



**The storage and handling of flammable
and combustible liquids**

STANDARDS
Australia

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This Australian Standard® was prepared by Committee ME-017, Flammable and Combustible Liquids. It was approved on behalf of the Council of Standards Australia on 13 July 2017.

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- Australasian Institute of Dangerous Goods Consultants
- Australian Industry Group
- Australian Institute of Petroleum
- Australian Paint Manufacturers Federation
- Department of Defence
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- Engineers Australia
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- SafeWork SA
- WorkCover NSW
- Workplace Health and Safety, Qld
- WorkSafe, Vic.

Additional Interests:

- Accord Australasia
 - AusSpill Association
 - WorkCover Queensland
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Standards Australia wishes to acknowledge the participation of the expert individuals that contributed to the development of this Standard through their representation on the Committee and through the public comment period.

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Australian Standard®

**The storage and handling of flammable
and combustible liquids**

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PREFACE

This Standard was prepared by Standards Australia Committee ME-017, Flammable and Combustible Liquids, to supersede AS 1940—2004. The objective of this Standard is to promote the safety of persons and prevent damage to property and the environment where flammable or combustible liquids are stored or handled.

The changes in this revision of the Standard include alignment for the classification criteria of C1 combustible liquids to the Globally Harmonized System of Classification and Labelling of Chemicals (GHS). The use of plastic polyethylene or other composite polymeric tanks for the minor storage of combustible liquids is now permitted. Some changes to fire hydrants requirements were also made in Section 11, dealing with fire protection for package stores.

Committee ME-017 reviewed the report with recommendations into the Buntingford oil depot fire in Hertfordshire UK in 2005, and implemented engineering controls accordingly, wherever possible.

The terms ‘normative’ and ‘informative’ have been used in this Standard to define the application of the appendices to which they apply. A ‘normative’ appendix is an integral part of a Standard, whereas an ‘informative’ appendix is only for information and guidance.

Statements expressed in mandatory terms in notes to tables are deemed to be requirements of this Standard. Notes that appear in the main text of this Standard provide information only.

The series of Standards covering the storage and handling of Class 3 and related dangerous goods presently comprises the following Standards:

AS	
1894	The storage and handling of non-flammable cryogenic and refrigerated liquids
2106	Methods for the determination of the flash point of flammable liquids (closed cup) (series)
2507	The storage and handling of agricultural and veterinary chemicals
2585	Determination of flash and fire points—Cleveland open cup method
2714	The storage and handling of organic peroxides
3780	The storage and handling of corrosive substances
3846	The loading and transport of dangerous cargoes in port areas
3961	The storage and handling of liquefied natural gas
4326	The storage and handling of oxidizing agents
4332	The storage and handling of gases in cylinders
4497	The design, installation and operation of underground petroleum storage systems
4976	The removal and disposal of underground petroleum storage tanks
AS/NZS	
1596	The storage and handling of LP Gas
2022	Anhydrous ammonia—Storage and handling
2927	The storage and handling of liquefied chlorine gas
3833	The storage and handling of mixed classes of dangerous goods, in packages and intermediate bulk containers

AS/NZS

- 4081 The storage, handling and transport of liquid and liquefied polyfunctional isocyanates
- 4452 The storage and handling of toxic substances
- 4681 The storage and handling of Class 9 (miscellaneous) dangerous goods and articles
- 5026 The storage and handling of Class 4 dangerous goods
- 60079 Explosive atmospheres
 - 60079.10.1 Part 10.1: Classification of areas—Explosive gas atmospheres
 - 60079.14 Part 14: Electrical installations design, selection and erection

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STANDARDS AUSTRALIA

Australian Standard

The storage and handling of flammable and combustible liquids

SECTION 1 SCOPE AND GENERAL

1.1 SCOPE

This Standard sets out requirements and recommendations for the safe storage and handling of flammable liquids of dangerous goods Class 3, as classified in the UN *Recommendations for the Transport of Dangerous Goods—Model Regulations* and listed in the ADG Code. This Standard also provides requirements and recommendations for the storage and handling of combustible liquids, as defined in Clause 1.4.9.

This Standard provides minimum acceptable safety requirements for storage facilities, operating procedures, emergency planning and fire protection. It provides technical guidance that may assist in the storage and handling of flammable and combustible liquids in accordance with the risk management requirements of Safe Work Australia, Model Code of Practice, *Managing Risks of Hazardous Chemicals in the Workplace* and legislation which underpins that document.

This Standard provides requirements for commonly used flammable and combustible liquids such as hydrocarbons and industrial solvents. Some flammable and combustible liquids have other physical and chemical properties that require additional precautions and design considerations. Examples of these are—

- (a) liquids that can polymerize;
- (b) liquids that require blanketing with inert gases;
- (c) liquids that are heated; and
- (d) liquids that are assigned a subsidiary risk.

Any special precautions and considerations necessary for the safe storage and handling of such liquids are additional to the requirements and recommendations provided in this Standard.

For the storage and handling of dangerous goods of another class but having a Class 3 subsidiary risk, this Standard is relevant to their flammability aspects.

NOTE: Fuel blends that contain biofuel (e.g. ethanol) have physical and chemical properties that require additional precautions and design considerations.

1.2 APPLICATION**2.1 Where this Standard applies**

This Standard applies to the storage and handling of Class 3 dangerous goods as defined in Clause 1.4.8 or relevant legislation, with the exception of desensitized explosives of Class 3. It also applies to the storage and handling of combustible liquids. The requirements of this Standard apply in conjunction with, but do not take precedence over, any government legislation that applies in any area.

Where the flammable liquid being kept has one or more subsidiary risks, reference shall be made to the Australian Standards relevant to the Classes of those risks and the more stringent requirements shall apply. Where any combustible liquid being kept has risks of other Classes, the relevant Australian Standard for that Class shall be consulted, but for requirements relating to its combustible properties and fire safety, this Standard shall apply.