



A guide for flammable and combustible liquids

under the *Work Health and Safety Act 2011*

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Introduction

The Queensland *Work Health and Safety Act 2011* (WHS Act) regulates the storage, handling and use of hazardous chemicals and major hazard facilities. A person conducting a business or undertaking (PCBU) which uses, handles, stores or generates hazardous chemicals must comply with specific sections in chapter 3 and chapter 7.1 of the *Work Health and Safety Regulation 2011* (WHS Regulation). Flammable and combustible liquids (FCL) constitute by far the largest group of hazardous chemicals used in Queensland. The most common FCL in the community are petrol, kerosene and diesel fuel.

This guide provides an overview of the regulatory requirements for FCL under the WHS Regulation and its relationship with other classifications systems such as the ADG Code¹ and AS1940².

Work Health and Safety Regulation 2011

The WHS Regulation establishes requirements for the safe use, storage and handling of hazardous chemicals as classified under the Globally Harmonised System of Classification and Labelling of Chemicals (the GHS³). This classification system includes chemicals classified as flammable liquids and certain combustible liquids.

Generally, these requirements (or duties) are performance-based. They set goals that must be met but do not prescribe specific actions on how they are to be met. Under parts 3.1 and 7.1 of the WHS Regulation, a PCBU which uses, handles, stores or generates hazardous chemicals is required to identify hazards and to manage the associated risks having regard to:

- the hazardous properties of the hazardous chemical
- any potential hazardous chemical or physical reaction
- the nature of the work to be carried out involving the hazardous chemical
- any structure, plant or system of work used in the use, handling, generation or storage of the hazardous chemical.

PCBUs have specific duties to store and handle their hazardous chemicals (including flammable liquids and certain combustible liquids) as follows:

- prepare, maintain and implement emergency plans (r43, r361)
- provide personal protective equipment (e.g. organic vapour respirators) (r44)
- manage risks from airborne contaminants such as vapours from flammable solvents (r49-50)
- manage risks from hazardous atmospheres for example, where concentration of flammable vapour exceeds 5% of the lower explosive limit (r51)
- manage risks from ignition sources in a hazardous atmosphere (r52)
- keep the amount of flammable and combustible substances at the lowest practicable quantity (s53)
- label pipework (r343)

¹ ADG Code refers to the Australian Code for the Transport of Dangerous Goods by Road and Rail available at www.ntc.gov.au.

² AS1940 refers to the Australian Standard AS1940: The storage and handling of flammable and combustible liquids, which has been updated (2017) to align with the GHS. To purchase a copy of AS1940, visit www.standards.org.au.

³ GHS refers to the Globally Harmonised System of Classification and Labelling of Chemicals published by the United Nations. Further information on classification of hazardous chemicals and the GHS is available from www.safeworkaustralia.gov.au/classifying-chemicals.

- if manifest threshold quantities of hazardous chemicals are involved, provide a manifest and site plan (r347) and notify WHSQ of this circumstance (r348)
- ensure storage areas are appropriately placarded (r349-350) and safety signage erected (r353)
- prevent ignition sources being introduced into a hazardous area where there is a possibility of a fire or explosion occurring (r355)
- contain and manage leaks and spills (r357)
- protect containers (e.g. tanks and vessels), associated pipework and attachments from damage (r358)
- provide appropriately designed and built fire protection systems (r359)
- control risks associated with storage and handling systems such as drums, intermediate bulk containers (IBCs), tanks, vessels, processing equipment and associated equipment (r363).

Abolition of licensing

A licence to store flammable and combustible liquids is not required under the WHS Regulation. The safe storage and handling of flammable and combustible liquids is covered by the safety duties for hazardous chemicals under the WHS Regulation, administered and enforced within Queensland by Workplace Health and Safety Queensland (WHSQ).

Classification of flammable and combustible liquids

Information on the classification of flammable and combustible properties is available from three key documents as listed below:

1. The United Nations Globally Harmonised System of Classification and Labelling of Chemicals (GHS) which has been adopted by the WHS legislation.
2. The Australian Dangerous Goods Code (ADG Code) which is the Australian Code for the Transport of Dangerous Goods by Road and Rail. .
3. Australian Standard AS1940: The storage and handling of flammable and combustible liquids (AS1940).

