings which are used for accommodation (i.e. include cooking, sleeping and ablution facilities) or any part of a building used for sleeping in conjunction with other buildings used for cooking and ablution, as well as areas where people regularly meet. Examples of areas of regular habitation include: homes, staff accommodation, child care facilities, 'smoko' rooms and 'sleep outs'.

What to do in an Emergency

In the case of a spillage or leakage of the fuel the prime concern is the safety of any persons near the emergency.

The immediate remedial action is to stop the spillage or leakage at the source, if safe to do so.

Then:

- Stop the product escaping to drains or waterways.
- Clean it up (if it is safe to do so).
- Contact your fuel supplier or regional/district council regarding disposal of contaminated material.

Your local council should be advised of any fuel spillage, especially if it endangers a waterway. Most councils have an Emergency Pollution Hotline.

With petrol spillage, special care should be taken to avoid any action that could cause ignition of the petrol vapours. This includes not using communications equipment within the danger area.

In the case of a fire, raise the alarm — phone the Fire Service.

- Fight the fire only if you consider it safe to do so.
- Ensure all people are in a safe area.
- Do not put yourself at risk.

Emergency Response Plans

Where more than a total of 1000 litres of petrol and/or diesel are stored the person in charge of a place must provide an emergency response plan. The plan must be tested at least every 12 months.

What is an emergency response plan?

An emergency response plan is a document which contains the information required to respond to an emergency involving petrol and/or diesel. The requirements for an emergency response plan are set out in Regulations 27-34 of the HSNO (Emergency Management) Regulations 2001.

In general terms to comply with HSNO regulations, an emergency response plan must:

- describe all of the reasonably likely emergencies involving the petrol storage facility;
- describe the actions to be taken in each of the likely emergencies;
- identify the people with responsibilities for response in each identified emergency, and the skills that they are required to have;
- specify where to find the information and equipment required to respond to each identified emergency;
- specify how to contact emergency services.

What do I do with my emergency response plan?

After the emergency response plan has been prepared, a copy must be available to every person handling the petrol/diesel, and be available for use by emergency services. Every person who handles petrol/diesel on a farm should also be trained in how to deal with each emergency described on the emergency response plan.

The plan must also be tested at least every 12 months, or within 3 months of a change in the plan (including change of staff). A written record of each test is required, complete with the results of the test. This information needs to be kept for at least 2 years.

Emergency Response Plan Guidelines for the Farmer (Person in charge)

- Where more than a total of 1000 litres of petrol and/or diesel is stored in a facility on a farm, the farmer shall ensure an emergency response plan has been prepared.
- The farmer shall ensure the plan is available for each person who handles fuel on the farm, and that they are trained to handle emergencies involving fuel.
- The farmer shall ensure that the plan is tested at least every 12 months, and that a record of each test is kept for at least 2 years.

Documentation

Regulations 6-20 of the Hazardous Substances (Emergency Management) Regulations 2001 stipulate the specific HSNO requirements for provision of documentation. Information to be provided includes:

- Product information.
- Symptoms of exposure.
- Emergency management actions.

This information can be found in the Safety Data Sheets (SDS) for petrol or diesel.

Documentation Guidelines for the Fuel Supplier

- Fuel suppliers must provide a written copy of the SDS for each type of fuel delivered to each farm. If asked by a farmer customer, the fuel supplier shall provide a written copy of a SDS for the fuel delivered as soon as is practicable.

Documentation Guidelines for the Farmer (Person in Charge)

- The person in charge of a farm where fuel is stored is required to ensure that a copy of the SDS for each fuel type is available to any person who may handle that fuel.
- The farmer shall ensure a copy of the SDS for each fuel type is available within 10 minutes of where that fuel is stored. This means that where there is an easily accessible building in close proximity the SDS should be stored in an easily accessible place within that building.
- The farmer shall ensure that any person likely to handle fuel is made aware of the place where the SDS for that fuel is kept.
- The farmer should ask their fuel supplier for a written copy of the SDS for each type of fuel delivered to each farm fuel site that they are in charge of.

