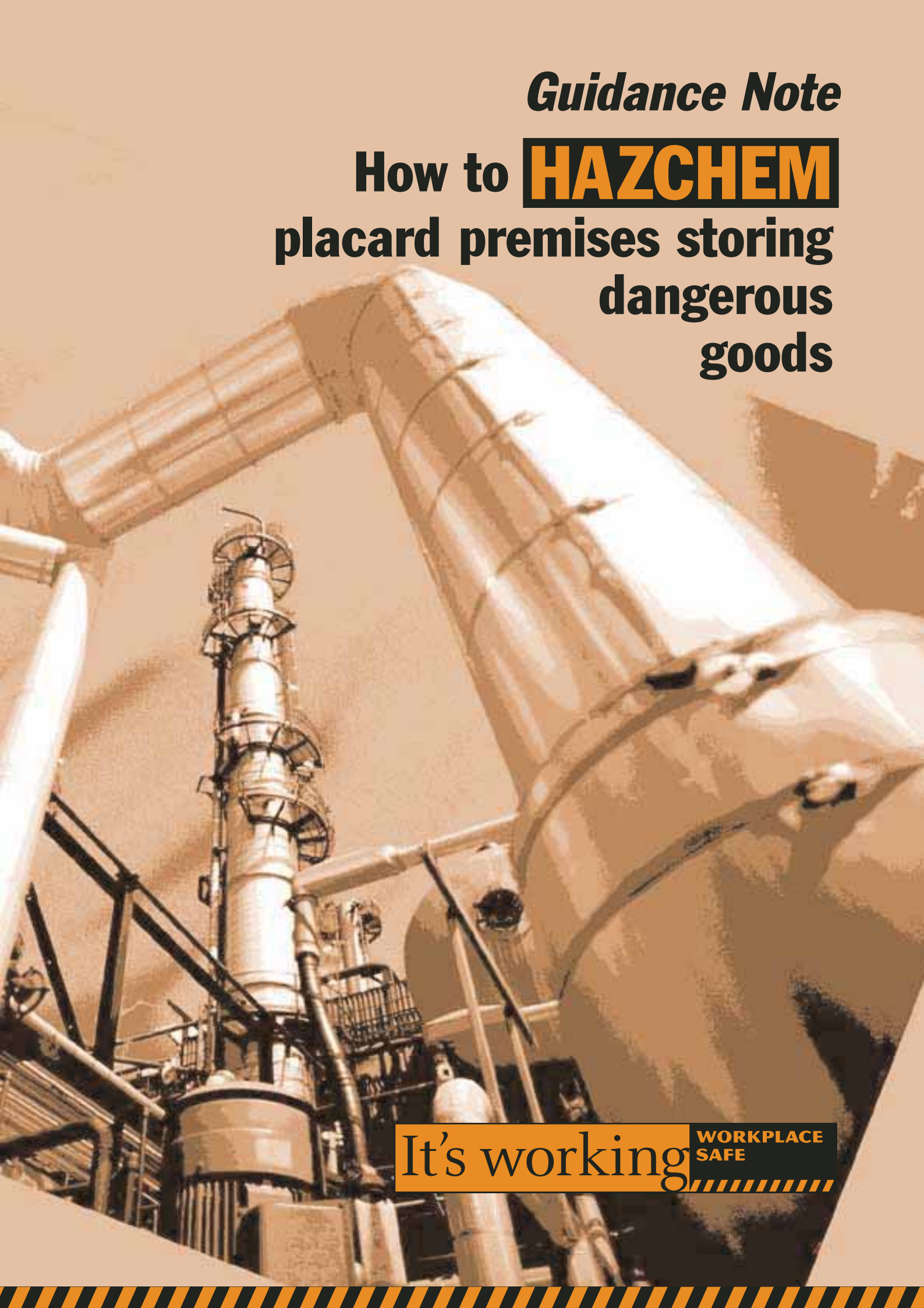
Guidance Note

How to HAZCHEM placard premises storing dangerous goods



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Competent Authority's Guidance Note

