



The storage and handling of flammable and combustible liquids



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- Australasian Fire and Emergency Service Authorities Council
- Australasian Institute of Dangerous Goods Consultants
- Australian Industry Group
- Australian Institute of Petroleum
- Australian Paint Manufacturers Federation
- Department of Defence
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- SafeWork SA
- WorkCover NSW
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- 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.

This Standard incorporates Amendment No. 1 (August). The changes required by the Amendment are indicated in the text by a marginal bar and amendment number against the clause, note, table, figure or part thereof affected.

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 Buncefield 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 handling 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
4897	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
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

CONTENTS

	<i>Page</i>
SECTION 1 SCOPE AND GENERAL	
1.1 SCOPE.....	8
1.2 APPLICATION	8
1.3 NORMATIVE REFERENCES	9
1.4 DEFINITIONS.....	9
SECTION 2 MINOR STORAGE	
2.1 SCOPE OF SECTION	20
2.2 MINOR STORAGE QUANTITIES	20
2.3 PRECAUTIONS APPLYING TO MINOR STORAGE	26
2.4 MINOR STORAGE IN TANKS	27
SECTION 3 GENERAL REQUIREMENTS	
3.1 SCOPE OF SECTION	28
3.2 GENERAL DESIGN AND CONSTRUCTION REQUIREMENTS	28
3.3 MECHANICAL EQUIPMENT AND INSTALLATIONS	30
3.4 ELECTRICAL INSTALLATIONS AND EQUIPMENT	30
3.5 INTERNAL COMBUSTION ENGINES	30
3.6 LIGHTING	31
3.7 RESTRICTED USAGE	31
3.8 FIREWALLS AND VAPOUR BARRIERS.....	31
3.9 SECURITY, SIGNS AND NOTICES.....	32
3.10 TRANSIT STORAGE	32
3.11 IGNITION SOURCES.....	34
SECTION 4 PACKAGE STORAGE AND HANDLING AREAS	
4.1 SCOPE OF SECTION	35
4.2 TYPES OF STORES	35
4.3 LOCATION AND SEPARATION DISTANCES	39
4.4 CONSTRUCTION.....	43
4.5 VENTILATION.....	45
4.6 GENERAL REQUIREMENTS.....	51
4.7 STORAGE OF IBCs.....	51
4.8 STORAGE IN FREIGHT CONTAINERS.....	51
4.9 STORAGE IN STORAGE CABINETS	52
4.10 ACTIVITIES WITHIN PACKAGE STORES	54
4.11 OFFICES WITHIN PACKAGE STORES	54
SECTION 5 STORAGE IN TANKS	
5.1 SCOPE OF SECTION	55
5.2 GENERAL REQUIREMENTS.....	56
5.3 STORAGE TANK FILL POINTS	58
5.4 VENTING	59
5.5 EMERGENCY VENTING	63
5.6 LOCATION AND CAPACITY OF INDOOR TANKS	64
5.7 SEPARATION OF ABOVE-GROUND TANKS.....	65
5.8 BUNDS AND COMPOUNDS.....	68
5.9 REQUIREMENTS FOR ABOVE-GROUND TANKS WITH INTEGRAL SECONDARY CONTAINMENT.....	71

	<i>Page</i>
5.10 REQUIREMENTS FOR TANK CONTAINERS (ISO TANKS, PORTABLE TANKS) INCLUDING IBCs WHEN USED AS STATIC STORAGE TANKS	73
5.11 INSTALLATION METHODS FOR ABOVE-GROUND TANKS	73
5.12 INSTALLATION METHODS FOR UNDERGROUND TANKS	74
5.13 INSTALLATION METHODS FOR TANKS IN TANK CHAMBERS	75
5.14 SERVICE TANKS.....	76
 SECTION 6 SYSTEMS FOR PIPING, VALVES, PUMPS AND TANK HEATING	
6.1 GENERAL DESIGN AND CONSTRUCTION	78
6.2 PIPING	78
6.3 VALVES	80
6.4 PUMPS.....	81
6.5 HEATING OF LIQUIDS	81
 SECTION 7 FUEL DISPENSING	
7.1 SCOPE OF SECTION	83
7.2 GENERAL REQUIREMENTS.....	83
7.3 DISPENSERS.....	84
7.4 DELIVERY HOSES AND NOZZLES	86
7.5 MARINE DISPENSERS.....	86
7.6 OPERATIONS.....	87
 SECTION 8 TANK VEHICLE LOADING FACILITIES	
8.1 SCOPE OF SECTION	89
8.2 GENERAL REQUIREMENTS.....	89
8.3 TOP-FILLING INSTALLATIONS.....	91
8.4 BOTTOM-LOADING FACILITIES.....	92
 SECTION 9 OPERATIONAL AND PERSONNEL SAFETY	
9.1 SCOPE OF SECTION	94
9.2 GENERAL PRECAUTIONS.....	94
9.3 OPERATING PROCEDURES.....	97
9.4 MANAGEMENT OF ABOVE-GROUND LEAKS AND SPILLS	98
9.5 PLACARDING.....	100
9.6 LIQUID TRANSFER.....	100
9.7 EFFLUENT CONTROL	100
9.8 CONSTRUCTION AND MAINTENANCE WORK	100
9.9 GAS-FREEING OF TANKS AND PACKAGES.....	103
9.10 PERSONNEL TRAINING.....	103
9.11 RECORDS.....	104
9.12 PERSONAL PROTECTIVE EQUIPMENT (PPE)	105
9.13 FIRST AID	105
9.14 ADDITIONAL REQUIREMENTS FOR THE STORAGE AND HANDLING OF PACKAGES	106
9.15 ADDITIONAL REQUIREMENTS FOR PIPING AND VALVE SYSTEMS.....	108
9.16 ADDITIONAL REQUIREMENTS FOR PIPEWORK	108
9.17 ADDITIONAL REQUIREMENTS FOR TANKS	108
9.18 BULK TRANSFER	113

