

Information Note: Handling Petrol Safely



The purpose of this information note is to provide guidance on the safe handling and storage of small quantities of petrol.

Petrol is a highly flammable colourless liquid, with a very low flash point, which means that it gives off a vapour which can easily be set on fire (ignited). When petrol is not handled safely, it has the potential to cause a serious fire and/or explosion if there is a source of ignition nearby, for example a naked flame, an electrical spark or similar. Petrol is also harmful to health, as it can cause damage to skin and eyes on contact, and may cause dizziness and respiratory problems, if it is inhaled.

Petrol storage is controlled by legislation and you may be required to notify your local authority and or hold a licence to store certain quantities, for more information and guidance, please refer to the HSA website.

Safe Storage of Petrol

Petrol must be stored and handled with care due to the risk of injury, fire or explosion associated with it. The highly flammable vapor from petrol is capable of being ignited at any time; therefore it is important to take precautions to avoid any sources of potential ignition, such as a flame, spark or heat source, if there is likely to be petrol vapour present.

The vapour from petrol is heavier than air and can build up in low lying areas such as drainage systems, sumps or inspection pits. Therefore handling petrol in or near such areas should be avoided, and no potential sources of ignition, e.g. naked light, smoking, heaters, hot engines etc., should be allowed in such low lying areas where vapour is likely to build up.

Vapour from petrol can also extend and affect a large area around its source and this area is known as the "hazard zone", which may extend to at least **4.5m** in all directions and up to **1m** above the source. It is important to take account of local conditions such as wind and sloping ground, which may extend the potentially hazardous zone around a petrol vapour source significantly.

When storing petrol in quantities of more than 20 litres in total, or in containers over 10 litres rated capacity, the storage place must be:

- separated from any occupied building
- given at least 6m clearance from any other building, combustible material or other flammable substances
- provided with adequate ventilation
- Provided with a suitable fire extinguisher(s) (dry powder or foam).
- capable of keeping any leak or spill from spreading
- lockable to prevent unauthorised access
- Sign-posted with a hazard warning (flammable liquid) and "no smoking" sign.

If you are planning to store petrol in containers exceeding 23 litres rated capacity or the total quantity exceeds 100 litres, you must inform your local licensing authority (Fire Authority or Harbour Authority).

Limits on the quantity of petrol you can carry in a vehicle

For private individuals:

It is recommended that when storing and transporting petrol you should limit the quantity to the least amount required and ideally **no more than 3 x 5 litre containers to be carried in a vehicle at any time.**

Portable containers

All containers used to store and transport petrol must be suitable, leak-proof, and made of metal or other material of adequate strength and construction.

Typical examples of appropriate containers made of plastics and metal “jerry cans”



Petrol containers should be clearly marked with a UN mark on the container indicating that it is a United Nations type approved container.

-  Petrol containers must be marked and labelled with a flammable hazard label (see Figure below) and the words “PETROLEUM-SPIRIT, Highly Flammable Capacity ___Litres”



Flammable liquid hazard warning label

Filling Containers.



Avoid all sources of ignition, e.g. naked light, smoking, heaters, hot engines/exhaust, mobile phones etc.

Persons under the age of 15 may not handle or dispense petrol.

When filling a suitable container on a retail or private store from a dispensing pump you should:

- Check that the container is less than 25 litres capacity
- Place the container on the ground when filling, taking care not to over-fill the container. Do not use a funnel as this can lead to overfilling and spillage.
- Insert the pump nozzle in to the container maintaining contact between the container and the nozzle.
- Always fill the container slowly and leave a space when filling a container - the maximum filling capacity for any petrol container is 95% (5% space left for thermal expansion).

If you have carried a container in a vehicle before filling, the container should be removed from the vehicle and placed on the ground. This will reduce the possibility of a static discharge that can ignite petrol vapour. When dispensing petrol from a container (typically at a private store) with a capacity greater than 45 litres, a suitable barrel pump must be used or other suitable device having a vapour tight seal. You should also ensure a proper electrical earth is established to reduce static build up as static sparks can ignite petrol vapour.

Dealing with Leaks & Spills

- ensure it is safe to approach the area and that there is no source of ignition present
- control the spill or leak by identifying the source and treating appropriately, e.g. secure the lid on an overturned container or drum
- prevent the spread of the spill by using a suitable absorbent material, e.g. sand/earth or commercial spill kits and apply directly to the petrol and / or use as a barrier

- small spills (less than 100ml) may be left to evaporate naturally if safe to do so, i.e. the petrol / petrol vapour is not likely to enter drains or manholes, is away

from sources of ignition and is away from other people who may be affected by it

- dispose of used absorbent material safely. Contaminated material may be placed in to a suitable container for safe disposal e.g. plastic container or heavy plastic bag securely sealed. Take the same precautions with contaminated material as for petrol itself. The hazard remains while petrol vapour is present.
- if an oil interceptor is available (facility normally found on petrol service stations), wash any remaining petrol with water in to the interceptor.

As petrol is also harmful to health, the following precautions should be taken if you come in contact with petrol:

- Wash any affected skin immediately with soap and water.
- If eyes are affected, immediately irrigate with water and seek medical assistance.
- If swallowed, do not induce vomiting, seek medical assistance at once.
- Avoid inhalation of petrol vapour as this can cause dizziness and headaches and may lead to respiratory problems.

Contaminated clothing should be removed immediately and disposed of safely

If in doubt, call the emergency services. Tel. number: 999 or 112

Further Information:

Access further guidance on petrol storage and transport of dangerous goods at: www.hsa.ie.

Queries regarding legislation enforcement may be directed by e-mail to wcu@hsa.ie or in writing to: **Work Place Contact Unit, Health and Safety Authority, Metropolitan Building, James Joyce Street, Dublin 1.**

HSA WCU Local: 1890 289 389 (Monday to Friday, 9am to 5pm)