GHS classification under the WHS Regulation

The GHS classification system simply defines a flammable liquid as a liquid having a flash point of not more than 93°C. A flammable liquid is classified in one of four categories for this class according to the following table:



GHS category	Criteria
1	Flash point <23°C and initial boiling point ≤ 35°C
2	Flash point <23°C and initial boiling point > 35°C
3	Flash point ≥23°C and ≤ 60°C
4	Flash point >60°C and ≤ 93°C

For flammable liquid classifications, GHS categories 1-3 are equivalent to the ADG Code packing group I-III as described below. A change is that GHS has introduced category 4 which aligns with the C1 combustible liquids as defined in AS1940 also described below.

An example of flammable liquid category 4 is diesel fuel. Thus, the use, storage and handling of diesel fuel is subject to the requirements of the WHS Regulation as a hazardous chemical (Part 7.1). This can be checked by confirming the flash point is greater than 60°C and less than or equal to 93°C in the product's safety data sheet. While combustible liquids having a flash point >93°C are not classified as hazardous chemicals and therefore not subject to Part

7.1, they are addressed by the general provisions in terms of hazard identification and management of associated risks, and storage of combustible substances (r53).

The GHS classifications are included in Schedule 11 where prescribed quantities are listed for placarding and manifest thresholds. However, the manifest and placards must reflect the ADG Code information as described in Schedule 12 and 13, respectively to assist emergency services. Thus the ADG Code retains a role under the WHS Regulation for placarding and manifest purposes.

Australian Dangerous Goods Code classification for transportation

The ADG Code makes the distinction between a flammable liquid and a combustible liquid based on the liquid's flash point and boiling point. The division between flammable and combustible occurs at a flashpoint of 60°C. That temperature represents the upper limit of ambient temperature one might expect to encounter during transport in all but the hottest climates. Liquids with a flash point below 60°C are classified as flammable.



Hazard grouping based on flammability for Class 3 materials

Packing group ⁴	Flash point (closed cup)	Initial boiling point
I	-	≤ 35°C
II	<23°C	> 35°C
III	>23°C- 60°C	> 35°C

Under the ADG Code, flammable liquids also include:

- liquids offered for transport at temperatures at or above their flash point
- substances that are transported at elevated temperatures in a liquid state and that give off a flammable vapour at a temperature at or below the maximum transport temperature.

The ADG Code provides additional classification information on liquid desensitized explosives, viscous substances such as paints, enamels, lacquers, varnishes, adhesives and polishes.

AS1940 definitions for combustible liquids

AS1940 includes a definition for combustible liquids as any liquid, other than a flammable liquid, that has a flash point, and has a fire point that is less than its boiling point. For the purposes of AS1940, combustible liquids are divided into two classes as follows:

COMBUSTIBLE LIQUID

- Class **C1** - a combustible liquid that has a closed cup flashpoint of greater than 60°C and no greater than 93°C.
- Class **C2** - a combustible liquid that has a flashpoint exceeding 93°C or has been excluded from being a flammable liquid by any of the criteria for sustaining combustion.

⁴ The packing group indicates the degree of danger presented by the substance when it is in its correct packaging during the course of transport. The packing groups are:

- **PG I** - items presenting **great danger**
- **PG II** - items presenting **medium danger**
- **PG III** - items presenting **minor danger**

AS1940 provides further conditions in the definition of flammable and combustible liquid for the purposes of clarifying the standard's scope and application. Refer to AS1940 (2017) for further information.

C1 and C2 are not to be confused with Class 1 (explosives) or Class 2 (gases) dangerous goods. Combustible liquids by themselves are not considered to be dangerous goods under the ADG Code.

Manufactured product is a term defined in AS1940 to reflect a different risk profile presented by such products and allows the standard to tailor requirements accordingly. The term "manufactured product" essentially refers to Class 3 dangerous goods of Packaging Group II or III paint products, being a suspension or solution of a least 10% non-volatile material, with less than 3% of the mobile solvent layer able to separate, and have certain viscosity attributes as defined in AS1940.

These classifications help establish the basis of selecting suitable risk control measures using AS1940 as guidance for storage and handling of flammable and combustible liquids, assisting PCBUs to meet their duties under the WHS Regulation.

Note regarding flash point

The flash point of flammable and combustible liquids may be altered by the presence of an impurity or additive. Hydrocarbon liquids such as fuels and oils are composed of more than one type of hydrocarbon and hence the value quoted may vary depending on the relative composition. Commercial products may contain added substances or impurities, and hence flash points may vary for seemingly similar products. This may have an effect on classification or determination of the category/packing group for the material. For these reasons, always check the products classification using the product's safety data sheet. If there is doubt as to the flash point and thus the materials classification (e.g. waste liquids or mixtures) a flash point test should be performed by a reputable laboratory. AS2106 provides methods for flash point determination.

