



HEALTH AND SAFETY AUTHORITY

Information Note: Handling Petrol Safely



Petrol is a highly flammable liquid and must be stored, transported and handled with extreme care. The risk of injury, environmental damage, fire or explosion can be significantly reduced by becoming aware of the dangers associated with petrol.

Dangers associated with petrol

Fire hazard

Petrol is a flammable colourless liquid with a very low flash point. This means that at temperatures above -40°C, petrol produces a colourless vapour that is capable of being ignited by a flame, spark or heat source.

In practice, this means petrol vapour is capable of being ignited at any time, resulting in a fire and /or explosion. The vapour from petrol is heavier than air and can build up in low lying areas such as drainage systems, sumps or inspection pits. Care must be taken to avoid handling petrol in or near these areas and must not be handled near a source of ignition, e.g. naked light, smoking, heaters, hot engines etc.

Vapour from petrol can affect a large area around the source and is known as the "hazard zone". This area may extend to at least 4.5m in all directions and up to 1m above the source. Take account of local conditions such as wind and sloping ground as the potentially flammable area around petrol may be extended significantly. Petrol vapour will travel down slopes and can be carried by the wind.

Health risks

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

It is important to refer to appropriate first aid measures prior to handling any dangerous substances.

Contaminated clothing should be removed immediately and disposed of safely.

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

For private individuals:

Where petrol is carried in refillable containers filled by, or for a private individual, the maximum container size is limited to 60 litres and a total quantity per vehicle of 240 litres.

However, 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.**

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. See HSA guidance "Petrol Storage Information Note" downloadable from the HSA web site.

For commercial transport:

Commercial transport is governed by the Carriage of Dangerous Goods by Road Regulations (ADR 2009). These regulations set a threshold for the transport of petrol at 333L, at or below which, certain transport provisions do not apply and over this threshold, all legislative provisions apply. This is a complex area and professional advice must be sought.

Portable containers

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

Typical examples of appropriate containers made of plastics and metal "jerry cans"



- Look for a  mark on the container indicating that it is a United Nations type approved container.
- Must be marked and labelled with a flammable hazard label (see Figure below) and the words "PETROLEUM-SPIRIT Highly Flammable Capacity ____ Litres"



Fig. 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:

- the container must be less than 25 litres capacity
- the container must be placed on the ground when being filled, 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
- fill slowly
- always 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 must also ensure a proper electrical earth is established to reduce static build up. Static sparks can ignite petrol vapour.

Storing Petrol

For storage of quantities 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.

When storing 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) and do so every subsequent year. See HSA guidance on storing petrol referred to above.

Leaks or Spills

Treatment of small leaks or spills

- ensure it is safe to approach the area and 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 you must with petrol. 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.
- **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

Relevant legislation:

Dangerous Substances Act 1972

Dangerous Substances (Retail and Private Petroleum Stores) Regulations S.I. 311 of 1979

Carriage of Dangerous Goods by Road Regulations S.I. 288 of 2007

European Agreement Concerning the International Carriage of Dangerous Goods by Road (ADR) 2009.