Fire Extinguishers

The person in charge of a place where more than 50 litres of petrol or 500 litres of diesel is present must ensure the appropriate number and types of fire extinguishers are provided.

Regulation 22 of the Hazardous Substances (Emergency Management) Regulations 2001 requires fire extinguishers to be within 30 metres of fuel storage, or in a vehicle that is towing a mobile tank.

How do I work out which type of Fire Extinguisher is Appropriate?

Regulation 23 sets out the requirements for the performance and types of the fire extinguishers needed.

To meet these criteria the fire extinguishers must be capable of extinguishing class B fires (i.e. a fire involving a flammable or combustible liquid) and have a capability rating of at least 30B. *The capability of a fire extinguisher will be written on the side of the fire extinguisher.*

A 2kg dry powder or a 9 litre foam fire extinguisher has a rating of 30B, and will meet the HSNO requirement as one fire extinguisher.

Fire Extinguisher Guidelines for the Farmer (Person in Charge)

- The farmer shall ensure that the appropriate number and types of fire extinguishers for the fuel stored are available within 30 metres of where the fuel is stored, but not attached to or under a fuel tank.
- Between 50 litres and 200 litres of petrol require at least one fire extinguisher (with a 30B rating).
- More than 200 litres of petrol, or more than 500 litres of diesel, require at least two fire extinguishers (each with a 30B rating).

Secondary Containment

Secondary containment is a system which will contain fuel spills if a fuel tank leaks or is damaged, and from which the fuel can be cleaned up after a spill. A secondary containment system must also have a capacity capable of containing a spill equalling 110% of the capacity of the largest fuel tank it contains.

General Provisions:

Where a total of 2000 litres or more of petrol and/or diesel is stored the person in charge of the farm must ensure that fuel is stored in a compound (bund). Where the total is below 2000 litres the fuel may alternatively be located so that any spillage will not endanger any building, or flow into any natural water body. Any tanks must be maintained so that valves, hoses and dispensers do not leak.

Diesel Tanks installed prior to April 2004:

There is a specific exemption for diesel stored in tanks up to 2500 litres capacity that were in use prior to April 2004 and continue to meet the requirements of the previous Dangerous Goods legislation. These diesel tanks do not require a compound providing:

- the diesel is stored in an above-ground tank or tanks situated:
 - at least 20 metres from areas of high intensity land use and regular habitation; and
 - at least 6 metres from other hazardous substances that are not flammable liquids; and
 - at least 6 metres from combustible materials stored above ground.
- The tank or tanks and their attached fittings are of approved design and construction under the previous Dangerous Goods legislation and have been maintained to that standard.
- The tank or tanks are so located that any spillage either under the action of fire or otherwise, will not endanger any building, or flow into any stream, lake, or natural water.
- The diesel tank or tanks must be not closer than 6 metres to other fuels. If the tank or tanks are in a location together with other fuels the total quantity of fuel stored must be below 2000 litres.

There *may be* additional Local Authority regulations (Regional or District Plan rules) which provide more specific secondary containment requirements for fuel on farms.

What is a Compound (Bund)?

A compound is a form of secondary containment consisting of a hollow, pit or structure which is capable of containing any fuel spill from the fuel storage. To comply with HSNO regulations it must:

- be of a size capable of holding 110% of the contents of the largest fuel tank; and
- be constructed of non-flammable materials (concrete, brick, HDPE, clay, earth or similar); and
- effectively retain the fuel if there is a spillage.

In areas with light, free draining soils (e.g. pumice or sandy soils), a compound must be lined with an additional impermeable layer (e.g. concrete, clay or brick) to stop spills entering groundwater.