What guidance is available?

Codes of Practice

Codes of Practice are practical guides to achieving the standards of health, safety and welfare required under the WHS Act and the WHS Regulation. A code of practice applies to anyone who has a duty in the circumstances described in the code. In most cases, following an approved code of practice would achieve compliance with the health and safety duties in the WHS Act, in relation to the subject matter of the code. Like regulations, codes of practice deal with particular issues and do not cover all hazards or risks which may arise. The health and safety duties require duty holders to consider all risks associated with work, not only those for which regulations and codes of practice exist.

The Queensland Code of Practice for *Managing Risks of Hazardous Chemicals* covers issues associated with flammable and combustible liquids. It includes information on the regulatory requirements and ways in which a PCBU can address these requirements such as eliminating ignition sources, reducing vapour emissions, containing spills, controlling fire and explosion risks, maintaining system integrity and transferring hazardous chemicals.

Codes of Practice addressing managing workplace risks, spray painting, preparation of safety data sheets and labelling can be found at www.worksafe.qld.gov.au.

Australian Standards

Australian Standard, *AS1940 The storage and handling of flammable and combustible liquids* (AS1940) plays a key role in providing guidance on suitable risk controls for the safe use, handling and storage of flammable and combustible liquids.

While adherence to AS1940 is not mandated by the WHS Regulation, it serves the role of providing good industry practice and known ways to minimise risk so far as reasonably practicable for those situations covered within its scope. AS1940, published by Standards Australia, serves as a reputable relevant industry standard providing a valuable source of technical guidance. For further information on Australian Standards and how they interact with the WHS legislation, refer to the Safe Work Australia Information Sheet - Australian and Other Standards available at www.safeworkaustralia.gov.au.

AS1940 sets out requirements for the design, construction and operation of installations for the storage and handling of FCL in locations that are generally industrial, commercial or rural in nature. It includes matters relating to operations and management of emergencies. It identifies issues to be considered in any risk management of facilities handling FCL. Note that provisions related to flammability risks also apply to the following liquids:

- Class 3 liquids that have a subsidiary risk assigned (e.g. methanol Class 3 sub risk 6.1)
- Dangerous goods of other classes that possess a subsidiary flammable liquid risk (e.g. glacial acetic acid Class 8 sub risk 3, or selected pesticide products of class 6.1, sub risk 3).

Other relevant Australian standards particularly relevant to flammable and combustible liquids include (not an exhaustive list):

- AS60079.10.1: Explosive atmospheres- classification of areas
- AS2243 series: Safety in Laboratories
- AS/NZS3833: The storage and handling of mixed classes of dangerous goods in packages and intermediate bulk containers
- AS1692: Steel tanks for flammable and combustible liquids
- AS4897: The design, installation and operation of underground petroleum storage systems
- AS4976: The removal and disposal of underground petroleum storage tanks
- Various fire protection standards.



To purchase a copy of AS1940 or any other Australian Standard, contact Standards Australia on 1300 654 646 or visit www.standards.org.au.

Consultants and industry associations

For consultants specialising in flammable and combustible liquid storage and handling systems contact information can be found through relevant industry associations and groups such as:

- Australian Convenience and Petroleum Marketers Association (ACAPMA) available at www.acapma.com.au. ACAPMA provide a public listing of contractors who have voluntarily become a recognised contractor under their National Petroleum Recognition

Scheme. Services identified include site design, fuel tank and pump installation, maintenance, and removal.

- WHSQ maintain a voluntary list of consultants specialising in hazardous chemical safety management as a contact service. Refer to 'industry consultants for hazardous chemicals' at www.worksafe.qld.gov.au.
- The Australasian Institute of Dangerous Goods Consultants provides a contact list at www.aidgc.org.au.

Manufacturers, suppliers and local distributors may be able to provide technical assistance regarding their products, including the provision of safety data sheets.

Notifications

Various notifications are required under the WHS Regulation which are relevant to the use, storage and handling of flammable and combustible liquids as summarised below.