How to

placard premises storing dangerous goods

Workplace Standards Tasmania

FOREWORD

This guidance note may be used as a stand-alone document. However, it is also referred to and called up as Part 3 of the Dangerous Goods Storage Information Kit. Part 1 of this kit is *General Information on Dangerous Goods: Application, Licensing and Exemptions.* Part 2 of this kit is *Application for a 'Keeper's Licence' to Store Dangerous Goods.*

Copies of the *Dangerous Goods (General) Regulations 1998* may be purchased from the Printing Authority of Tasmania at 2 Salamanca Place, Hobart 7000 or telephone (03) 6233 3289 or freecall 1800 030 940. It can also be downloaded free of charge from www.thelaw.tas.gov.au

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1. INTRODUCTION

The *Dangerous Goods (General) Regulations 1998* call up this guidance note *How to Hazchem Placard Premises Storing Dangerous Goods*.

The *Dangerous Goods (General) Regulations 1998* align the licensing exemption limits with the placarding exemption limits, which means that only premises licensed to keep dangerous goods require Hazchem placarding. However, whilst service stations require licensing, they are exempt from placarding requirements.

Placarding ensures that in the event of a fire, spillage or other incident involving dangerous goods, emergency responders combating the incident will have sufficient information to respond immediately and in the appropriate manner.

The use of Hazchem placarding is only appropriate where:

- the storage of substances has been classified and listed as *dangerous goods* in a specific entry in column 2 of Appendix 2 of the Australian Dangerous Goods Code (6th Edition).
- dangerous goods are stored in quantities that exceed the placarding exemption limits as shown in section 3 of this guidance note.

Note:

Erecting Hazchem placarding for substances not classified as dangerous goods, or placarding quantities well below the exemption limits, could result in an incorrect response by emergency crews, therefore endangering lives and property.

2. NOTICES REQUIRED

A 'placard' is a permanent sign, displayed at a prominent location at the entrance way to a workplace, building or premise where dangerous goods are kept. The placard provides information on the class of dangerous goods stored and guidance on how to manage emergency responses.

2.1 Entrance notice

Once the Placarding Exemption Limit (see section 3) of ANY one class of dangerous goods is exceeded, then the premises in which they are stored must be provided with a HAZCHEM entrance notice at every road and rail entrance; except in the case of a farm or school where the notice is required only at the main road entrance.

2.2 Package stores

Dangerous goods package stores are to be placarded with a composite warning placard.

- At package stores within a building, the composite warning placard is to be posted at the main entrance to the building so it is clearly visible at all approaches.
- At package stores in a room within a building, an additional composite warning placard is to be displayed at every entrance to that room.
- If dangerous goods are not stored in a building or structure, then the composite warning placard is to be displayed below the outer entrance notice.

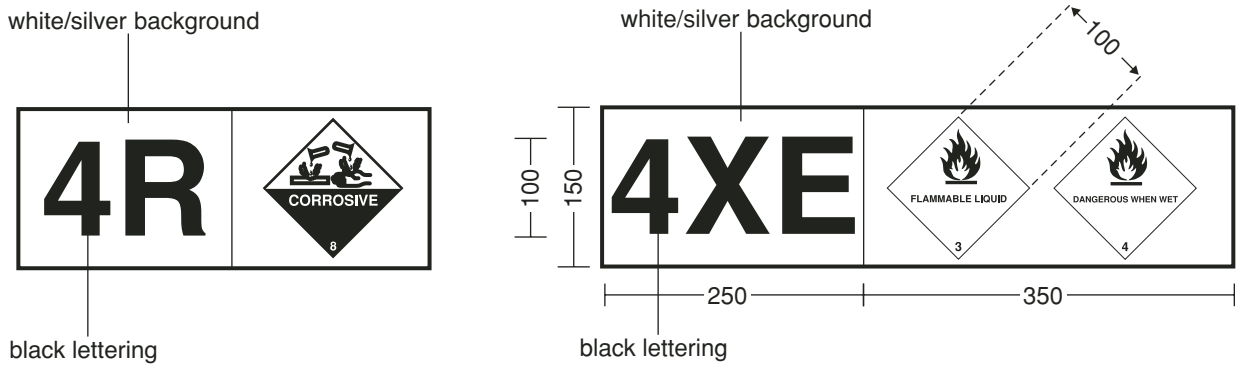
Note: Dimensions on all diagrams are in millimetres