Spill Kits

Basic spill kits may assist containment and cleanup of spills from a fuel tank. The spill kit may consist of a load of sand, or some other absorbing material beside the storage area to soak up any spills before they endanger the environment. Commercial spill kits are available that include absorbent pads or booms.

Fuel Containment Guidelines for the Farmer (Person in Charge)

- The farmer shall ensure that any fuel stored is located so that any spillage will not endanger any building or flow into any stream, lake, or natural water.
- Where 2000 litres or more of fuel is stored, the farmer shall ensure that a compound is used which will contain fuel spills if a fuel tank leaks or is damaged.
- Where diesel is stored in tanks separated by more than 6 metres from other fuels, and the tanks were in use before April 2004, compounding is not needed providing the total capacity of the tank/s does not exceed 2500 litres.
- Where diesel is stored in tanks located together with other fuels the maximum quantity allowed before compounding is required is 2000 litres.
- The farmer should ensure that a basic spill kit is available to assist containment and cleanup of spills.
- Any compound must include a method for draining water when needed (e.g. a *closed* valve at the lowest point), and be regularly cleared of leaves and other rubbish so that the capacity of the compound is not reduced.

Training and Approved Handlers

Note: This information is correct the date of publication of this document (November 2006). There is a proposal to remove the requirement for Approved Handlers for petrol on farms which will be decided by April 2007. This Guide will be amended should the requirement for an Approved Handler be removed.

People who are involved with the handling and storage of fuels need to have received training:

- Regarding the hazards associated with petrol.
- Its safe use and handling.
- The steps to be taken in the event of spillage or other emergency.

Alternatively they can be under the direct supervision of someone who has appropriate training and experience.

Where more than 100 litres of petrol is stored the HSNO Regulations also require the person in charge to ensure an Approved Handler is available to provide assistance, if necessary, while the petrol is being handled. Note that an Approved Handler is not required for diesel.

Who is an Approved Handler for farm petrol storage?

An approved handler is a person who has been certified (by a Test certifier) as having met the requirements Regulation 5 of the of the HSNO (Personnel Qualifications) Regulations 2001 for experience and training in handling petrol. *In general terms* these requirements are:

- Knowledge of the requirements of the HSNO Act and regulations.
- Knowledge of petrol and its hazards.
- A working knowledge of the operating equipment used to handle petrol.

The Approved Handler may be the person handling the petrol, someone available on the farm, or someone contactable by telephone. It is not necessary for an Approved Handler (for petrol) to be on-site (or even employed by the farmer). However, the Approved Handler must be available (e.g. by telephone) to provide advice and/or assistance when it is required by the person handling the petrol.

Training Guidelines for the Farmer (Person in Charge)

- The farmer shall ensure that anyone who is required to use the fuel storage system on their farm has been properly trained in:
 - how to use the fuel storage facility safely; and
 - what the potential hazards are when using the fuel storage system, and the precautions to be taken including the use of protective clothing and equipment; and
 - what to do in the case of an emergency, (e.g. a fire, medical emergency, or a fuel spill).
- See also Emergency Response Plan Requirements.

-
- The farmer shall ensure that where petrol is stored an Approved Handler has been identified and that the Approved Handler will be available to provide assistance, if necessary, while petrol is being handled.

Signage




Signage is required where more than 250 litres of petrol; or more than 1000 litres of diesel is stored on a farm. The requirements for signage are set out in Regulations 51 and 52 of the Hazardous Substances (Identification) Regulations 2001 and Regulation 42 of the Hazardous Substances (Emergency Management) Regulations 2001.

In general terms to comply with HSNO regulations for farm fuel signage signs must be located where they will be noticed by persons entering the site where fuel is stored and must:

- advise that the location contains hazardous substances;
- describe the hazardous property and nature of the hazard(s) of the substance;
- describe the precautions needed to safely manage the substance;
- describe the precautions needed to avoid ignition of the substance;
- identify appropriate emergency response agency(s) or personnel and the means of contacting them;
- provide sufficient information to advise any of the trained persons and the emergency service provider(s) of the immediate emergency response actions for the hazardous substances present;
- be easily understood; and
- be able to be easily read at a distance under varying conditions.