SECTION 10 EMERGENCY MANAGEMENT	
10.1 SCOPE OF SECTION	116
10.2 PLANNING FOR EMERGENCIES	116
10.3 MANIFEST	117
10.4 PLACARDING.....	117
SECTION 11 FIRE PROTECTION	
11.1 SCOPE OF SECTION	118
11.2 APPLICATION OF SECTION	118
11.3 GENERAL REQUIREMENTS FOR FIRE PROTECTION EQUIPMENT	118
11.4 PORTABLE FIRE EXTINGUISHERS.....	120
11.5 FIXED FIRE PROTECTION AND DETECTION SYSTEMS	121
11.6 FIRE EXTINGUISHER REQUIREMENTS FOR PRODUCT PUMPS, MANIFOLDS AND HOSE CONNECTION POINTS.....	123
11.7 FIRE EXTINGUISHER REQUIREMENTS FOR TANK VEHICLE TRANSFER AREAS	123
11.8 FIRE PROTECTION REQUIREMENTS FOR PACKAGE STORAGE AND HANDLING AREAS	124
11.9 FIRE PROTECTION REQUIREMENTS FOR FUEL DISPENSING INSTALLATIONS	127
11.10 FIRE PROTECTION REQUIREMENTS FOR ABOVE-GROUND FIRE-RATED TANKS, TANKS UNDERGROUND OR IN CHAMBERS.....	127
11.11 FIRE PROTECTION REQUIREMENTS FOR ABOVE-GROUND TANK STORAGE OF AGGREGATE CAPACITY LESS THAN 60 m ³	127
11.12 FIRE PROTECTION REQUIREMENTS FOR ABOVE-GROUND TANK STORAGE OF AGGREGATE CAPACITY 60 m ³ TO 2000 m ³	129
11.13 FIRE PROTECTION REQUIREMENTS FOR ABOVE-GROUND TANK STORAGE OF AGGREGATE CAPACITY 2000 m ³ AND GREATER.....	130
11.14 PIPING AND PUMPING SYSTEMS	132
11.15 COOLING WATER.....	133
11.16 FIXED FOAM SYSTEMS FOR TANKS	134
SECTION 12 WASTE STORAGE AND DISPOSAL	
12.1 SCOPE OF SECTION	139
12.2 STORAGE OF WASTES	139
12.3 WASTE MANAGEMENT	139
12.4 WASTE DISPOSAL	139
12.5 PRE-DISPOSAL TREATMENT OF EMPTY CONTAINERS.....	139
12.6 METHODS OF DISPOSAL.....	140
APPENDICES	
A LIST OF REFERENCED DOCUMENTS.....	141
B RECOMMENDATIONS FOR THE DESIGN AND CONSTRUCTION OF BLENDING PLANTS	145
C USE OF FORK-LIFT TRUCKS AND VEHICLES NOT RATED FOR HAZARDOUS AREAS IN FLAMMABLE LIQUIDS PACKAGE STORES	148
D RECOMMENDATIONS FOR THE STORAGE AND HANDLING OF PACKAGED FLAMMABLE LIQUIDS IN COOLROOMS.....	152
E ISSUES TO BE CONSIDERED IN A RISK ASSESSMENT.....	154
F STORAGE AND HANDLING OF POTABLE SPIRITS IN BULK	157
G POWER STATION AND GRID TRANSFORMERS	161
H TANK VENTING.....	162
I FIRE EXPOSURE PROTECTION	166

	<i>Page</i>
J COMBUSTION CHARACTERISTICS.....	170
K GAS-FREEING PRECAUTIONS AND PRINCIPLES	172
L RECOMMENDATIONS FOR BATCH BLENDING OF FLAMMABLE LIQUIDS	174
BIBLIOGRAPHY.....	177

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 gas;
- (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**1.2.1 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.