Manifest quantity exceeded

Notification to WHSQ is required if the quantity of FCL exceeds the prescribed manifest thresholds (column 5) in Schedule 11. The quantity is based on the aggregated amount for a specified hazardous chemical regardless of the type and number of storage and handling systems used at the workplace, such as underground tanks, aboveground tanks, packaged goods stores or a combination of these systems. The following table provides a number of examples where notification as a manifest quantity workplace would be required:

Product	GHS category flammable liquid	Manifest threshold (L) (must exceed this quantity)	Example workplaces
Petrol in underground tanks	Category 2	2,500	Service stations, fuel depots, hire car depots and service centres
Diesel in underground tanks	Category 4	100,000	Power generators, service stations, fuel depots, transport/machinery depots
Resins	Category 2 Category 3 Aggregate Cat 2 and 3	2,500 10,000 10,000	Manufacturing facilities, warehouses, chemical formulators
Enamel paints and thinners in various containers	Category 2 Category 3 Aggregate Cat 2 and 3	2,500 10,000 10,000	Paint shops and distributors, large hardware retailers
Ethanol in tanks and packages	Category 2	2,500	Distilleries, herbal medicine manufacturing, chemical formulators
Kerosene in tanks	Category 3	10,000	Asphalt manufacturing
Various	Category 2 Category 3	2,500 10,000 10,000	Warehousing, transport depots, various industrial

	Aggregate Cat 2 and 3		facilities, manufacturing and formulating facilities
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If numerous categories of hazardous chemicals are used, stored or handled at a workplace, only one manifest threshold has to be exceeded to trigger the obligation to have a manifest, notify WHSQ, and have the workplace's emergency plan submitted to the Queensland Fire and Emergency Services.

10% Schedule 15 (MHF) threshold exceeded

Workplaces where Schedule 15 chemicals are likely to be present in a quantity that exceeds 10% of the threshold quantity, must notify WHSQ as a possible major hazard facility (MHF). The following table provides a number of examples where notification as a manifest quantity workplace would be required:

Product	Hazardous material	10% MHF threshold*	Example workplaces
Carbon disulphide	UN1131	20 tonne	Xanthate production for mineral processing
Class 3 PG I	Crude oil	20 tonne	Port facility
Class 3 PG II or III	petrol	5,000 tonne (equivalent to 6,500,000 litres depending on product's density)	Fuel depots or distributors
Formaldehyde (>90%)		5 tonne	Manufacturing facility

Note: For liquids, Schedule 15 quantities are quoted in tonnes compared to Schedule 11 quantities for manifests and placards which are quoted in litres. To convert between the two units a conversion using the liquid's density (specific gravity) is required. This value is typically provided in the product's SDS.

The notification is assessed by WHSQ for potential off-site impacts and a determination is made regarding the workplaces classification as an MHF.

Notification of an abandoned tank

Workplaces that have an abandoned underground tank that has been used to store flammable liquid (GHS Flammable liquids Category 1-4) must notify WHSQ of this abandoned tank (r367). An abandoned tank is an underground, partially underground or fully mounded tank that has not been used to store flammable liquid for 2 years, or not intended to be used again.

If such a tank is no longer to be used, section 366 (2) requires the system to be removed. This is not always possible because of site attributes such as extensive subsurface pipework or excavating may cause issues for surrounding structures. If this is the case, the regulation requires the risks to be controlled such as decommissioning in-situ. The primary guidance document for removing or decommissioning an underground tank is *AS4976: The removal and disposal of underground petroleum storage tanks*.

New duties for pipeline owner, builder or operator

Additional requirements exist for pipelines used to convey Schedule 11 hazardous chemicals entering public areas. Under sections 389- 391 a builder of a pipeline (new or a repair/decommissioning/removal) is required to notify WHSQ of certain details.

Authorisation to use, handle or store prohibited or restricted hazardous chemicals or carcinogens

Some flammable liquids are subject to specific provisions that prohibit or restrict their use in workplaces. For example, chemicals with >50% benzene (e.g., refinery feedstock) will be a restricted use, but lower concentrations (say 5%) are not restricted. Acrylonitrile used at workplaces is also restricted. Carbon disulphide, and >1% methanol product, is restricted from being used for spray painting. Sections 380-388 deal with authorisations to use, handle or store restricted hazardous chemicals and prohibited and restricted carcinogens.

Forms are available for notifications described above at www.worksafe.qld.gov.au.