A tank label, A3 in size, fulfils the signage requirements of the HSNO regulations and no other signage is necessary for fuel storage on farms. Example tank labels are shown in Appendix A for diesel and Appendix B for petrol.

Hazard and Precautionary Information for Petrol and Diesel on Farms

HSNO Classification	Pictogram	Hazard Statements	Prevention Statements	Response Statements
3.1A (Petrol)		Extremely flammable liquid and vapour	Keep away from heat, sparks or open flame. - No smoking. Wear protective gloves and eye/face protection	IF ON SKIN (or hair): Remove immediately all contaminated clothing. Rinse skin with water. DO NOT fight fire when fire reaches fuel storage. Explosion risk in case of fire. In case of fire, evacuate area.
3.1D (Diesel)		Combustible liquid	Keep away from heat, sparks or open flame. - No smoking. Wear protective gloves and eye/face protection	DO NOT fight fire when fire reaches fuel storage. Explosion risk in case of fire. In case of fire, evacuate area.
9.1B		Toxic to aquatic life with long lasting effects	Do not release to the environment.	Collect spillage.

Tank Labelling

The content of a fuel tank must be identified on the tank, either with a tank label or through colour-coded marking. This should be clearly placed on the tank so as to be easily read from ground level.

Location Test Certificates

What is a Location Test Certificate?

A Location Test Certificate verifies that hazardous substances are stored away from other structures, combustible materials, dwellings, and ignition sources. They also stipulate emergency preparedness including secondary containment. Location Test Certificates are issued by test certifiers.

Location Test Certificate Requirements for Diesel on Farms

Storage of diesel does not require a Location Test Certificate, regardless of quantity.

Location Test Certificate Requirements for Petrol on Farms

Storage of petrol above ground in quantities **up to 2000 litres** will not require a Location Test Certificate providing that:

- Storage must be on a farm of not less than four hectares area.
- Tanks must be compliant with the requirements for design, construction and installation.
- Tanks must be located at least 20 metres from dwellings or other buildings made of combustible materials and at least 6 metres from any combustible materials.
- Tanks must be in a compound (bund) or located so that any spillage will not endanger any building, or flow into any natural water body.

A Location Test Certificate will be required for petrol if:

- the quantity stored exceeds 2000 litres; or
- storage is not in compliance with the above conditions (and over 50 litres); or
- storage is below ground.

Stationary Container System Test Certificates (Tank Test Certificates)

What is a Stationary Container System Test Certificate (Tank Test Certificate)?

A Stationary Container System Test Certificate verifies that a stationary container system (tank) meets the legal requirements specified in Schedule 8 of the Hazardous Substances (Dangerous Goods and Scheduled Toxic Substances) Transfer Notice 2004 (as amended). The certification of stationary container systems is done by a Test Certifier approved to issue test certificates for stationary container systems.

Stationary Container System Test Certificate Requirements for Diesel

Above ground storage of diesel in tanks greater than 5000 litres will require a Stationary Container System Test Certificate.

Stationary Container System Test Certificate Requirements for Petrol

Above ground storage of petrol in tanks greater than 2500 litres will require a Stationary Container System Test Certificate.

Tank Ventilation

Adequate ventilation of the tank is required to prevent splash back during the filling process and to prevent an unsafe pressure or vacuum developing in the tank. The air vent should be separate from the filling point unless the filling point is of adequate size to allow the safe displacement of the air during the refilling. If a ventilation pipe is required it should not be less than half the size of the filling pipe with a minimum size of 25 mm diameter. The ventilation pipe must be kept free of obstructions.

Where air vents are fitted, the air vent shall have gauze fitted of the appropriate size for the fuel being stored. For petrol tanks, the gauze in the vent shall be of a brass wire, of 500 microns gauge. This acts as a flame arrestor should there be a flashback of vapours to the tank. For diesel tanks, the gauze can be coarser as the main purpose is to prevent material going into the vent.

