

<b>TITLE: FUEL STORAGE AND HANDLING</b>	
<b>Guideline Number: DG1901</b>	<b>Issue Date: 3 / October / 2007</b>
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**PURPOSE:**

To provide guidelines on the storage and handling of fuel.

Petrol (fuel) is both a Dangerous Good, Class 3 (flammable liquid) and a Packaging Group II substance under, for example, the Victorian Dangerous Goods legislation, and a Hazardous Substance under Occupational Health and Safety legislation.

- The Dangerous Goods legislation covers transport and storage of fuel in **all** places (whether a workplace or not).
- The Occupational Health and Safety legislation covers the handling and use of a Hazardous Substance in the occupational environment only.

**SCOPE:**

This Guideline applies to:

- Lifesavers, patrol captains/club captains and team leaders
- Lifeguards and lifeguard supervisors
- Coastal authorities and managers

**GUIDELINE DESCRIPTION:**

**1.0 Fuel storage**

1.1 Fuel should be stored in a manner that conforms to the relevant Australian Standards and state regulatory or legislative requirements that may be applicable to the place of storage.

1.2 The following should be considered as best practice and with reference to AS 1940.

**2.0 Hazardous materials storage cabinet**

2.1 All lifesaving buildings should use an appropriate hazardous materials storage cabinet to store fuel above 20 litres.

2.2 The hazardous materials storage cabinets should have inbuilt spillage containment, which prevents fuel leaking from the cabinet, and reduces the chance of ignition of the contents.

2.3 The cabinet should also be lockable and locked at all times when not in use.

2.4 Any materials that might interact dangerously if mixed with the fuel should be kept apart so the possibility of interaction is minimised, e.g. petrol and pool chlorine.

**3.0 Maximum fuel storage amount**

3.1 A Dangerous Goods licence is required if more than 100 litres of fuel is stored in any one location (check local state laws). Therefore bulk storage in lifesaving buildings should be restricted to a maximum of 100 litres.

3.2 Should there be a need to store more than 100 litres of fuel due to special requirements, a Dangerous Goods licence must be obtained.

3.3 Further, and in accordance with AS 1940–1993, the siting of a hazardous materials storage cabinet in a lifesaving building is to be such that:

- a. Not more than 250 litres of fuel is stored within any 250 m<sup>2</sup> of floor area; and
- b. Not more than 250 litres of fuel is stored in any 10 m of linear distance, and the cabinets must not be less than 5 m apart.

#### **4.0 Storage area location within a lifesaving building**

##### **4.1 Fire escapes**

Hazardous materials storage cabinets must not be situated where they may jeopardise escape from a building in event of a fire. That is, they must be placed away from exits and stairways.

##### **4.2 Distance from ignition sources**

A hazardous materials storage cabinet must not be less than 3 m from any ignition source. Ignition sources include powerpoints, a stove, a heating appliance, welders, lights and/or light switches, and open flame.

#### **5.0 Decanting for refuelling**

Only qualified equipment operators are able to decant fuel. Safety glasses must be provided for eye protection whilst decanting fuel. Refuelling should be conducted in a well ventilated area, preferably outside and away from the storage area. Radios and mobile phones are not to be operated when handling fuel, or in the vicinity of fuel handling operations. Vehicles and motors are to be turned off when refuelling.

**WARNING: Decanting and pouring of small quantities of flammable liquids from unearthened containers can generate a static spark of sufficient energy to ignite a flammable vapour–air mixture.**

#### **6.0 Spillage**

Any spillage shall be cleaned up immediately and the materials used in the clean-up shall be disposed of safely and in accordance with any local regulations. No combustible waste material or residues shall be permitted to remain in or around areas in which such liquids are stored or decanted.

#### **7.0 Ventilation of storage area**

7.1 Provided that the storage quantity is kept below the minor storage quantity of 100 litres, and provided that all approved storage containers are closed when not in use and all decanting occurs outside the building, there are no specific ventilation requirements.

7.2 However, if greater than 100 litres is stored, and decanting occurs inside the club gear shed, the following rules must apply:

- a. At least two walls of the building completely open (having at least 50% of its area as openings) to outside atmosphere.
- b. One wall completely open to outside atmosphere, with no other vents, provided that the distance to and the length of the opposite wall do not exceed the length of the open wall.

- c. Vents in one external wall, provided that such an external wall is not less than 6 m long and the opposite wall is not more than 5 m from it.
- d. One wall open to atmosphere as above, and vents in one opposite or adjacent wall.
- e. Vents in opposite walls.
- f. Any storage platform except a solid-filled type shall be provided with 'underdeck' ventilation by means of vent openings on opposite sides having an area of not less than 0.1 m for each 1.2 m of length. If formal ventilation is to be installed, an experienced contractor is to be employed to perform the relevant work required.