Storage solutions under AS1940

AS1940 provides a range of recommended options to safely store and handle FCL with requirements tailored to the type and quantity of the FCL. Requirements for minor quantities are provided in Section 2. AS1940 defines what are considered minor storage quantities for specified circumstances and provides a range of precautions for the safe management of such quantities. Refer to the next section for an overview of minor storage guidance based on AS1940.

If larger quantities are to be stored in one location, then subsequent sections will need to be sought for guidance. For larger than minor storage quantities, storage systems for packages may include a flammable goods cabinet, a suitably modified freight container or dedicated FCL package store all of which have specific location, design and construction requirements (guidance provided in section 4). Note that AS1940 stipulates minimum safety requirements and more stringent requirements can be adopted at the PCBUs discretion such as using a flammable goods cabinet for minor storage quantities.

Additional sections provide guidance for tank systems, dispensing systems and tank vehicle loading facilities and associated fire protection, operational safety, and emergency management requirements.

Minor storage

Any storage of FCL in quantities not exceeding those listed in Table 2.1 (Section 2) of AS1940 may be regarded as minor storage quantities. The information in Table 2.1 of AS 1940 is provided in a rearranged format as a useful overview in [Appendix 1](#).

The underlying concept of minor storage for the purposes of AS1940 is that quantities below a certain level are so small, or so scattered and separated, that they present little risk, add little to a building's fire load, and are generally unlikely to play a significant part in spreading a fire from place to place. The fire-fighting facilities required under normal building regulations are expected to cope adequately.

Minor storage may exist at a site at which no other FCL are present. It may also exist at a site where major quantities of FCL are present but the minor storage is separated from those quantities.

There may also be more than one minor storage at the one site. Section 2 of AS1940 (Minor Storage) provides guidance on multiple minor storages in the same building and/or same site, including proximity to other stores. This guidance indicates the degree to which FCL may be accumulated in a small area within minor storage limits. The requirements also apply to minor storage on construction sites.

To assist PCBUs with minor storage quantities, the following risk control measures are provided from AS1940 Section 2.3 Precautions applying to minor storage:

- **Location of minor storage**

The following requirements and recommendations apply to the location of an indoor minor storage:

- (a) If the storage is located on a floor that is above the building's lowest floor (i.e. on a floor that is above the ground floor or basement), its location shall not jeopardize the safety of any areas on lower levels of the building or impede firefighting operations.
- (b) Flammable vapours and spilt liquids shall be prevented from escaping to any lower levels of the building.
- (c) Concentrated storage of liquids in any one area shall be avoided, so as to reduce the fire load and the potential rate of fire spread.
- (d) The storage area shall be adequately ventilated.
- (e) The build-up of flammable vapours should be avoided (see Control of ignition sources).

- **Operations**

The following handling requirements and precautions apply:

- (a) Persons who handle the liquids shall be fully aware of the hazards involved.
- (b) All storage areas shall be secured against access by unauthorized persons at all times.
- (c) Packages shall not be placed where they could hinder escape from a building in an emergency.
- (d) Care should be taken when decanting or transferring flammable liquids. Dispensing pumps or self-closing metal taps should be used, in order to reduce the hazards of splash filling, spillage and vapour escape.
- (e) Packages shall be kept closed when not in use. Packages containing flammable liquids should only be opened or decanted in well-ventilated areas and away from any potential ignition source.
- (f) The area in or around the minor storage shall be kept free of combustible materials and residues.
- (g) Any materials that might react dangerously if mixed shall be kept apart so that the possibility of reaction is minimized, e.g. fuel and pool chlorine.
- (h) Liquids should not be stored near any hot surfaces (e.g. steam pipes, furnace walls or engines) or where they might be accidentally exposed to heat (e.g. from escaping steam).
- (i) Liquids should be transferred and moved in a manner that reduces the likelihood of spillage, vapour escape or fire.

- **Control of ignition sources (flammable liquids only)**

Except for domestic premises, AS/NZS 60079.10.1 shall be consulted for hazardous area classification if the volume of flammable liquids exceeds:

- (a) 100 L in closed containers;
- (b) 25L for decanting purposes, e.g. petrol transfer to a motor vehicle or lawn mower;
- (c) 5L in open containers for occasional use;
- (d) 1L in open containers for continuous use.

There shall be no uncontrolled sources of ignition in any space in which a flammable mixture of vapour and air could be present.