Tank Fill Pipe

Tanks used for the storage of petrol should have a fill pipe extending from the fill point to at least 25 mm below the lowest level of the liquid in the tank.

Farm Fuel Storage in Drums (containers less than 250 litres)

HSNO regulations allow for the storage of fuel in drums (e.g. 44 gallon/ 209 litre drums). The requirements for farm fuel storage in drums are similar to those for storage in bulk containers.

What are the specific requirements for petrol storage in Drums?

Storage of petrol above ground in drums, and in quantities up to 2000 litres, will not require a Location Test Certificate providing that:

- (i) the fuel is stored in one or more secure containers, each individual container with a capacity of *less than 250 litres*; and
- (ii) the container or containers comply with *regulation 11 and Schedule 2 or Schedule 3 (as appropriate) of the Hazardous Substances (Packaging) Regulations 2001¹*; and
- (iii) the fuel is situated at a distance not less than **15 metres** from any area of high intensity land use, or area of regular habitation; and
- (iv) the fuel must be situated either in the open, or in a well ventilated building; and
- (v) the fuel must be stored in a compound or located so that any spillage of the fuel will not endanger any building, or flow into any stream, lake or natural water.

If you cannot meet these requirements, then a location test certificate is required for fuel storage in drums.

The requirements for emergency response plans, signage, fire extinguishers, training, Approved Handlers and documentation also apply to farm fuel storage in drums.

Compounding of drum storage is mandatory when the total quantity of fuel stored at one location in drums and/or bulk tanks is 2000 litres or more. Such compounding includes drum stock and bulk tanks. (Note - fuel includes petrol, aviation gasoline, racing gasoline, kerosene and diesel fuel.)

¹ *Drums which meet the requirements for class 3.1B (for petrol) or 3.1D (for Diesel) should meet these requirements; however check with the manufacturer or supplier before purchasing drums for this purpose.*

Safe Filling of Drums used for Fuel Storage

Incorrect filling of drums may lead to inhalation of hazardous vapours, or a build-up of static electricity that may result in a fire or explosion.

It should be noted that:

- drums should not be filled ***inside*** buildings;
- some fuel delivery companies do not have the equipment to ***safely*** fill drums with fuel and may refuse to do so;
- other fuel providers may have additional requirements for filling drums with fuel.

Avoiding Static Electricity

A sufficiently large build-up of static electricity will cause a spark to discharge. If this happens in an area containing flammable vapours a fire or explosion can result. This can be avoided by:

- Never using any equipment made of plastic or synthetics.
- Ensuring that all plant, equipment and people are earthed before commencing filling of each drum by attaching earth clamps:
 - Remember that paint is an insulator so bonding clips must be made to bite through the paint.
 - Earth clamps must have at least one bare metal handle (to earth the person filling the drums).

HAZCHEM 3Y



COMBUSTIBLE LIQUID

**KEEP AWAY FROM IGNITION SOURCES
– NO OPEN FLAME – NO SMOKING**

IN THE CASE OF FIRE CALL 111



**ECOTOXIC TO AQUATIC LIFE – CONTAIN
SPILLS, PROTECT WATERWAYS**

**IN CASE OF SPILL CALL REGIONAL
COUNCIL POLLUTION HOTLINE
[0800]**

HAZCHEM 3YE



**EXTREMELY FLAMMABLE LIQUID AND
VAPOUR**

**KEEP AWAY FROM IGNITION SOURCES
– NO OPEN FLAME – NO SMOKING**

IN THE CASE OF FIRE CALL 111



**ECOTOXIC TO AQUATIC LIFE – CONTAIN
SPILLS, PROTECT WATERWAYS**

**IN CASE OF SPILL CALL REGIONAL
COUNCIL POLLUTION HOTLINE**