Composite warning placard

The composite warning placard is to show:

- the appropriate Hazchem Emergency Action Code (Hazchem Code) in black lettering, at least 100 millimetres high. If more than one Hazchem Code applies, then a composite Hazchem Code will have to be determined for all those dangerous goods in excess of 10% of the exemption limit. See Appendix 3 for the method of determining composite Hazchem Codes
- the class label, with sides of at least 100 millimetres for each class of dangerous goods stored. This applies only to dangerous goods that are present in a quantity greater than 10% of the exemption limit.

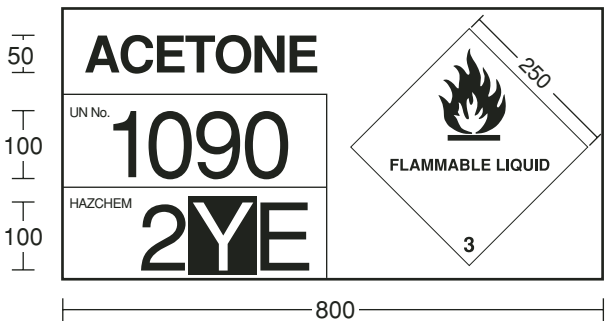
Example:



*2.3 Tanks and bulk stores**

- For all tanks or bulk stores not in a building, the placard is to be posted on or adjacent to the tank or bulk store so it is visible from all normal directions of approach.
- For bulk stores within a building or structure, a placard is to be posted at each entrance to the store.
- Placards are to be in the form of an Emergency Information Panel (EIP) as specified in the Australian Dangerous Goods Code and in use for transport.

Example:



*Bulk means:

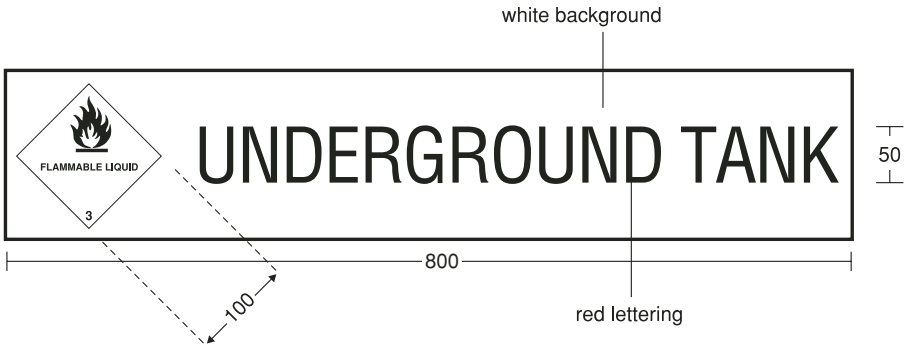
- class 2 gases in a container with a capacity exceeding 500 litres
- liquids in a container with a capacity exceeding 450 litres
- solids in a container in an undivided quantity exceeding 400 kilograms.

Note: Dimensions on all diagrams are in millimetres

2.4 Underground tanks

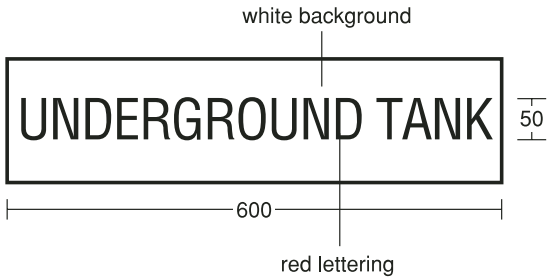
The requirements for placards for underground tanks are illustrated below. The placard is to be located close to the filling point of the tank.