WARNING: EVEN SMALL QUANTITIES OF FLAMMABLE LIQUID CAN CREATE A VAPOUR CLOUD THAT CAN TRAVEL CONSIDERABLE DISTANCES AND FLASHBACK TO ITS POINT OF GENERATION IF IT MEETS A SOURCE OF IGNITION. THIS IS PARTICULARLY THE CASE WHEN DECANTING OR IF THE LIQUID IS SPILT.

- **Spillage control**

All spills and leaks shall be cleaned up immediately. Any waste shall be disposed of safely and in accordance with the local regulations. Liquids shall not be allowed to reach ignition sources, stores of other chemicals, or combustible materials (e.g. timber and paper), or flow into drains or onto neighbouring land, or enter any creek, pond or waterway. Precautions should be based at least on the loss of contents of the largest container kept.

A simple spill-response kit may consist of:

- (a) a readily identifiable, suitable container with a lid or cover containing absorbent materials
- (b) suitable personal protective equipment; and
- (c) suitable equipment required for spill clean-up.

Oils of animal or vegetable origin can oxidize, with the generation of heat and the possibility of spontaneous ignition if they are absorbed onto combustible absorbents.

Fire protection and warning signs

At premises other than residences or farms, in locations where more than 100 L of flammable liquids, or more than 1000 L of combustible liquids are stored, or where flammable liquids are decanted, the following requirements apply:

- (a) At least one portable fire extinguisher, having a suitable rating for use with the range of materials being kept, shall be readily accessible and adjacent to the minor storage area. Where liquids are stored on open land, a fire extinguisher shall be provided if the liquids are decanted or transferred within 5m of the storage.
- (b) In areas where flammable liquids are decanted, a sign bearing the words shall be displayed.

DANGER - FLAMMABLE LIQUID - NO SMOKING - KEEP FIRE AWAY

Note: Signs should comply with AS1319.

For retail areas with customer access, this requirement shall apply if the liquids are decanted or transferred, or are in packages having capacities of more than 25L.

A flammable liquid storage cabinet is designed for storage of small quantities of flammable liquids. AS1940 provides requirements for these.

The illustration shown on the right is an example of a flammable liquid storage cabinet having specific design features including double-walled steel construction, spill compound, and self-closing doors. For further information refer to section 4.9 of AS1940.



Appendix 1 Table 2.1 (extract from AS1940–2017)

	Flammable liquid		Combustible liquid	Manufactured products
	PG I, PG II	PG III	C1, C2	
Factories and workshops				
Inside	1L per 2m ² floor space with no more than 250L in any 500m ² area (need >500m ² for additional storage)	1L per 1m ² of floor space with no more than 500L in any 500m ² area (need >500m ² for additional storage)	4L per 1m ² floor space with no more than 2,000L in any 500m ² area (need > 500m ² for additional storage)	2,000L in packages only, not tanks
Outside and either: (a) in attached outhouse/ shed if separated by a partition having an FRL of 60/60/60 (b) outside or in a detached outhouse/shed separated from the factory or workshop by at least 1m	250L	As above (but generally up to 500L)	2,500L	
	250L	1,400L in tanks not over 700L each, or in packages	5,000L	
Shops and warehouses				
Inside	shop: no package for PG I or II >20L 1L per 2m ² floor space with no more than 250L in any 500m ² area (need > 500m ² for additional storage)	1L per 1m ² of floor space with no more than 500L in any 500m ² area (need >500m ² for additional storage)	4L per 1 m ² floor space with no more than 2,000L in any 500m ² area (need >500m ² for additional storage)	Flammable Products: <ul style="list-style-type: none"> • 10,000L of which no more than 2,000L are PG II • Provided that storage is in closed containers, not to be opened except

Outside plus either: (a) in attached outhouse/ shed if separated by a partition having an FRL of 60/60/60 (b) outside or in a detached outhouse/shed separated from the factory or workshop by at least 1m	250L	As above (but generally up to 500L)	2,500L	for tinting paint for immediate sale
	250L	1,400L in tanks not over 700L each or in packages	5,000L	

	Flammable liquid		Combustible liquid	Manufactured products
	PG I, PG II	PG III	PG I, PG II	
Other buildings				
Inside commercial buildings and hospitals	10L per 50m ² of floor space, but 5L for any tenancy less than 50m ²	25L per 50m ² of floor space, but 25L for any tenancy less than 50m ²	500L in total of C1 and C2 per 50m ² of floor space, but 500L for any tenancy less than 50m ²	The limit for any manufactured product is the same

