

Dangerous Goods

DG352
Aug 2002

Class 3 Flammable and Combustible Liquids Indoor storage of packages in limited quantities at business premises

This information is a practical guideline for 'typical' storages within indicated limits. Other methods are possible. For full details check the NSW Dangerous Goods (General) Regulation 1999, relevant Australian Standards or obtain expert advice.

Danger

Even very small quantities of flammable liquids may ignite and cause serious injuries and damage; vapours may explode.

Types of liquids

Flammable liquids are grouped into Packing Groups (PG) according to their flashpoint, ie the temperature at which they develop sufficient vapours to be ignited by an ignition source:

PG I Great danger (examples: carbon disulfide, ether); because of the danger expert advice should always be obtained.

PG II Medium danger (examples: petrol, alcohol, acetone, thinners).

PG III Minor danger (examples: kerosene, mineral turps).

Combustible Liquids are grouped into C1 (examples: diesel, home heating oil) and C2 (examples: lubricating oils, vegetable oils).

Manufactured products (for technical definition see ADG Code) essentially are flammable liquid based products at least as viscous as olive oil. They must contain at least 10% of dissolved solids (such as resin, pigments or waxes), and should not show any free solvent after the container has been left standing for several days.

They include most paints, sealants and adhesives.

Liquid waste material – if it falls within the classification criteria for Class 3 (such as waste solvents), then it must also be treated as DG of Class 3.

Quantities permitted as minor storage indoors

The quantities are in addition to each other and are allowed to be kept 'on the shop floor' without a special cabinet or storage room, provided the safety and licensing conditions overleaf are complied with.

For larger quantities of paint (Manufactured products) at shops and warehouses check AS1940 Section 2 or ask WorkCover.

Factories and workshops for every 500m² floor area:

PG II...250 L, PG II...500 L, C1/C2:...2,000 L, Manufactured products...2,000 L.

Quantities may have to be reduced if floor space is significantly less than 500 m².

Warehouses

As for factories, but PG II packages must not be larger than 60 L each.

Retail shops

As for factories, but PG II packages must not be larger than 20 L each.

Commercial buildings for every 50 m² floor area:

PG II...10 L, PG II...25 L, C1/C2:...500 L, Manufactured products...as for PG II/III

For tenancies under 50 m² floor area the quantity is half of that given above.

Laboratories, hospitals, schools, Unis/TAFEs:

Check AS1940 Section 2 or ask WorkCover.



Storage conditions

Keep packages spread out

To reduce the fire risk the packages must not be concentrated in one small area, especially not in a small-disused room such as a toilet or office. If practicable they should be kept only on bottom shelves to spread them out and to reduce the risk of breakage and spillage.

Spillage containment

Spillages must be prevented from reaching open drains or escaping from the storage area to reach offices, work areas or ignition sources. Suitable separation distances, sloping floor, spillage trays (not plastic) or liquid tight bund walls can be used. **Clean up spillages immediately.**

Heat

Keep the packages away from heat (steam pipes, furnaces, heaters, also direct sunlight). Pressure build-up may burst the container.

Ignition sources

Vapours may escape if packages are opened, not closed tightly or if they are leaking. Vapours are heavier than air and may spread along at floor level; if ignited, they may flash back or explode.

Ignition sources must be at least 1m away from closed packages, 3m from where packages are opened. Ignition sources include:

- ◆ all naked flame such as welding, gas heaters, Bunsen burners,
- ◆ all electrical equipment with motors or switches, transistor radios, power points or telephones, (ceiling mounted lights may be disregarded in this context),
- ◆ spark-producing work such as angle grinding.

Decanting, pumps

Decanting (pouring or siphoning) is only allowed in a well ventilated area, at least 5 m away from ignition sources, and preferably outdoors. Alternatively use a hand or air-operated pump to reduce vapours. Any electrical pump (even low voltage) must be 'flameproof'.

Warning signs

Provide clearly visible signs "Danger – flammable liquid – no smoking – keep fire away" or similar in letters at least 50mm high.

Fire protection

Have at least one fire extinguisher nearby and accessible if a fire does occur. Use either a dry-chemical powder type rated 2A60B(E) or foam 2A 20B (see label on extinguisher); make sure the foam is suitable (especially alcohol/ethanol/methanol need a special type of foam).

General safety

Keep the area within 3 m clean and free from combustible waste, other 'chemicals' and any gas cylinders. The storage must not jeopardise any emergency escape route. Drums should not be stored within 3 m of emergency doors or under any stairway. Anyone handling the flammable liquids must know the dangers and the required safety precautions. Read Material Safety Data Sheets and product labels.

Dangerous goods licensing

A DG Keeping licence is not required if the total quantity on site is not more than:

PG I/II...100 L and/or **PG III...1,000L.**

For **Manufactured products** a DG licence is not required if they are in packages of no more than 5 L each for PG II or 25 L each for PG III (includes most mineral turps based paints such as most household paints), regardless of quantity.