Storing Class 3 flammable liquids:

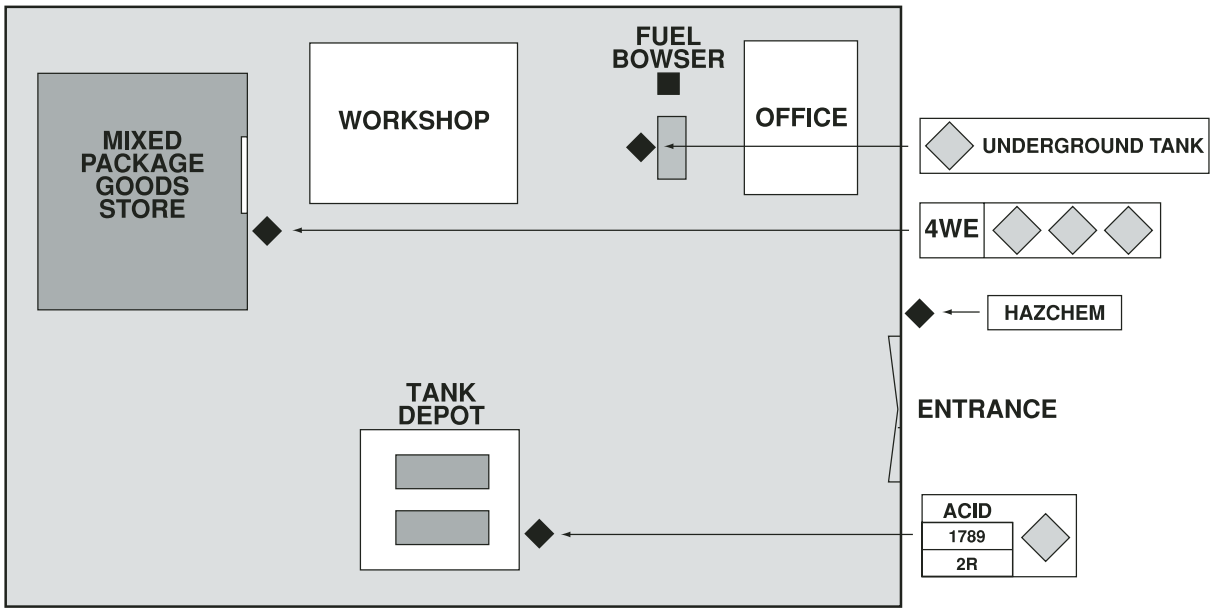


Storing dangerous goods other than Class 3 flammable liquids:

This sign should have a composite warning placard placed directly below it and located near the filling point.



3. LOCATIONS OF PLACARDS ON A TYPICAL SITE



Updating placards

Placards may become obsolete. They are to be removed or updated immediately.

Note: Dimensions on all diagrams are in millimetres

4. PLACARDING EXEMPTION LIMITS

The classes of dangerous goods, together with their Placarding Exemptions Limits, are listed below.

Placarding is required whenever the combined total quantity of any one class of dangerous goods exceeds the exemption limit.

Part 1 — Class 2 — Compressed gases and cyrogenic liquids

Class 2.1 — Flammable gases

(e.g. LPG, acetylene) 0.50 kilolitres

Class 2.2 — Non-flammable, non-toxic gases

(e.g. carbon dioxide, nitrogen, argon) 2.00 kilolitres

Class 2.2 /5.1 — Oxidising gas

(e.g. oxygen, nitrous oxide) 2.00 kilolitres

Class 2.3 — Toxic gases

(e.g. chlorine, ammonia) 0.05 kilolitres

Note: Units are in kilolitres for liquids and tonnes for solids.

Part 2 — Class 3 — Flammable liquids

Class 3 — Flammable liquids

1.00 kilolitre

(a) Aggregate quantities of flammable liquids (including manufactured products) and diesel fuel, except for premises listed under (b) or (c) below:	1.00 kilolitre
(b) Manufactured products stored in shops, factories, warehouses construction sites or on open land:	10.00 kilolitres
(c) Aggregate quantities of flammable liquids and diesel fuel stored outdoors above ground or in underground tanks on open land:	20.00 kilolitres

Notes:

Units are in kilolitres water capacity of the tank or cylinder.