## **8.0 Fuel storage containers**

8.1 The amount of fuel that is stored external to the hazardous materials storage cabinet must not exceed 20 litres. That fuel must be kept in a purpose-built, sealed fuel storage container. This holding container must be clearly marked as a fuel container. It must be sealed and made from a fuel-resistant material.

8.2 The transfer of flammable liquid from storage to the point of use shall be carried out in a manner that minimises the possibility of spillage or fire.

8.3 Packages used shall not be pressurised as a means to transfer the contents unless specifically designed for this duty.

## **9.0 Labelling of fuel storage containers**

Containers that hold more than 150 mL of fuel require a label. The label should show at least the Dangerous Goods 'class' diamond sign and the product's correct shipping name, normally 'Petrol'. For containers that hold less than 25 litres, the sign should be a minimum size of 50 mm x 50 mm and the lettering 5 mm high.

## **10.0 Safety signage**

It is a requirement to place signage at or near places where flammable liquids, gases and toxic chemicals are stored. Appropriate signage includes:

- a. A Dangerous Goods diamond (fuel – red diamond, 250 mm square, picture of flame, black lettering 'FLAMMABLE LIQUID' and the number '3'); and
- b. A general warning sign stating, for example, 'Danger – Flammable Liquid – No Smoking – Keep Fire Away' being placed on the outside of the shed and adjacent to the storage area.

## **11.0 Material Safety Data Sheets (MSDSs)**

An MSDS of a chemical provides very valuable information and guidance on what to do in the event of a spill, splash or incident involving that chemical. The MSDS must be located near the storage place of the chemical. In addition, a master copy must be held in the club safety folder in an accessible place, i.e. in the first aid room near the patrol logbooks.

## **12.0 First aid instruction**

The required information is located on the MSDS. Training should be provided for all club personnel that are required to handle fuel. Persons who handle flammable and combustible liquids should be aware of the hazards involved.

### 13.0 **Approved fire extinguishers**

Dry chemical powder (DCP) extinguishers should be used for minor storages and kept close to fuel storage, and their location indicated by an appropriate sign. A 9 kg DCP extinguisher [2A60B(E)] should be kept within 3–10 m of a hazardous materials storage cabinet.

### 14.0 **Awareness training**

Awareness training will be provided to lifesaving personnel handling flammable and combustible liquids prior to their commencement of duties. The club captain, IRB captain, chief instructor, or health and safety officer of the club might provide this training. Awareness training should cover:

- a. The contents of this Fuel Storage and Handling Guideline
- b. Layout of the storage areas within the club gear shed
- c. Area housekeeping
- d. Awareness of the hazards involved in handling flammable and combustible fuel
- e. Correct use of personal protective equipment (goggles)
- f. The correct use of any pumping equipment, in particular the requirements relating to the control and prevention of static electricity
- g. Actions to minimise spillage
- h. Procedures to be followed in the event of an incident (spillage, accident or fire)
- i. Familiarisation with the location and operation of fire extinguishers
- j. Emergency procedures plan in the event of an explosion, fire, accident, equipment failure or other abnormality or emergency.

### **DEFINITIONS:**

**Dangerous goods** means 'goods that are classified on the basis of immediate physical or chemical effects, such as fire, explosion, corrosion and poisoning, affecting property, the environment or people (e.g. petrol, pool chlorine)'.

**Hazardous substances** means 'substances that are classified on the basis of health effects (whether immediate or long-term)'.

### **REFERENCES:**

AS 1940 – 2004 The storage and handling of flammable and combustible liquids

Australian Coastal Public Safety Guidelines

- DG1900: Storage and handling – dangerous goods
- DG1910: Dangerous goods register
- DG1911: Chemical substances register
- DG1912: Provision and use of Material Safety Data Sheets
- DG1913: Incident investigation and reporting

Code of Practice for the Storage and Handling of Dangerous Goods, Victoria, December 2000.

National Code of Practice for the Storage and Handling of Workplace Dangerous Goods [NOHSC:2017 (2001)], National Occupational Health and Safety Commission, Australian Government, 2001.

National Code of Practice for the Storage and Handling of Workplace Dangerous Goods [NOHSC:2017 (2001)], Appendix 1 Minor quantities, National Occupational Health and Safety Commission, Australian Government, 2001.

National Standard for the Storage and Handling of Workplace Dangerous Goods [NOHSC:1015 (2001)], National Occupational Health and Safety Commission, Australian Government, 2001.

**APPENDICES:**

Nil