Outside commercial buildings and hospitals plus either: (a) in attached outhouse/ shed if separated by a partition having an FRL of 60/60/60 (b) outside or in a detached outhouse/shed separated from the factory or workshop by at least 1m	250L	As above (but generally up to 500L)	2,500L	as for a liquid of the same packing group
	250L	1,400L in tanks not over 700L each or in packages	5,000L	
	Inside educational establishments	5L per 50m ² of floor space	10L per 50m ² of floor space	
Inside laboratories	50L per 50m ² of floor space	100L per 50m ² of floor space	200L in total of C1 & C2	

	Flammable liquid		Combustible liquid	Manufactured products
	PG I, PG II	PG III	C1, C2	
Residential building of any type				
Within a dwelling	5L	25L	50L	50L
In a garage attached to a dwelling with a 60/60/60 FRL rating separation wall	25L	50L	100L	250L

Outdoors, or in a shed or garage , separated from the dwelling or any other building by 1 m space	100L	250L	500L	250L
Outdoors , uncovered, or in a shed or garage, separated from the dwelling or any structure or boundary by either 3m of space or a wall having an FRL of 180/180/180	250L	250L	500L	250L
A supply tank for domestic oil-fired appliances installed in accordance with AS 1691 is excluded from any calculation of the quantity stored on the premises.				

Storage in or around residential buildings should not exceed the quantities listed above.

There may be town planning restrictions on the storage of dangerous goods in residential areas, and insurance implications for storage of these materials.

Notes:

- In the case of laboratories, commercial buildings and the like, this table is intended to cater for the day-to-day working stock in the laboratory or workroom. If these quantities are to be exceeded, it will be necessary to install a cabinet or major store facility according to the scale needed.
- It is permissible to store at the same time on the same area, the maximum permissible allowance for each or all of the other classes of liquids.
- Where the maximum allowance is specified in terms of quantity per unit area, any arrangement which results in concentration at one point should be avoided. Such aggregation contravenes the intent of minor storage, which is dispersal, and additional storage provisions as in Section 4 may be required.

Appendix 2: Data on some common flammable and combustible liquids

Note: Values shown are indicative only. Flash point and Boiling point may vary considerably for a particular product such as crude oil, petrol, and oils depending on the source/supplier and may affect its classification as determined by the manufacturer. Additionally, differences between the ADG Code classification and the GHS classification may be due to special conditions as stipulated in the ADG Code for transport purposes. Always check the chemical property information and classification for WHS Regulation purposes using the manufacturer's SDS for the product.

Product	UN number	Flash point °C	Boiling point °C	ADG Code Packing Group	Hazardous chemical GHS Flammable Liquid Category
Flammable Liquids					
Carbon Disulphide	1131	-30	46	I	2
Crude Oil	1267	<20	0-540	I	1 or 2
Diethyl ether	1155	-4	35	I	1
Isopropylamine	1221	-32	33-34	I	1
Acetal	1088	-14	102	II	2
Acetone	1090	-17	56	II	2
Acetonitrile	1648	5	81	II	2
Adhesives	1133	-1	Not avail.	II	2
Benzene	1114	-11	80	II	2
Cyclohexane	1145	-20	81	II	2
Ethanol	1170	13	78	II	2
Isopropyl alcohol	1219	12	82	II	2
Lacquer thinner	1263	-1	78-134	II	2
Methanol	1230	12	63-65	II	2
Methyl ethyl ketone (MEK)	1193	-4	79	II	2
Methyl isobutyl ketone (MIBK)	1245	14	114	II	2
Methyl methacrylate	1247	11	101	II	2
Petrol	1203	<-30	30-228	II	1 or 2
Tetrahydrofuran (THF)	2056	-14	66	II	2
Toluene	1294	5	110	II	2
Vinyl acetate	1301	-7	72-73	II	2
Jet fuel (Aviation turbine fuel/JetA1)	1863	38-57	150-280	III	3
Kerosene	1223	40	160-250	III	3

Mineral turpentine/ White spirit	1300	33-36	145-200	III	3
Xylene	1307	24-26	138-140	III	3
Combustible Liquids					
Diesel fuel	-	>61	200-400	C1	4
Fuel oil	-	>61	>200	C1	4 (if FP \leq 93°C)
Heating oil	-	>61	150-285	C1	4 (if FP \leq 93°C)
Lube oil	-	>150	>280	C2	-
Waste oil	-	variable	variable	variable	-