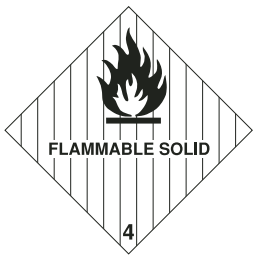
Diesel fuel requires placarding in accordance with AS 1940/1993 and not in accordance with this guidance note.

'Open land' includes certain types of farm land and 'manufactured product' includes paints and adhesives. These definitions are from AS 1940/1993 *The storage and handling of flammable and combustible liquids* are reproduced in Appendix 1.

Note: Units are in kilolitres for liquids and tonnes for solids.

Part 3 — Other dangerous goods

Class 4



Class 4.1 — Flammable solids

Packaging Group I substances	0.10 units

Class 4.2 — Substances liable to spontaneous combustion

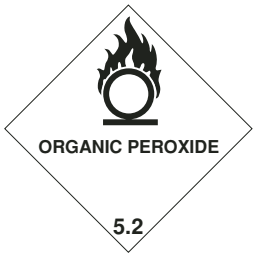
Aggregate quantity of all Class 4 substances.	1.00 units

Class 4.3 — Substances that, in contact with water, emit flammable gases

Class 5

Class 5.1 — Oxidising agents

Packaging Group I substances	0.10 units
Aggregate quantity of all Class 5.1 substances (excluding ammonium nitrate)	1.00 units
Ammonium nitrate	5.00 units



Class 5.2 — Organic peroxides

Aggregate quantity of all Class 5.2 substances	0.25 units

Note: Units are in kilolitres for liquids and tonnes for solids.

Class 6

Class 6.1 — Toxic substances

Packaging Group I substances	0.10 units
Aggregate quantities of all Class 6.1 substances	1.00 units

Class 8 — Corrosive substances

Packaging Group I substances	0.10 units
Aggregate quantity of all Class 8 substances	1.00 units

Class 9 – Miscellaneous dangerous goods

Aggregate quantity of all Class 9 substances	5.00 units

Note: Units are in kilolitres for liquids and tonnes for solids.

APPENDIX 1

Storage on open land

This classification applies on the condition that:

- such liquids are not intended for resale
- any storage is on land that has an area exceeding two hectares and is used (or intended to be used) for agricultural, horticultural, floricultural and pastoral purposes inclusive; or golf courses, national parks and other approved areas
- the ground around the storage is kept clear of combustible vegetation or refuse for a distance of not less than three metres
- a potential flow of spillage is prevented from reaching a protected works, watercourse or property boundary by means such as using the natural ground slope or providing a diversion channel, kerb or bund
- any storage is separated from protected works and the boundary of the land by not less than 15 metres
- where two or more storages are provided on the property, each may be treated as a separate minor storage if the distance separating them is 100 metres or more.

Manufactured product

'Manufactured product' means dangerous goods of Class 3 of Packing Group II or Packing Group III:

- that are a suspension or solution of at least 10% non-volatile materials as determined by AS 1580, Method 30.1
- of which less than 3% of the mobile solvent layer separates in the solvent separation test specified in the UN Recommendations: Manual of Tests and Criteria
- the viscosity of which meets the criteria in sub-clause 3.8.3(3) of the Australian Dangerous Goods Code (6th Edition).

APPENDIX 2

Hazchem Emergency Action Code (Hazchem Code)

The Hazchem Emergency Action Code (Hazchem Code) consists of a numeral followed by one or more letters, some of which may be characterised by being displayed on a dark rectangle to indicate a special application for equipment.

Interpretation

The numeral indicates the equipment suitable for fire fighting and, where appropriate, for dispersing spillage as follows:

- water jets
- water fog (if unavailable, fine water spray may be used)
- foam
- dry agent (for substances where contact with water is hazardous).

The first letter indicates as follows:

Letter	Danger of violent reaction or explosion	Protective clothing and breathing apparatus	Appropriate measures
P	Yes	Full protective clothing	Dilute
R	No	Full protective clothing	Dilute
S	Yes	Breathing apparatus	Dilute
[S] S	Yes	Breathing apparatus for fire only	Dilute
T	No	Breathing apparatus	Dilute
[T] T	No	Breathing apparatus for fire only	Dilute
W	Yes	Full protective clothing	Contain
X	No	Full protective clothing	Contain
Y	Yes	Breathing apparatus	Contain
[Y] Y	Yes	Breathing apparatus for fire only	Contain
Z	No	Breathing apparatus	Contain
[Z] Z	No	Breathing apparatus for fire only	Contain

Notes:

- Full protective clothing includes breathing apparatus.
- Where breathing apparatus is indicated, protective gloves shall be worn.
- 'Dilute' indicates the substance may be diluted with large quantities of water. Whereas 'Dilute' originally allowed the diluted substance to be washed away, this is no longer accepted practice for environmental reasons. Wherever practicable, diluted substances should be contained and prevented from entering drains and water courses.
- 'Contain' indicates the need to prevent any spillage from entering drains and water courses.
- The letter 'E' is added when evacuation of people from the neighbourhood of an incident should be considered by the emergency service. Having an 'E' in the Hazchem Code does not mean an evacuation is automatic. The decision to evacuate should be made after considering all the relevant factors. In the case of packaged and bulk dangerous goods, these factors would include the size and number of packages that have ruptured or the size of the bulk spill; the hazards related to the product; the proximity to populated centres; and wind direction.

APPENDIX 3

Hazchem Emergency Action Code (Hazchem Code) for mixed storage

Where dangerous goods with different Hazchem Emergency Action Code (Hazchem Codes) are stored, a composite code is determined as follows:

(a) To determine the first character, take the first number of the code for each individual substance in storage that exceeds 10% of the exemption limit. The numerically highest number is the first character of the composite Hazchem Code.

(a) To determine the second character:

- if the same letter occurs as the second character in the code for each substance, then that letter is the second character of the composite Hazchem Code
- if there are two different letters, take one of them and, using the following code chart, select the appropriate vertical column for that letter. Take the horizontal line appropriate to the second letter and the letter at the intersection is the second character of the composite Hazchem Code
- if there are more than two different substances stored, proceed as in the above step using the letters for any two of the substances action codes. Then use the resulting letter with that for another substance to determine a second resulting letter. The procedure is repeated until a final resulting letter is found. That letter is the second character of the composite Hazchem Code
- the letter 'E' is added to the composite Hazchem Code if it appears in any of the codes relating to any of the substances in the mixed storage.

Example

The Hazchem Codes for four substances are 2PE, 3[S], 1[T] and 2[Z]. The final composite Hazchem Code is then 3WE.

Composite Hazchem Code chart

	P	R	S	S	T	T	W	X	Y	Y	Z	Z
P	P	P	P	P	P	P	W	W	W	W	W	W
R	P	R	P	P	R	R	W	X	W	W	X	X
S	P	P	S	S	S	S	W	W	Y	Y	Y	Y
S	P	P	S	S	S	S	W	W	Y	Y	Y	Y
T	P	R	S	S	T	T	W	X	Y	Y	Z	Z
T	P	R	S	S	T	T	W	X	Y	Y	Z	Z
W	W	W	W	W	W	W	W	W	W	W	W	W
X	W	X	W	W	X	X	W	X	W	W	X	X
Y	W	W	Y	Y	Y	Y	W	W	Y	Y	Y	Y
Y	W	W	Y	Y	Y	Y	W	W	Y	Y	Y	Y
Z	W	X	Y	Y	Z	Z	W	X	Y	Y	Z	Z
Z	W	X	Y	Y	Z	Z	W	X	Y	Y	Z	Z

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